Faculty Influence and Other Factors Associated with Student Membership in Professional Organizations[1]

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We surveyed pharmacy students to identify the factors associated with student membership in professional organizations. A questionnaire assessing student needs, attitudes toward professional organizations, confidence in their ability to perform organizational tasks (a measure of self-efficacy), and level of participation was administered to 416 students (246 females, 167 males) at nine colleges of pharmacy; 65 students did not belong to any organization, 150 belonged to three or more. While a negative attitude, attitude toward cost, needs, self-efficacy, faculty influence, student influence, gender, and school were significantly related to participation ($P<0.02$) only negative attitude, self-efficacy, faculty influence, and student influence were retained in the regression model. Self-efficacy was the most important variable associated with participation. We concluded that faculty directly influence student membership in professional organizations through modeling, persuasion, and provision of appropriate learning opportunities as well as indirectly through school policies and current members

INTRODUCTION

Membership in professional organizations is thought to promote professional growth of pharmacists as well as provide practitioners with a means for directing the future of the profession. Consistent with this belief, pharmacists perceive continuing education activities and lobbying of state and national legislatures as the most beneficial services of professional organizations although 21 to 28 percent of the pharmacists responding did not belong to any professional organization(1,2). Similar results were found when members from a professional nutrition organization were surveyed(3).

If membership in organizations is thought to promote professionalism and if professional socialization is thought necessary for students to become caring professionals who will provide pharmaceutical care(4), then colleges of pharmacy should be concerned about whether students belong to professional organizations and about the role of the college and its faculty in developing professionalism in students. Professional development is believed to be facilitated by involving faculty and preceptors with the students outside the classroom so that students receive continuous reinforcement of professional attitudes, behaviors, and values(5). In addition, when faculty are involved with students both academically and nonacademically, students' job success is enhanced through the development of social leadership(6).

When pharmacists were asked why they did not belong to professional organizations, they cite cost (dues were too high), no time for meetings, and that meetings do not serve their needs as the primary reasons for nonmembership or nonrenewal(1,2). Whether pharmacy students join and participate in professional organizations for the same reasons as practicing pharmacists is not known. Given the lower incomes of students and cost of a college education, cost would seem even more important to students. Students are also younger than practitioners and may have a different perspective on the importance of being able to influence the legislature. Finally, students are in school so continuing education is not a reason for them to join a professional organization.

The purpose of this study was to identify the factors associated with student membership in professional organizations. Because few studies have examined why people do

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or do not join professional organizations, we chose to examine three different types of factors that might be related to organizational membership: needs, attitudes, and confidence in one's ability to perform tasks related to membership.

SELF-EFFICACY THEORY

The importance of confidence in one's ability is implied from studies based on self-efficacy theory. Self-efficacy refers to a person's belief in their ability to produce and regulate events. People avoid activities they believe exceed their skills and perform confidently those they believe themselves capable of executing. Self-efficacy beliefs are related to specific tasks and situations and a close relationship exists between belief and actions(7). Therefore someone who confidently attends classes and completes homework assignments may lack confidence in social situations that require interactions with many other people.

Self-efficacy differs from both self-concept and self-esteem. Self-concept represents a global self-image formed through direct experience and evaluations by significant others. Self-esteem refers to one's self-worth which is derived from cultural views of the attributes the person possesses and from how well the person matches personal standards of worth(7). In contrast, self-efficacy is concerned with perceptions of personal capability and depends on specific situations. Hence people may perceive themselves as capable of performing certain activities that are not valued or related to self-concept.

Self-efficacy judgments at least partly determine which activities and social events a person will select when presented with alternatives. Choices concerning which activities to undertake can have a profound effect on personal and career development(7). In a study exploring the preferences of college students for certain careers, self-efficacy ratings were significantly related to the number of career options the student believed was available to them. Men were confident they were capable of performing in careers typically male (*e.g.*, engineer) and in careers typically female (*e.g.,* secretary). In contrast, women had much less confidence they could perform in typically male careers than in typically female careers. The women did not perceive typically male careers as a choice for them while men perceived any of the careers as a possible choice(8). Because people with low self-efficacy beliefs tend to avoid activities, such as belonging to a professional organization, they deprive themselves of rewarding experiences as well as opportunities to network or to improve their professional competence through continuing education programs which further restricts their career options.

Self-efficacy theory not only explains why people choose one activity over another but also provides a framework for increasing self-efficacy beliefs. Self-efficacy beliefs are modified by performance accomplishments, vicarious learning (*e.g.*, role models), emotional arousal (*e.g.*, feelings of satisfaction), and verbal persuasion(7,9). By providing opportunities for successful performance or for vicarious learning, people with low self-efficacy will undertake new tasks. For instance, an educational program based on self-efficacy theory was used to improve the functional status of people with arthritis(9). Therefore, if self-efficacy beliefs are related to students' participation in professional organizations, recruitment strategies could be aimed at increasing students' self-efficacy beliefs through, for example, role modeling or verbal persuasion.

METHODS

The primary purpose of the study was to explore the factors associated with student participation in professional organizations. Therefore information was required from students who did not currently belong to an organization. Because nonmembers might also be non responders, a convenience sample of ten colleges of pharmacy was identified and the questionnaires sent to a cooperating professor who administered the questionnaires to all students attending a specific class. The sample included U.S. colleges of pharmacy offering BS degree only, BS + PharmD degrees, and PharmD degree only. Both public and private colleges were included in the sample and all areas of the country were represented.

On the questionnaire, professional organizations were defined as those organizations whose members are pharmacists or pharmacy students, that promote the interests of the pharmacy profession and its members. The questionnaire consisted of items that asked students to rate, on a seven point Likert-like scale, their needs from professional organizations (e.g., programs on how to apply for residencies, etc.) scaled from no need at all to a very great need, their attitudes toward professional organizations (*e.g.*, I have no reason to join a pharmacy organization), scaled from strongly disagree to strongly agree, and their confidence that they could perform functions related to membership (*e.g.*, serve as a committee member of a local/state organization). The items were initially developed from the questionnaire results concerning membership in professional organizations that had been published(1-3). Because previous studies have been restricted in scope, additional items were generated based on possible factors associated with membership. The ratings of confidence, scaled from not at all confident to very confident, measured the level of students' self-efficacy on functions related to participation in organizations. The confidence ratings were developed using Bandura's guidelines for assessing self-efficacy(7). Students also indicated the quantity of influence (large negative to large positive) that practicing pharmacists, faculty, and other students had on their decision to join or not join a professional organization. Demographic information was collected on current membership in professional organizations, age, gender, and so on.

The primary dependent variable was level of student participation in professional organizations measured with an item having six levels from 'don't belong to any professional organization' to 'extremely active (hold offices)'(scaled 0 to 5). Secondary dependent variables were the number of organizations to which the student belonged (scaled 0 to 5), number of offices held while in pharmacy school (scaled 0 to 5), satisfaction with experiences in professional organizations (scaled 0 to 6), and likelihood of choosing pharmacy as a profession if the student could start over (scaled 0 to 6).

Statistical Analysis

A four step strategy, adapted from the procedure recommended by Achen (10), was used for the statistical analysis. In the first step descriptive statistics were obtained on the individual items, including means or frequencies as appropriate, and the results examined to assure all variables had values within the expected range. The second step was to convert all rating variables to a 0 to 1 scale (*e.g.*, a score of 3 on a 6 point scale became 0.5) so that the variables would be on the same scale and, as described by Achen(10), the regression weights for the independent variables could be

Table I. Demographic characteristics [a] of respondents

Characteristic	Number	Characteristic	Number
Total respondents	416	Female	246
Age (mode = 20-25)	334	Male	167
Year of graduation		Marital status	
1993	229	Single	311
1994	136	Married	79
Other	44	Divorced	10
Ethnic background		Number of children	
White/Caucasian	357	None	357
Other	42	One or more	17
Type of degree program		Current membership[b]	
BS	356	None	65
Entry level PharmD	48	One	85
Other	10	Two	106
		Three or more	150

[a] Only key characteristics are listed, therefore the numbers may not add to 416, the size of the sample.

[b] Current membership refers to the number of organizations to which the student presently belongs.

Table II. Mean participation score for explanatory variables

	Participation[a]			
Explanatory variable[b]	Low	Medium	High	*P*-value
Negative attitude	0.63	0.49	0.37	<0.001[c]
Attitude toward cost	0.63	0.65	0.54	<0.003[d]
Needs	0.65	0.69	0.70	0.011[d]
Self-efficacy	0.48	0.55	0.66	<0.003[c]
Faculty influence	0.57	0.65	0.73	<0.020[c]
Student influence	0.59	0.68	0.79	<0.003[c]
Pharmacist influence	0.56	0.61	0.61	>0.060
Gender F/M	27/39	158/97	61/31	0.003[c]

[a] Participation was divided into low (students who did not belong to an organization or belonged but did not attend meetings), medium (belong and attend meetings occasionally or regularly), and high (students who served on committees or held office).

[b] All variables were scaled from 0 to 1.

[C] A11 pairwise comparisons were significant using a r-test or Chi Square depending on the data.

[d] Only the comparisons between the high participation group and the low or medium groups were significant using a f-test or Chi Square depending on the data.

compared directly to identify the variables with the greatest potential effect on the dependent variable. Then the reliability of the ratings was examined and rating scores summed if the reliability analysis (described below) indicated that all items were measuring the same construct. The score sums provided the following independent variables: negative attitude (five items), positive attitude (six items), attitude toward cost (six items), needs (20 items), self-efficacy (15 items), faculty influence (one item), student influence (one item), and pharmacist influence (one item). In the third step, a preliminary analysis of the relationship between individual independent variables and the primary dependent variable (participation) was conducted by dividing the sample into three groups based on level of participation (low, scores = 0 or 1; medium, scores = 2 or 3; and high, scores = 4 or 5). One-way ANOVA's with r-tests were used to determine if the relationship between the independent variables and the dependent variable were reasonable and as expected. Chi Square tests were used for the categorical variables, gender and school, thought to be related to participation. In the fourth step, multiple regression analysis was used to identify the variables with the greatest potential effect on the primary dependent variable, participation. All relevant variables, including the summed rating scales described above and the two categorical variables, gender and school, were entered as independent variables. Variables not statistically significant were dropped from the model and the model was estimated again. The final model was the most parsimonious model in which all independent variables were statistically significant. The model was then tested with the secondary dependent variables: number of organizations to which the student belonged, number of offices held by the student, satisfaction with professional organizations, and how likely they were to choose pharmacy as a profession if they could start over. In addition, students' written comments were content analyzed by identifying major themes such as reasons for not belonging, financial concerns and so on.

Reliability was assessed by obtaining a Cronbach's alpha for each section of the questionnaire, needs, attitude scales, self-efficacy, and the self-efficacy subscales. Alpha was 0.90 for the needs scale and 0.92 for the self-efficacy scale. The self-efficacy items were separated in subscales to describe students' confidence in their ability to: pay organizational fees (alpha = 0.82), learn new skills (single item), contribute usefully to the organization (single item), network with other pharmacists (alpha = 0.72), attend meetings (alpha = 0.80), and serve as an officer (alpha = 0.92). Alpha for the negative attitudes scale was 0.67, for the attitude toward cost scale, 0.75, and for the positive attitudes scale, 0.77. The questionnaire was reviewed for validity by other faculty, officers of a local professional organization, and staff of a professional organization. It was pilot tested on a single class of pharmacy students (N = 45).

RESULTS

Questionnaires were returned from 416 students representing nine colleges of pharmacy. One college did not participate after initial contact therefore data was not obtained for one class of 50 to 75 students. The demographics of the student respondents are shown in Table I. The sample was predominantly female (60 percent) with a modal age of 20 to 25 years in a BS pharmacy program. Sixteen percent of the students (65) did not currently belong to any professional organization; 150 students (36 percent) belonged to three or more.

Means for the possible explanatory variables corresponding to low, medium, and high levels of participation (the primary dependent variable) are shown in Table II. While pairwise comparisons indicated differences in participation on all the variables except the influence of pharmacists variable, the difference on need was not meaningful. Not shown in Table II is the variable for school; a Chi square test for association between school and participation was significant ($P<0.001$).

The results of the multiple regression for the primary dependent variable, participation, and the four secondary dependent variables is shown in Table III. Self-efficacy was the most powerful explanatory variable for level of partici-

Table III. Regression[a] coefficients for model variables versus dependent variables

	Dependent variable				
Variable	**Participation[b]**	**Number of organizations**	**Number of offices**	**Satisfaction[c]**	**Chose pharmacy[d]**
Self-efficacy[e]	2.90[f] (0.42)[g]	2.60 (0.43)	2.08 (0.35)	2.49 (0.49)	0.95 (0.41)[ns]
Faculty influence	0.76 (0.33)	1.37(0.34)	0.60 (0.27)	1.65 (0.39)	0.49 (0.33)[ns]
Student influence	1.44 (0.34)	0.99(0.35)	0.71 (0.28)	2.70 (0.39)	0.22 (0.34)[ns]
Negative attitude	-2.01 (0.45)	-0.54 (0.46)	-0.85 (0.36)	-1.41 (0.52)	-1.70 (0.43)

[a] The *p*-value for the regression model (df = 4) was less than 0.0001 for all tested models.

[b] Participation rating = 0 if don't belong to any organization; 1 if extremely active (hold offices).

[c] Rating of satisfaction with experiences in professional organizations; 0 = not at all satisfied, 1 = very satisfied.

[d] Rating of likelihood that students would select pharmacy as a career if they could start over; 0 = not at all likely. 1 = very likely.

[e] Students rated their confidence in their ability to perform activities related to belonging to an organization; sum of items was used in the regression.

[f] The regression coefficient indicates the number of units change in the dependent variable for each unit of change in the independent variable (*e.g.*, 2.9 indicates that participation changes 2.9 scale units for each unit change in self-efficacy). All regression coefficients were significantly greater than 0 ($P<0.05$) except those marked with ns.

[g] Numbers in parentheses are standard errors of the estimate

pation and was an important variable for three of the four secondary outcome variables. A negative attitude was important when level of participation, satisfaction, and likelihood of selecting pharmacy as a profession were the dependent variables. Student influence was important to satisfaction and faculty influence of some importance to number of organizations and satisfaction. Although significantly related to participation when considered individually, school and gender were not retained as explanatory variables because they added little to the regression when considered with other variables. Further examination of the influence variables indicated that students in the high participation groups were 2.5 times more likely to report positive influence from faculty and 1.75 times more likely to report positive influence from other students than were students in the low participation group.

Several factors thought to be associated with student membership in professional organizations, needs and costs, were not important factors in this study. Most of the means on the needs scale were located near the mid-point indicating that the majority of the students had no strongly felt need for any of the listed services. Therefore the need scale did not provide useful information concerning the factors related to student membership.

The results related to costs were equivocal. The students who indicated some need for financial support to attend state/national meetings (mean = 4.8, SD = 1.3 on a seven point scale) were somewhat more likely to belong to the high participation group. Attitudes toward costs varied little between the participation groups; the largest difference was between the medium and high participation groups rather than between the high and low participation groups (see Table II). Students in the high participation group were more confident that they could afford the costs of membership though. Since attitude toward costs was not retained as an explanatory variable in the regression model, perceptions of organizational costs appear related more to belief in one's ability to pay than to absolute cost.

Because self-efficacy appeared as such an important factor, the scores on the self-efficacy subscales were examined for corresponding levels of participation. The results are shown in Table IV. The differences in self-efficacy on the subscales are consistent with theory; that is, students in the low participation group have the least self-efficacy and they scored lowest on all the subscales. They particularly lack confidence in their ability to attend meetings and to serve on a committee or hold office. They also lack confidence that they can learn new skills or make a useful contribution to the organizations. Thus the single largest factor related to participation in professional organizations is the students' confidence that they can perform the activities related to membership.

Students' written comments (66 students provided written comments) represented six major themes: reasons for not joining an organization, positive comments, need for information concerning professional organizations, the role of faculty, the need for one strong professional organization, and a need to have input into the organization. With respect to a need for one strong professional organization, they thought that all pharmacists should be united or that organizations should be able to work together. One student thought that some students did not join organizations at her school because of intense rivalry between organizations (presumably student organizations).

DISCUSSION

The most important finding in this study is that confidence in one's ability is strongly associated with belonging to and participating in professional organizations; the findings contrast to studies of pharmacists which identified cost, time, and needs are the most influential factors. Students who believe that they can perform the tasks related to organizational membership will belong and participate; those who don't believe in their abilities won't participate. Students in the low participation group even lacked confidence in their ability to attend meetings, a necessary prerequisite to participation in any type of organization. They also lacked confidence in their ability to make a useful contribution to professional organizations and to hold offices or serve on committees.

Of particular concern is the lack of confidence that students in the low participation groups had in their ability to learn new skills or network through professional organizations. Professional organizations offer many continuing education programs and they provide opportunities for networking; both are needed to maintain or increase profes-

Table IV. Participation in professional organizations and self-efficacy

Self-efficacy dimension	Participation[a] Low	Medium	High
Financially able to participate[b]	0.53 (0.21)"	0.58 (0.23)	0.68 (0.22)
Network/contact possible employers[b]	0.66(0.16)[d]	0.67 (0.19)	0.77 (0.18)
Attend meetings of organizations[e]	0.46(0.16)[d]	0.54 (0.20)	0.68 (0.19)
Serve on committees or as officer[f]	0.36 (0.22)[d]	0.44 (0.24)	0.60 (0.22)
Learn new professional skills	0.67(0.15)[d]	0.71 (0.20)	0.76 (0.18)
Contribute usefully to the organization	0.56 (0.20)[d]	0.61 (0.23)	0.74 (0.24)

[a] Responses on the participation item were divided into low (students who didn't belong to an organization), medium (belong and attend meetings occasionally or regularly), and high (students served on committees or held office).

[b] The sum of two items rescaled so that the lowest possible score was 0 and the highest possible score was 1.

[c] Figures in parentheses are standard deviations.

[d] $P<0.05$ for i-test for pairwise comparison to high participation group.

[e] The sum of four items rescaled from 0 to 1.

[f] The sum of five items rescaled from 0 to 1.

sional competence. Pharmacists who are not confident in their ability to learn new skills or network through professional associations would appear at high risk for professional obsolescence.

Because confidence in one's ability is learned, faculty are likely to have a major role in providing students an opportunity to develop confidence in their organizational skills. Confidence is increased through modeling, practice at appropriate tasks, and persuasion(7). Faculty provide modeling by belonging to and participating in professional organizations. In addition, faculty sponsors of student organizations provide encouragement and support for organizational activities. Faculty also influence students. They can encourage students to participate and they can encourage student organizations to promulgate policies that promote skill development.

Faculty can encourage student organizations to be open and to value the inputs of all students. Students are unlikely to develop confidence if they do not perceive that they have input or that they have an opportunity to advance within the organization. Several students commented that leaders in some organizations at their school were handpicked or that the leaders were too cliquish. One student thought that the best organization encourages "...anyone who proves themselves to be active and interested to make a contribution." Both observations are consistent with the need for opportunity to develop skills.

Even though students did not indicate a need for a personal invitation from faculty or other students to join an organization, the influence of faculty and other students is evident. Current members were much more likely to report positive influence from both faculty and students. The influence may be indirect and the student may be responding to casual comments by faculty other students concerning an organization, perceptions of the activities of an organization, or is responding to faculty and advanced students as role models.

The importance of faculty involvement was apparent in student comments as well as in the size of the weights in the regression models (the weight was significantly greater than zero for four of the five dependent variables). One student remarked that a faculty advisor with good organizational skills was needed. Other comments indicated that faculty involvement in student politics or failure to uphold organizational policies or rules could negatively impact student organizations. Another student observed that all faculty could support student organizations by scheduling class assignments or exams so that students could participate in organizational activities, particularly to attend state and national meetings.

Faculty influence the school policies that indirectly promote student membership in professional organizations. General support from the faculty and school is likely related to the differences in participation between schools that was evident in the preliminary analysis. Because the school variable was not significant when the faculty influence variable was included in the regression, most of the difference between schools is probably due to differences in faculty influence.

The association between confidence in one's ability and participation in professional organizations offers some support for school policies that require students to belong to at least one professional organization. Students need to belong to an organization so that they will have an opportunity to develop confidence in their abilities. If membership is not required, schools certainly should ensure that the school has policies in place that promote participation in professional organizations.

Financial constraints were poorly related to whether a student joined an organization and if they did, their level of participation. The result was unexpected given the prominence of cost as a reason for pharmacists not to join an organization and the reduced financial resources of students. The results also contrast to the results of both studies cited above(1,2). The difference in findings could be due to differences in perceptions, to differences in the level of fees charged students (student fees are often one tenth to one sixth as much as practitioner fees) or it could be due to differences in methodology. The studies of practicing pharmacists did not relate reasons to level of participation. Therefore the degree the stated reason is related to actions is not known. Further the studies did not examine why pharmacists perceived the fees as too high. Their perceptions are likely to depend on other factors, such as self-efficacy, as much as on the level of fees.

In contrast to the studies of pharmacists, positive attitudes toward professional organizations, although different across the participation groups, was not retained as an explanatory variable. Attitudes are influenced by self-efficacy; increases in self-efficacy are associated with increases in positive attitudes(7), so self-efficacy was likely a better explanatory variable. However, negative attitudes in this study had an effect beyond that of self-efficacy. Thus, negative attitudes further reduced the likelihood that a person with low self-efficacy would participate.

The findings related to self-efficacy may or may not apply to practicing pharmacists. Because self-efficacy is learned, students who lack self-efficacy would need to learn it from their subsequent position as a pharmacist. Hence, some students may become active participants in profes-

sional organizations after they begin practicing as a pharmacist.

While this study has provided important insight into the factors that influence student participation in professional organizations, the results are limited. The sample of students is not a statistical sample so the results may or may not be representative. The study was designed to investigate the factors related to belonging and participating in a professional organization, not factors related to retaining membership. Further, the study relies on data collected at one point in time to explain previous actions. And, as with all questionnaire research, it relies on data collected through paper and pencil instruments. However, the study does indicate that future research concerning why people join and participate in professional organizations is much more likely to produce useful information if the research is conducted within a theoretical framework such as self-efficacy theory. The theory provides explanation for the results and indicates methods for increasing student participation in professional organizations. Further research is required, though, to assess the usefulness of methods based on self-efficacy theory.

CONCLUSIONS

Students' participation in professional organizations is strongly associated with their confidence in their abilities to function as a member. Faculty can influence students' participation by modeling for them, encouraging them to participate, and by providing them with appropriate opportunities to learn organizational skills. Faculty can further influence students by ensuring that their school promulgates policies which promote organizational membership and by encouraging current leaders of student organizations to mentor new members.

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References

(1) Brinker, D.R., Birdwell, S.W. and Smeenk, D.A., "Ohio pharmacists' perceptions of professional organizations," *Am. J. Hosp. Pharm*., **49**, 1476-1478(1992).
(2) Berardo, D.H. and Kimberlin, C.L., "Why pharmacists join/don't join state professional pharmacy organizations," *Am. Pharm.,* **NS28**(9), 43-46(1988).
(3) Kerwin, D.R., Dolney, A. and Stahle D., "Member characteristics, participation, and interests: Public Health Nutrition Practice Group," *J. Am. Diet. Assoc*., **88**, 483^86(1988).
(4) Chalmers, R. et. al., "The essential linkage of professional socialization and pharmaceutical care," *Am. J. Pharm. Educ*., **59**, 85-90(1995).
(5) Anon. Reports of the Policy Committee on: Educational Affairs, Professional Affairs, and Scientific Affairs, American Pharmaceutical Association (1995).
(6) Pascarella, E.T. and Terenzini, P.T., *How College Affects Students.* Jossey-Bass Publishers, San Francisco CA (1991) pp. 492-611.
(7) Bandura, A., *Social Foundations of Thought and Action,* Prentice-Hall, Inc. Englewood Cliffs NJ (1986) pp. 390-453.
(8) Betz, N.E. and Hackett, G., "The relationships of career-related self-efficacy expectations to perceived career options in college women and men," *J. Counsel. Psychol.,* **28**, 399-410(1981).
(9) Lorig, K. and Gonzalez, V. "The integration of theory into practice: A 12-year case study," *Health Educ. Q*., **19**, 355-368(1992).
(10) Achen, C.H., "Interpreting and using regression," Sage University Paper series on Quantitative Applications in the Social Sciences, series no. 07-029. Sage Publications, Beverly Hills, CA (1982).