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AN EXAMINATION OF THE DEMOGRAPHIC CHARACTERISTICS
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AN EXAMINATION OF THE DEMOGRAPHIC CHARACTERISTICS AND PREFERRED STYLES OF MANAGEMENT OF DEANS OF PHARMACY SCHOOLS IN THE UNITED STATES

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ABSTRACT

AN EXAMINATION OF THE DEMOGRAPHIC CHARACTERISTICS AND PREFERRED STYLES OF MANAGEMENT OF DEANS OF PHARMACY SCHOOLS IN THE UNITED STATES

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The purpose of this study was to examine the preferred styles of management of pharmacy deans, selected qualifications and experiences of these individuals, and the relationships between management styles and qualifications and experiences.

Procedure

The examination was conducted through the use of two survey instruments. A demographic profile instrument was developed to allow examination of specific qualifications and experiences of pharmacy deans. A management style assessment instrument was selected to allow examination of preferred styles of management of pharmacy deans. The survey instruments were mailed to the Deans, Associate Deans and Assistant Deans at each of the 72 American Council on Pharmaceutical Education - accredited U.S. Schools of Pharmacy. Participants were asked to answer questions which provided a demographic profile and allowed a determination of preferred management style.

Analysis of Data

The results were reported as they applied to each of the five purposes of the study. Where appropriate, the results were reported in descriptive form. Where hypotheses were being tested, the results were reported using MANOVA, one-way ANOVA, Scheffe' test, Tukey-Kramer test, and the chi-square test. The level of statistical significance established for this study was 0.05.

Demographic Characteristics

The data revealed that there was a significant difference between the demographic characteristics of the Pharmacy Deans, the Associate Deans, and the Assistant Deans. As determined by MANOVA, significant differences exist among the categories of deans in the demographic variables of age, years experience as a pharmacy faculty, years experience as a department head, total years of administrative experience, number of schools worked for, and sum of publications. Results of Chi-square Probability testing of categoric demographic variables by category of dean revealed nine significantly different variables. These included earned Ph.D. degree, department head experience, assistant dean experience, associate dean experience, dean experience, other academic experience, currently tenured, ever tenured, and current rank.

The results showed that no significant difference existed between the preferred styles of management of the

Pharmacy Deans, the Associate Deans, and the Assistant Deans.

The data also revealed that a signficant difference existed in the demographic characteristics of pharmacy deans preferring different styles of management.

DEDICATION

This Dissertation is dedicated to my wife Donna, my children Amy and John, my mother, and to the memory of my father who taught me the value of an education and who continued to look for new challenges throughout his life.

ACKNOWLEDGEMENTS

I would like to thank Dr. Eldon Nonnamaker, my committee chairman and dissertation advisor for his guidance and support. I would also like to express my appreciation to my other committee members, Dr. Louis Hekhuis, Dr. Howard Hickey, and Dr. Marvin Grandstaff for their contributions to this study. I would especially like to thank Dr. Fred Swartz for his help and support and Mrs. Mary Kay Pionk for her efforts.

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CHAPTER 1

INTRODUCTION

Education in the United States, and pharmacy education in particular, is facing difficult times.[1] Critical issues including a declining pool of appropriately trained faculty,[2] shrinking financial resources,[3] the difficulty in effecting needed curricular change,[4] the widening gap between clinical faculty and basic science faculty,[5] and the disagreement regarding the appropriate level of training for pharmacists entering the profession[6] are among the many and varied challenges facing pharmacy education today.

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[1]Leighton E. Cluff, "Academic Responsibility - Leadership," American Journal of Pharmaceutical Education, vol. 47, no. 4, 1983, p. 335.

[2]Marvin D. Shepard, et al., "Career Aspirations of Graduate and Post-Baccalaureate Pharm.D. Students as Factors Affecting the Supply of Pharmacy Faculty - A National Study," American Journal of Pharmaceutical Education, vol. 47, no. 3, 1983, p. 211.

[3]Robert D. Gibson, "Decreasing Dollars Forces Hard Decisions," American Journal of Pharmaceutical Education, vol. 49, no. 2, 1985, p. 215.

[4]Jean Paul Gagnon, "Curriculum Committee Pitfalls," American Journal of Pharmaceutical Education, vol. 50, no. 1, 1986, p. 85.

[5]Robert V. Smith, "Reflections on Issue X-Bridging the Gap Between Basic Sciences and Clinical Practice - Teaching, Research and Service," American Journal of Pharmaceutical Education, vol. 84, no. 1, 1980, p. 74.

[6]Alan L. Hanson, "External Degree: Mechanism for B.S. Practitioners to Earn a Pharm.D.," American Journal of Pharmaceutical Education, vol. 45, no. 3, 1981, p. 284.

Difficult times, however, present the greatest opportunities for leadership. Many creative and innovative improvements in institutions have resulted from the efforts of effective leaders who emerge during times of crises or turbulence.[7] The circumstances in which pharmacy schools now find themselves present enormous opportunities for academic leaders to utilize effective management skills to strengthen their institutions.

The deans of the schools of pharmacy, who are responsible for developing and implementing the curriculum, for the selection and development of faculty, and for the academic budget, are the individuals with the best opportunity to provide this critical leadership. Van Cleve Morris, himself a former dean, points out that the deanship is where the work of the institution gets done.[8]

There are however, major concerns regarding the leadership necessary, now and in the future, to advance the pharmacy profession.[9] A major concern centers around the ability of the deans to provide, through the proper management approach, the type of leadership that will both foster the growth of the faculty and staff and contribute to the success of the institution.

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[7]Cluff, "Academic Responsibility-Leadership," p. 335.

[8]Van Cleve Morris, Deaning (Urbana, Illinois: University of Illinois Press, 1981), p. 7.

[9]J.E. Goyan, et al. "Maintaining the Quality of Pharmaceutical Education During Difficult Times. The 1982 Argus Commission Report," American Journal of Pharmaceutical Education, vol. 46, no. 4, 1982, p. 355.

Dunn, in writing about academic administrators states, "the skills and experiences brought to this position were largely those learned in the classroom, the library, and the laboratory. Very seldom was experience or training in administration required. Administrative skills that were learned were obtained as on-the-job training".[10] Kinnard states that, "while administrative experience has been a factor on any search committee's checklist, few deans have had the type of background that prepared them for their role as managers of the school."[11] Goyan, and the Argus Commission, a panel of distinguished pharmacy deans selected by the American Association of Colleges of Pharmacy to study and report on issues relating to pharmacy education, commented that future deans will be hampered in their leadership quality, "unless some type of special education or training is provided."[12] Kinnard further cautions that, "inadequate, incompetent, or overdominant leadership... is and will be disastrous to any school of pharmacy. Each school must set clear, obtainable goals and objectives and then ensure that its internal structure allows for their attainment. This can only be accomplished

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[10]S.L. Dunn, "The University," American Journal of Pharmaceutical Education, vol. 48, no. 4, 1984, p. 357.

[11]W.J. Kinnard, "American Schools of Pharmacy: Their Organization and Structure," American Journal of Pharmaceutical Education, vol. 44, no. 2, 1980, p. 123.

[12]Goyan, et al., "Maintaining the Quality of Pharmaceutical Education During Difficult Times. The 1982 Argus Commission Report," p. 355.

by the application of sound managerial theories to the operation of the Dean's office."[13]

Extensive research has been performed to help identify effective management. Studies performed in the 1950's at the University of Michigan and Ohio State University examined two major areas: achievement orientation and employee satisfaction orientation.[14,15,16,17,18] These studies found that achievement-oriented leaders emphasized the organization and employee's roles in performance. Employee-oriented leaders stressed a friendly and supportive environment and were predominantly concerned with the welfare of all employees in the work group. Achievement-oriented leaders realized high productivity and were rated highly by their superiors. The hidden costs of this dimension were high turnover, absenteeism and low morale. On the other hand, employee-oriented leaders usually

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[13]Kinnard, "American Schools of Pharmacy: Their Organization and Structure," p. 123.

[14]R. Likert, New Patterns of Management (New York, New York: McGraw-Hill, 1961).

[15]R. Likert, The Human Organization (New York, New York: McGraw-Hill, 1967).

[16]E. Fleishman, "The Description of Supervisor Behavior," Journal of Applied Psychology, vol. 38, 1953, pp. 1-6.

[17]E. Fleishman, "Leadership, Climate, Human Relations Training and Supervisory Behavior," Personnel Psychology, vol. 6, 1955, pp. 205-222.

[18]E. Fleishman, et al., "Patterns of Leadership Behavior Related to Employee Grievance and Turnover," Personnel Psychology, vol. 15, 1962, pp. 43-56.

achieved both high productivity and high job satisfaction among employees. There did not seem to be a way for leaders to be highly rated from both aspects; they were either one or the other. Newer research by Blake and Mouton described a style of management encompassing a high regard for people and for production. They concluded that this type of leadership, through a high degree of shared responsibility, coupled with high participation, involvement, and committment, achieves high productivity.[19]

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[19]R.R. Blake and J.R. Mouton, "How to Choose a Leadership Style," Training Development Journal, vol. 36, 1982, pp. 38-47.

While numerous studies have been conducted on academic deans,[20,21,22,23,24,25] little has been written specifically about pharmacy school deans.[26] The types of leadership styles employed by these individuals have not been characterized.

In addition, we lack a clear and comprehensive view of administrator's backgrounds, qualifications, and career paths. Dill, in a humorous but insightful essay, writes

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[20]John W. Gould, "The Academic Deanship: A Summary and Perspective," in The Academic Deanship in American Colleges and Universities, ed. Arthur J. Dibden (Carbondale and Edwardsville, Illinois: Southern Illinois University Press, 1968), pp 41-56.

[21]John W. Gould, The Academic Deanship (Bureau of Publications, Teachers College, Columbia University, 1964).

[22]Harold Enarson, "The Academic Vice-President or Dean," in Administrators in Higher Education, ed. Gerald P. Burns (New York, New York: Harper and Brothers, 1962), pp. 111-124.

[23]Frederick R. Cyphert and Nancy Lusk Zimpher, "The Education Deanship: Who is the Dean?," in The Dilemma of the Deanship, ed(s). Daniel E. Griffiths and Donald J. McCarty (Danville, Illinois: The Interstate Printers and Publishers, 1980), pp. 91-124.

[24]Kathryn M. Moore, "The Top-Line: A Report on Presidents', Provosts' and Deans' Careers. Leaders in Transition: A National Study of Higher Education Administrators," (University Park, Pennsylvania: Pennsylvania State University, Center for the Study of Higher Education, 1983).

[25]Leslie Abramson and George Moss, "Law School Deans: A Self-Portrait," Journal of Legal Education, vol. 29, 1977, pp. 6-31.

[26]Kinnard, "American Schools of Pharmacy: Their Organization and Structure," p. 123.

that,

> "like medieval galleons, deanships came in many sizes and styles. They range widely in cost and complexity, and in accommodations for crew and cannon power. Most are built without design, improvised instead from memories of previous successes and failures and elaborated to the extent that local initiatives and creativity will allow. They are often slow and clumsy craft, hard to maneuver and not well suited for long voyages in stormy seas. Some, like the great Swedish ship Wasa in 1628 have been known to capsize in calm water and sink, flags flying, shortly after leaving the dock. The evolution of deanships have been unplanned and shaped in specific instances by all kinds of local forces. This makes the deanship, like middle management positions in most institutions an amorphous, variegated, perhaps ultimately indescribable role. Deanships are ephemeral creatures of place, time, discipline, personalities, and circumstances."[27]

In discussing career paths of administrators, Moore states, "the majority of administrative career research has been confined to personal accounts or analysis of one position, the presidency, from which other administrative careers have been extrapolated."[28] Hodgkinson points out, "most such literature is still inspirational, subjective and hortatory..."[29] Kaufman reports that, unlike business organizations which have found it beneficial to identify and groom future leaders, "educational institutions continue to

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[27]William R. Dill, "The Deanship: An Unstable Craft," in The Dilemma of the Deanship, ed.(s) Daniel E. Griffiths and Donald J. McCarty (Danville, Illinois: The Interstate Printers and Publishers, 1980), pp. 261-284.

[28]Moore, "The Top-Line: A Report on Presidents', Provosts' and Deans' Careers: Leaders in Transition: A National Study of Higher Education Administrators," p. 1.

[29]Harold L. Hodgkinson, Institutions in Transition (New York, New York: McGraw-Hill, 1971), p. 42.

follow a policy of "natural selection". Institution-wide programs generally are not available to guide the professional development and advancement of college administrators; there are most certainly no formal schools for the training of academic leaders."[30]

Knapp has noted that, "anticipatory recruitment for administrative posts has had little acceptance. Rare, indeed, is the university or college ready to fill an administrative vacancy without a prolonged, expensive, and often frantic search... The academic stance on administrative recruitment both among faculty and current administrators is still catch-as-catch-can."[31]

Many individual qualifications have been used in the selection of a pharmacy dean including excellence in teaching or research, ability to obtain grants, political astuteness or even the fact that no one else wanted the job.[32] Goyan states that, "future deans will probably fall into two major classes with respect to their educational backgrounds: (i) those with terminal research-type degrees, e.g., Ph.D.'s, who may or may not have pharmacy backgrounds, and (ii) those with advanced

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[30]Joseph F. Kaufman, At the Pleasure of the Board: The Service of the College and University President, (Washington D.C.: American Council on Education, 1980), p. 8.

[31]David C. Knapp, "Management: Intruder in the Academic Dust," Educational Record, vol. 50, 1969, pp. 55-59.

[32]Kinnard, "American Schools of Pharmacy: Their Organization and Structure," p. 123.

professional degrees, e.g., Pharm.D.'s, who lack research backgrounds.... There is a third class of individuals who would be well-equipped to serve as administrators in our schools of pharmacy. These are clinical scientists - individuals holding both the Pharm.D. and the Ph.D. degrees or having received their equivalent in educational background. However, unless present trends are modified, the number in this category will remain small."[33] The specific qualifications and experiences of the pharmacy deans have not been studied and characterized.

Statement of the Problem

The problem that was addressed in this study was an examination of the preferred management style of pharmacy deans, including an examination of the selected qualifications and experiences of these individuals, and an examination of the relationships between these management styles and selected qualifications and experience.

Focus of the Study

In this study information about the individuals in leadership positions in pharmacy schools was gathered and analyzed. Two major areas were examined in this study. The first part of the study was descriptive in nature and the second part was analytical. Certain demographic characteristics important in both describing career pathways and in

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[33]Goyan, et al., "Maintaining the Quality of Pharmaceutical Education During Difficult Times. The 1982 Argus Commission Report," p. 355.

potentially having impact upon management styles were identified. In addition information permitting the determination of an individual's preferred management style was obtained and reported. Finally, the relationships between selected demographic characteristics and preferred management styles were examined.

Purposes of the Study

The purposes this study attempted to achieve were to:

1. Describe selected demographic characteristics of the Pharmacy Deans, the Associate Deans, and the Assistant Deans.

2. Examine the demographic characteristics of the Pharmacy Deans, the Associate Deans, and the Assistant Deans for statistically significant differences between these groups.

3. Describe the preferred styles of management of the Pharmacy Deans, the Associate Deans, and the Assistant Deans.

4. Examine the preferred styles of management of the Pharmacy Deans, the Associate Deans, and the Assistant Deans for statistically significant differences between these groups.

5. Examine the relationships between selected demographic characteristics and preferred management styles.

The specific demographic characteristics to be statistically examined as to their relationship with preferred management style included the following:

i) age
ii) race
iii) sex
iv) degree
v) discipline
vi) undergraduate degree in pharmacy
vii) academic experience
viii) tenure status
ix) institutional characteristics
x) publication record
xi) practice experience
xii) professional association activity
xiii) formal management training
xiv) perceived acceptability of management training
xv) decision to choose administrative career again

Significance of the Study

The results of the study provided basic information about the styles and nature of academic leadership in the pharmacy schools. This information may be useful in analyzing the relative ability of the managers to successfully, as measured by the study instrument, lead the schools in overcoming identified problems. In addition, the identification of the types of individuals currently serving as dean allowed the development of an empirical profile. This profile provided the opportunity to examine the relationships of various qualifications and experiences with leadership styles and provided insights into the "ideal" characteristics and experiences schools should search for when hiring deans.

The study was designed to provide feedback to participating deans regarding their management style. This potentially provided a learning experience that may result in a recognition of undesirable management traits in these individuals and a resultant change in behavior.

The results of the study identified existing career paths for individuals aspiring to be pharmacy deans. It also suggested areas for future research including the following: (i) the relationship between management style of the Dean and faculty satisfaction, (ii) the relationship between management style of the Dean and the "success" of the school, (iii) the relationship between management style of the Dean and that of the Associate Dean, Assistant Dean, and Department Chairperson of that school, and (iv) the relationship between the management style of the dean today and the style of the dean of the future. In addition, dissemination of the results of the study may provide the impetus for the development of management seminars for pharmacy academic leaders.

Hypotheses

The ability of pharmacy deans to manage their institutions is a continuing concern that has led to questions about the types of individuals best suited to leadership roles. To examine the relationships between demographic characteristics and preferred management styles, three hypotheses were developed and stated in the null form. The hypotheses tested in the study were:

Hypothesis 1: There is no significant difference in the demographic characteristics of the Pharmacy Deans, Associate Deans, and Assistant Deans.

Hypothesis 2: There is no significant difference in the preferred management styles of the Pharmacy

Deans, Associate Deans, and Assistant Deans.

Hypothesis 3: There is no statistically significant difference between the demographic characteristics of the pharmacy deans and their preferred management styles.

Limitations and Delimitations

Limitations. The major limitation of the study was the reliance on self-reported data from participating individuals as the basis for the conclusions drawn. The results provide information about the self-perceived management style of the pharmacy deans which is statistically manipulated to control for response bias. The accuracy of a self-reporting system to provide a realistic picture of actual management style is unknown, and the findings presented must be evaluated with that in mind.

A second limitation of the study was the method of gathering data. Two survey instruments were sent to each dean. The returned responses may not constitute a representative sample of the population.

Delimitations. The study will include only the population of U.S. pharmacy deans in order to avoid language barriers. In addition, the deans included in the study all direct schools accredited by the American Council on Pharmaceutical Education (A.C.P.E.). The standards for accreditation imposed by the A.C.P.E. insure that all deans direct "equivalent" undergraduate pharmacy programs, i.e., all baccalaureate programs must be of at least five years

duration, all programs must have experiential training, etc.[34]

Definition of Terms

Dean. The Dean is identified as the academic administrator responsible for leadership of a school of pharmacy. The descriptor, dean is used to indicate all categories of deans, including Dean, Associate Dean, and Assistant Dean.

President. The descriptor, President of a school of pharmacy, is comparable to Dean of a school of pharmacy. Presidents will be included under the term Dean.

Associate Dean. The Associate Dean is identified as an academic administrator in a school of pharmacy reporting to the Dean. The Associate Dean is one administrative level below the Dean and is usually responsible for the school in the Dean's absence.

Assistant Dean. The Assistant Dean is identified as an academic administrator in a school of pharmacy usually reporting to the Dean. The Assistant Dean is two administrative levels below the Dean. Responsibilities of Assistant Deans vary widely and often include student affairs and clinical pharmacy programs.

Management Styles. Theories of management that attributed effective management strictly to particular

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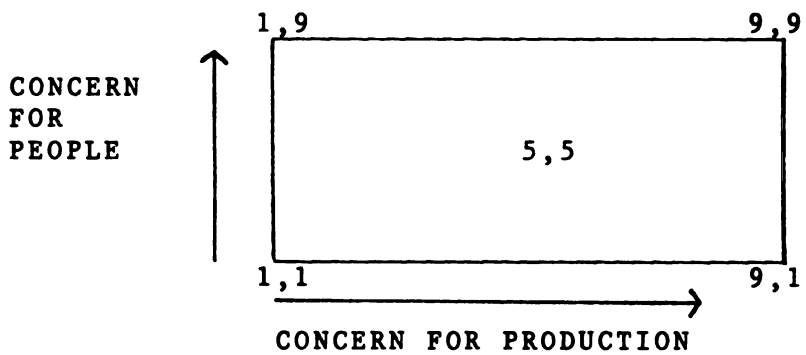
[34]American Council on Pharmaceutical Education. Accreditation Standards and Guidelines, (Chicago, Illinois: American Council on Pharmaceutical Education, 1984).

traits or properties of individuals, such as intelligence or achievement motivation, have been superceded by theories that stress relationships among individuals and between leaders and their environments. Management styles as defined in the study, are based on the Managerial Grid concept which was developed by Blake and Mouton and represents a two-dimensional analysis of management behaviors.[35] The grid is depicted below:



As the model depicts, a grid is constructed with concern for production on the x-axis and concern for people on the y-axis. The value 9 denotes a maximum concern and the value 1 denotes a minimal concern. Thus, in using the grid, the 9/1 style reflects a maximal concern for production coupled with a minimal concern for people; the 1/9 style reflects a minimal concern for production coupled with a maximal concern for people; the 1/1 style reflects minimal concern for both dimensions; and the 5/5 style reflects a moderate concern for each. The 9/9 style suggests a maximal

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[35]R.R. Blake and J.S. Mouton, The Managerial Grid (Houston, Texas: Gulf Publishing, 1984).

concern for production and people and represents the style of the leader who both desires to contribute to institutional success and is committed to involving those with whom he or she works.

Management style assessment instrument. A management style assessment instrument developed by Hall, Harvey and Williams, Teleometrics International, was used. This instrument can be found in Appendix A.

Empirical Profile. The empirical profile of pharmacy deans will consist of the following information:

Age: The actual age of the deans was reported.

Sex: The sex of the deans was reported.

Race: The race of the deans was reported.

Degrees: The educational background was reported.

Discipline: The academic discipline in which the terminal degree was earned was reported.

Undergraduate pharmacy degree: Whether or not the undergraduate degree was earned in pharmacy was reported.

Institution: The institution granting the highest degree was reported.

Experience: The type and duration of academic and practice experience was reported. The positions held and the years spent in each position was reported. The number of schools worked for and the number of schools served as dean was reported.

Licensure: The status of licensure in the U.S. by state boards of pharmacy was reported.

Tenured: Tenure status was reported.

Academic rank: Current academic rank was reported.

Research record: The number of publications in refereed journals, book chapters, or textbooks was reported.

Professional association: The number of memberships and positions held in professional associations was reported.

Management training: The level of formal management training was reported. The judged acceptability of management training was reported as was whether the repondent would again choose to be an administrator.

Type of institution: The type of institution was reported. Included in the report will be the following categories: private/public; graduate degree/ nongraduate degree; Pharm.D./non-Pharm.D.; and union faculty/non-union faculty.

Preferred professional degree: The first professional degree preferred (Pharm.D. vs. B.S.) was reported.

A copy of the empiric demographic profile survey can be found in Appendix B.

Population

The population for the study includes the deans from the 72 U.S. pharmacy schools accredited by the American Council on Pharmaceutical Education. The names and addresses of these individuals were obtained from the Roster of Pharmacy Personnel published by the American Association of Colleges of Pharmacy.[36]

Research Design

The study included two surveys sent to the pharmacy deans. Initially a letter seeking participation (Appendix C) was sent. Approximately one week later, a cover letter (Appendix D) was sent with the management style survey (Appendix A), the empiric demographic survey (Appendix B),

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[36]American Association of Colleges of Pharmacy, Roster of Pharmacy Personnel (Bethesda, Maryland: American Association of Colleges of Pharmacy, 1985).

and a pre-paid return envelope. Approximately two weeks later a follow-up reminder letter (Appendix E) was sent to each nonrespondent.

Analysis of Data

Management Style Instrument. Completion of the management style instrument by the respondents provided five raw scores representing the five alternative approaches to management style. These raw scores were converted into T-scores so that the relative standing of these raw scores, as compared with a normative sample of test respondents, could be reflected numerically. The numeric order of these style alternatives reflects the order of preferred management orientation of the respondent. These data are reported using descriptive techniques.

Empiric Demographic Profile. The empiric demographic profile survey is reported using descriptive techniques. The data reported are categorized by Pharmacy Dean, Associate Dean, Assistant Dean, and by all deans. Statistical analysis of the data was used to determine differences between these groups.

Management Style/Demographic Analysis. The relationships between management style and selected qualifications and experiences were examined. In order to analyze these relationships several statistical techniques were employed. Statistical techniques, using the SPSS (Statistical Package for the Social Sciences) were used to analyze the relationships between management style and demographic

characteristics and the relationships of these items between the various types of deans.

Organization of the Study

The study is reported in five chapters. Chapter 1 includes the introduction, the statement of the problem, the focus of the study, purposes of the study, significance of the study, the limitations and delimitations, the definition of terms, the population studied, the research design, a description of data analysis, and a description of the organization of the study.

Chapter 2 includes a review of the literature concerning problems of management in academia, assessment of management styles, assessment of management styles in academia, and descriptive studies of academic deans.

The design of the study is described in Chapter 3. The population and sampling procedures, the construction and content of the survey instruments used in the study, and the methodology employed in the analysis of data gathered in the study will be explained.

The findings of the study are contained in Chapter 4.

A summary of the study as well as conclusions and recommendations are contained in Chapter 5.

CHAPTER II

REVIEW OF THE LITERATURE

Organization

The literature review is organized according to the following subheadings: (a) literature pertaining to problems of management in academia, (b) literature pertaining to management style assessment, (c) literature pertaining to assessment of management styles in academia, and (d) literature pertaining to descriptive studies of academic deans.

Literature Pertaining to Problems of Management in Academia

Education is facing critical problems in the near term as well as in the future. Munitz has cautioned that higher education is lacking in leadership.[1] Riesman has also expressed concern about the current educational leadership and states,

> "What is really lacking is strong and visionary academic leadership. The democratization of search committees, the prospect of endless bureaucratic struggle, and the requirements of broad 'sunshine laws' often make able candidates unwilling to offer themselves to universities. Many institutions wind up with conciliatory, faceless presidents, incapable either of vision or the imaginative kind of planning

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[1] B. Munitz, "Strengthening Institutional Leadership," in New Directions for Higher Education: Developing and Evaluating Administrative Leadership, (ed). C.F. Fisher (San Francisco, California: Jossey-Bass, 1978).

required for what economist Kenneth Baulding has called 'the management or decline.'"[2]

Dressel studied the operations of more than 100 departments and units at 15 universities and concluded that departmental leadership was not always in the best interest of either the institution or higher education.[3] Bennis writes of a scientist's list of ten basic dangers to society. First on his list of ten, and most significant is the possibility of some kind of nuclear war or accident which would destroy the entire human race. The second basic challenge was world-wide epidemic, disease, or famine. The scientist's third major challenge to society was the quality of management and leadership in our institutions.[4] Anderson and Hagstrom have written about academic leadership and have emphasized the need for teamwork.[5,6]

Kerr describes higher education as being multiversities; composed of many individuals, separate units with specific narrow goals, a whole series of communities and programs

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[2]David Riesman, "The Changing American Campus: Beyond the '60's," The Wilson Quarterly, Autumn, 1978, pp. 59-71.

[3]Paul L. Dressel, et al. "Departmental Operations: The Confidence Game," Educational Record, vol. 50, no. 3, 1969, pp. 274-278.

[4]Warren G. Bennis, The Unconscious Conspiracy (New York, New York: AMACON, 1976).

[5]C. Anderson (ed), Administrative Team Leadership in Concept and Practice (Athens, Georgia: Institute of Higher Education, University of Georgia, 1966).

[6]W. Hagstrom, "Traditional and Modern Forms of Scientific Teamwork" Administrative Science Quarterly, vol. 9, 1964, pp. 241-263.

loosely knitted together under the common name and governing board that they all share. Leadership in this model is diffused and transient.[7]

Specific discussions of leadership problems in pharmacy education have been varied. Goyan has called for special education or training for deans. A rational, planned approach to both the provision of management experiences for pharmacy faculty and continuing management education has been suggested by Goyan and the Argus Commission.[8]

Kinnard also urges the application of sound managerial theories to the operation of the schools of pharmacy.[9] Essential then to the health of education in general and of pharmacy education in particular, is the quality of leadership emanating from the office of the Dean.

Literature Pertaining to Management Style Assessment

Leadership styles have been the source of much study. Fleishman described a dualistic model of leadership based upon the Ohio State Leadership studies. Using "initiating structure" as one end of the model and "social-emotional support" for the other, Fleishman found that departments with

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[7]Clark Kerr, The Uses of the University (Cambridge, Mass; Harvard University Press, 1963), pp.1-2.

[8]J.E. Goyan, et al. "Maintaining the Quality of Pharmaceutical Education During Difficult Times. The 1982 Argus Commission Report," American Journal of Pharmaceutical Education, vol. 46, no. 4, 1982, p. 355.

[9]W.J. Kinnard, "American Schools of Pharmacy: Their Organization and Structure," American Journal of Pharmaceutical Education, vol. 44, no. 2, 1980, p. 123.

high worker grievance rates contained foremen who led with a lower degree of "social-emotional support" and a higher degree of "structuring".[10] Leary also described a dualistic model using a scale of "hostility-affection" on the X-axis and "dominance-submissiveness" on the Y-axis.[11] Spence and Helmreich describe another theory that involves the use of variables, "masculinity" and "femininity" to describe behavior patterns and discuss their correlation with achievement motivation.[12]

Tannenbaum and Schmidt describe a management continuum that extends from boss-centered control at one end to subordinate-centered control at the other.[13] Fiedler also uses a continuum to define two leadership positions, a human relations-oriented leader and a task-oriented leader, and argues that the degree of leadership effectiveness depends upon the favorableness of the situation for that leadership.[14] A situational approach to management using a

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[10] E. Fleishman, "The Description of Supervisor Behavior," Journal of Applied Psychology, vol. 38, 1953, pp. 1-6.

[11] T. Leary, Interpersonal Diagnosis of Personality, (New York, New York: Ronald Press, 1957).

[12] J.T. Spence and R.L. Helmreich, Masculinity and Femininity (Austin, Texas: University of Texas Press, 1978).

[13] R. Tannenbaum and R.H. Schmidt, "How to Choose a Leadership Pattern," Harvard Business Review, March/April 1958, pp. 95-102.

[14] F.E. Fiedler, A Theory of Leadership Effectiveness (New York, New York: McGraw-Hill, 1967).

dualistic model is also proposed by Hersey and Blanchard.[15]

Many theories of and approaches to management, such as Fiedler's and Hersey and Blanchard's, have been described as contingencies theories. These theories conclude that there is no one best way to lead and that any style of leadership is best determined by the situation. Many authors, however, believe that a single approach, based upon certain assumptions and attitudes, represents the ideal approach to management. McGregor has posited two views for comparative emphasis: Theory X, a pessimistic and reductive view of human resources under a manager's perview, and Theory Y, a set of optimistic and developmentally integrated beliefs. McGregor holds that management philosophically based in Theory Y addresses itself to the dynamic potentials for growth and internal control of personnel, facilitating the accomplishment of organizational objectives and encouraging growth of subordinates at the same time. Subscription to Theory X, on the other hand, is evidenced by mechanistic thinking and preoccupation with the use of external controls which limit growth and reduce organizational potential.[16]

Likert proposes that those organizations that are most successful in achieving their goals are organizations in

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[15]P. Hersey and K.H. Blanchard, Management of Organizational Behavior: Utilizing Human Resources (Englewood Cliffs, NJ: Prentice-Hall, 1977).

[16]D. McGregor, The Human Side of Enterprise (New York, New York: McGraw-Hill, 1960).

which individuals and groups feel supported, trusted, and included in the work that is being accomplished. He describes a continuum of organizational types or systems, each of which place varying emphasis on these concepts of trust, support, and participation and include: I. exploitive-authoritative, II. benevolent-authoritative, III. consultative, and IV. participative.[17]

Chris Argyris has equated interpersonal competence with organizational effectiveness. Argyris contends that the organization's vitality and adaptive fitness are affected by the manager's level of interpersonal competence, as this directly influences how human relationships are managed and the form decision-making practices will take.[18] Blake and Mouton maintain that a leadership style with continuous high regard for people and production is the most effective leadership orientation for any situation. They developed a grid approach to defining leadership that includes five distinct styles. These are briefly described as follows: 9/9, high people/high task, termed "team administration"; 1/9, high people/low task, termed "comfortable and pleasant administration"; 9/1, high task/low people, termed "authority-obedience administration"; 5/5, medium people/ medium task, termed "constituency-centered administration",

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[17]Rensis Likert, New Patterns of Management, (New York: McGraw-Hill, 1961), pp. 104-10.

[18]C. Argyris and D.A. Schon, Theory in Practice: Increasing Professional Effectiveness (San Francisco, California: Jossey-Bass, 1974).

and; 1/1, low people/low task, termed "caretaker administration".[19] Hall, Harvey and Williams, utilizing the work of Blake and Mouton, further refined the managerial grid concept and constructed a Styles of Management Inventory to assess preferred management styles.[20] Hall and Donnell, using this instrument, further studied managers and correlated achievement with managerial styles. Their findings, based upon a study of 1,878 managers, correlated high achievement with high people/high task managerial style (9/9), average achievement with high task/low relationship managerial style (9/1), and low achievement with low task/low relationship managerial style (1/1).[21] In addition, Hall has correlated styles of management with interpersonal management styles. Using the Johari Window model developed by Luft and Ingham,[22] Hall studied 1,000 managers from throughout the United States. The author of the study concluded that the 9/9 style of management, typically described as one which achieves effective production through the sound utilization of people, also entails the sound utilization of personal resources in establishing

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[19]R.R. Blake and J.S. Mouton, The Managerial Grid (Houston, Texas: Gulf Publishing, 1984).

[20]J. Hall, et al. Styles of Management Inventory (Conroe, Texas: Teleometrics International, 1963).

[21]J. Hall and S.M. Donnell, "Managerial Achievement: The Personal Side of Behavioral Theory," Human Relations, vol. 32, no. 1, 1979, pp. 97-98.

[22]Joseph Luft, Of Human Interaction (Palo Alto, California: National Press Books, 1969).

relationships.[23]

Literature Pertaining to Assessment of Management Styles in Academia

Hillway, in an early study, surveyed faculty attitudes regarding the characteristics of presidents. The results indicated that faculty desired presidents who were honest and democratic, with dishonesty and insincerity being identified as undesirable.[24] Dressell, as described earlier in this chapter, studied departmental leadership and found it to be lacking.[25] Ehrle studied the department chairmanship and found that, while interpersonal skills were perceived as the number one priority, the performance level in this area was less than satisfactory.[26] Eble suggests that compassion, courage and confidence are characteristics of academic leadership excellence and secretiveness, aloofness, and remoteness are bad signs.[27] Lutz performed a longitudinal study to examine the qualities that search committees valued in a candidate for Dean and the assessment

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[23]J. Hall, "Communication Revisited," California Management Review, vol. 15, no. 3, 1973, Spring, pp. 56-67.

[24]T. Hillway, "What Professors Want in a President," School and Society, June 20, 1959, pp. 306-308.

[25]P.L. Dressel, et al. "Departmental Operations: The Confidence Game," Educational Record, vol. 50, no. 3, 1969, pp. 274-278.

[26]E.B. Ehrle, "Selection and Evaluation of Department Chairmen," Educational Record, vol. 56, no. 1, 1975, pp. 29-38.

[27]K.E. Eble, The Art of Administration (San Francisco, California: Jossey-Bass, 1978).

of the successful candidates after two years. The most common criticism leveled by the members of the search committees was related to the poor manner in which Deans treated people, particularly faculty and students. Deans were criticized for being abrasive, dogmatic, insensitive, and unethical.[28]

Kauffman interviewed thirty-two newly selected college administrators and studied the effect of the preceding leadership style on the leadership style of the individual selected to succeed. Many administrators were selected for characteristics that were thought to offset the weaknesses of their predecessors.[29] Hodgkinson and Meeth have described four types of deans: autocrat, servant of the faculty, academic leader, and change agent.[30] Bennis maintains that no single quality, trait, characteristic, or style guarantees leadership ability and a candidate's unique capacities and the institution's needs must fit. He further describes eleven possible styles of leadership.[31] Enarson discusses the tactics of leadership necessary for

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[28]F.W. Lutz, "The Deanship: Search and Screening Process," Educational Record, vol. 60, no. 3, 1979, pp. 261-271.

[29]J.F. Kauffman, "The New College President: Expectations and Realities," Educational Record, vol. 58, no. 2, 1977, pp 147-168.

[30]H.L. Hodgkinson and L.R. Meeth, (eds.). Power and Authority: Transformation of Campus Governance. (San Francisco, California: Jossey-Bass, 1971).

[31]W. Bennis, The Leaning Ivory Tower (San Francisco, California: Jossey-Bass, 1973).

successful deaning and concludes that "the dean who tries to be right and popular as well, will in the end be neither right or popular."[32] Gould, who has written extensively about the role of deans, concluded that it was a rare for an autocratic or authoritarian dean to operate successfully.[33] Skipper used factor analysis to describe two important dimensions of the effective leader at the college or university: (1) administrative skills and (2) specific personal characteristics. He found three components that clustered to define administrative skills: (1) knowledge of position; (2) planning ability; and (3) human relations. The most effective administrators were identified as people whose relationships with others were characterized by mutual respect and warmth, who developed well-defined organizational patterns, who opened channels of communication, who articulated goals, and who kept morale high.[34]

Hill and French, in studying academic leadership in five state colleges, found that professor were most satisfied when the leadership had considerable personal influence and power

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[32]H. Enarson, "The Academic Vice-President or Dean," in Administrators in Higher Education, ed. Gerald P. Burns (New York, New York: Harper and Brothers, 1962), pp. 111-124.

[33]J.W. Gould, The Academic Deanship (Bureau of Publications, Teachers College, Columbia University, 1964).

[34]C.E. Skipper, "Factor Analysis of University Leaders' Behavior," College and University, vol. 53, no. 3, 1978, pp.330-334.

to speak effectively on behalf of the faculty.[35] Washington, in studying the relationship between leadership style and faculty satisfaction, found faculty significantly more satisfied with their jobs when they perceived the chairperson's leadership style to be high in "consideration" and "initiating structure".[36] Bloomer found that teachers preferred a democratic to an autocratic or laissez-faire type of leader.[37]

Hodges developed a study aimed at relating satisfaction and other reactions of faculty and students to their perceptions of the organizational characteristics of an engineering college, measuring variables including leadership style. Hodges hypothesized that satisfaction of the faculty and students was related to the extent that they perceived the organization to be operating at the participative level. Indeed, the researcher found the satisfaction levels of the faculty and students to be greater for those respondents who perceived the organization to be

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[35]W.W. Hill and W.L. French, "Perceptions of the Power of Department Chairmen by Professors," Administrative Science Quarterly, vol. 8, no. 1, 1967, pp. 548-574.

[36]E.M. Washington, "The Relationship Between College Department Chairperson's Leadership Style as Perceived by Teaching Faculty and That Faculty's Feelings of Job Satisfaction," (Ph.D. dissertation, Western Michigan University, 1975).

[37]R.G. Bloomer, "The Role of the Head of the Department: Some Questions and Answers," Educational Research, vol. 22, no. 2, 1980, pp. 83-96.

operating at or close to a participative level.[38]

Gardner, in 1971, studied faculty and administrator perceptions concerning organizational climate and management style in a large midwestern university. The results of this study were as follows:

1. Faculty satisfaction is influenced more by the management style of the department chairperson than any other variable.

2. As faculty perceive the chairperson's management style to be more participative, they tend to express greater satisfaction.

3. Finally, as faculty perceive the management style to be participative, they desire less direct involvement in administrative activities.[39]

Garove and Handley used the Styles of Management Inventory in assessing the effect of a five-day simulation training experience on selected management behavior of superintendents of institutions for the mentally retarded. Their results were that significant changes in management styles did occur, with the highest level of positive change observed in the 9/9, 1/9, and 1/1 styles.[40] Johansen studied leadership characteristics associated with

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[38]Joseph Daniel Hodges, "Perceived Organizational Characteristics and Organizational Satisfaction in an Engineering College," (Ph.D. dissertation, University of Michigan, 1973), p. 109.

[39]Carroll A. Gardner, "Faculty Participation in Departmental Administrative Activities" (Ph.D. dissertation, University of Michigan, 1971).

[40]W.E. Garove and E.E. Handley, "The Effect of a Five-day Simulation Training Experience in Reality-based Simulation on Selected Management Behavior of Superintendents of Institutions for the Mentally Retarded," (Ph.D. dissertation: University of Pittsburgh, 1972).

effectiveness of elementary principals. The results of this research were that no correlation could be found between effectiveness leadership styles and job-related effectiveness.[41] Stine reported on the perceptions of the relationships between organizational climate and leadership styles of elementary school principals. His findings were as follows:

1. There was no relationship between the management style of the principals and the organizational climate of the school as perceived by the teachers.

2. There was a significant positive relationship between the principals' management style and their perception of the schools' organizational climate.[42]

Smith surveyed faculty, department chairpersons, and senior administrators at twelve public community colleges in the midwest as to their perceptions of the organizational climate in which they were working. Among his findings were:

1. The more participative the department chairperson is, the more faculty members feel they have an influence on what goes on in their departments.

2. Chairpersons with higher faculty evaluations tend to be more participative.

3. Greater influence in departmental matters on the part of the faculty is accompanied by better

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[41]J.J. Johansen, "Some Characteristics Associated with the Effectiveness of Elementary Principals as Demonstrated by Role Perceptions and Utilization of Time," (Ph.D. dissertation: Western Michigan University, 1983).

[42]J.C. Stine, "A Study of Perceptions of the Relationships Between the Organizational Climate of Elementary Schools and Managerial Styles of Their Principals," (Ph.D. dissertation: University of Pittsburgh, 1975).

> evaluations of the department chairperson, greater faculty cohesiveness, and greater faculty satisfaction with how the department is run.[43]

Weed and his colleagues reported on leadership style, subordinate personality, and task type as predictors of performance and satisfaction.[44] Blankenship and Stricklin studied the effect of a two-day leadership workshop on the styles of management of college student leaders as measured by the Styles of Management Survey. Their conclusions were that little change in leadership style occurred and the workshop did not provide sufficient time for maximization of treatment variance needed.[45]

Literature Pertaining to Descriptive Studies of Academic Deans

The available literature on deans varies widely, ranging from anecdotal to semifictitious spoofs[46,47] to benchmark

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[43]Albert B. Smith, "Role Expectations for and Observations of Community College Department Chairmen: An Organizational Study of Consensus and Conformity" (Ph.D. dissertation, University of Michigan, 1971).

[44]S.E. Weed, et al. "Leadership Style, Subordinate Personality, and Task Type as Predictors of Performance and Satisfaction with Supervision," Journal of Applied Psychology, 1975, pp. 36-42.

[45]B. Blankenship, "The Impact of a Leadership Workshop on the Development of College Student Leader's Style of Leadership," (Ph.D. dissertation: The University of Mississippi, 1983).

[46]E.A. Johnson, "Dear Dean Misanthrope." in The Academic Deanship in American Colleges and Unversities, ed. Arthur Dibden (Carbondale and Edwardsville, Illinois: Southern Illinois University Press, 1968), pp. 173-183.

[47]W.R. Dill, "The Deanship: An Unstable Craft," in The Dilemma of the Deanship, (eds.) Daniel E. Griffiths and Donald J. McCarty (Danville, Illinois: The Interstate Printers and Publishers, 1980), pp. 261-284.

descriptions of the persons who occupy it.[48,49]

Cyphert and Zimpher studied the personal, professional, and job-related characteristics of the Deans of education. Reporting their substantive generalizations, they found American Deans of education today are most commonly healthy and energetic, middle-aged, married, male, white, Protestant, Democrat and from a relatively non-college educated, lower-middle class, non-professional-managerial, native born, small town, multi-child background. In addition they report that education Deans normally hold the doctorate degree and have had some prior educational administration experience.[50]

Latta and Hartung reported on the type of person serving as the Junior College Dean. Their findings included responses from 187 deans and revealed that the typical Junior College Dean is 1) a family man in early middle age, 2) a university graduate with at least a master's degree, and 3) a former teacher at several educational levels.[51] Konrad

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[48]F.W. Reeves and J.D. Russell. College Organization and Administration (Indianapolis, Indiana: Board of Education, 1929), pp. 70-81.

[49]J.W. Gould. The Academic Deanship (Bureau of Publication, Teachers College, Columbia University, 1964).

[50]F.R. Cyphert and N.L. Zimpher, "The Education Deanship: Who is the Dean?" in The Delimma of the Deanship, (eds.) Daniel E. Griffiths and Donald J. McCarty (Danville, Illinois: The Interstate Printers and Publishers, 1980), pp. 91-124.

[51]E.M. Latta and A.B. Hartung, "The Junior College Dean: the Man and the Position," Junior College Journal, vol. 41, 1970, pp. 19-23.

profiled Deans in Canadian higher education, including their backgrounds, career patterns role characteristics, and professional needs. His conclusions described Canadian Deans as males of middle age holding the Ph.D. and having served as dean for less than four years. Konrad also concluded that it was a myth that decisions in the Deanship are primarily based upon substantive matters of an academic nature and arrived at through collegial interaction. Interpersonal and administrative skills and political acuity rather than scholarship constitute the most important tool of the Deanship.[52] Kapel and Dejnozka further studied educational Deans in the United States. They conclude that though continuing to respect the tradition of collegiality, deans are relatively more inclined to see the need to operate as line officers partly in response to the growing collective bargaining movement.[53]

Moore studied the careers of college presidents, provosts, and academic Deans using a stratified random sample of 4,000 line administrators in 1,600 accredited four-year, degree-granting institutions. Among the findings of the study concerning Deans were the following: 13.6 percent were females, and 7.2 percent were minorities; over 80 percent of the Deans held rank and tenure, and a faculty

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[52]A.G. Konrad, "Deans in Canadian Higher Education," The Canadian Journal of Higher Education, vol. x-2, 1980, pp. 53-72.

[53]D.E. Kapel and E.L. Dejnozka, "The Educational Deanship: A Further Analysis," Research in Higher Education, vol. 10, no. 2, 1979, pp. 99-112.

position was found to be the main entry position for the Deanship.[54]

Abramson and Moss surveyed the Deans of law schools to ascertain personal background information and attitudes about the position they occupied.[55] Bowker presented descriptive data drawn from a sample of general and social science Deans in American junior colleges, four-year colleges, and universities. Among the conclusions were that the rewards for deaning might be insufficient to attract the highest quality applicants and though Deans claim to support teaching, their actions do not support this claim.[56] A descriptive study of pharmacy school deans has not been performed.

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[54]K.L. Moore, "The Top-Line: A Report on Presidents', Provosts', and Deans' Careers. Leaders in Transition: A National Study of Higher Education Administrators, (University Park, Pennsylvania: Pennsylvania State University, Center for the Study of Higher Education, 1983).

[55]L. Abramson and G. Moss, "Law School Deans: A Self-Portrait," Journal of Legal Education, vol. 29, 1977, pp. 6-31.

[56]L.H. Bowker, "The Academic Dean: A Descriptive Study, "Teaching Sociology, vol. 9, 1982, pp. 257-271.

CHAPTER III

METHODOLOGY

Introduction

As indicated in Chapter 1, this study consists of three parts. The first examines the characteristics and experiences of the pharmacy deans. The second is an analysis of the management styles of pharmacy deans. The final is an examination of the relationships between characteristics and experiences and leadership styles.

Chapter 2 contains a review of the literature in the following areas: literature pertaining to problems in management in academia, literature pertaining to assessment of management styles, literature pertaining to assessment of management styles in academia, and literature pertaining to descriptive studies of academic deans.

This chapter includes descriptions of the derivation of the study, the population, the sampling procedures used, the survey instruments, the method of data collection, and the data analysis procedures used.

Derivation of the Study

The researcher has been an administrator in a school of pharmacy since 1979. During this period, he has served under two Deans and has worked with numerous others. It has

appeared to this researcher that the level of understanding of the theories of leadership and management in these individuals is lacking, though each dean has had a unique approach to management. In addition, it also appears that most deans are deemed qualified for leadership positions on the basis of research or teaching excellence, neither of which may directly be associated with the skills necessary to manage.

As evidenced by the review of the literature in Chapter 2, few studies have been performed to identify leadership styles of academicians. Most of the accounts of deanships are anecdotal and based upon speculation.

In addition, due to a personal interest in career paths leading to pharmacy dean positions, the researcher was interested in describing the career paths of the current deans. Previous information concerning qualifications and experiences necessary to prepare for a deanship has been either inaccurate or lacking.

The original intent of the researcher was to examine the relationships between level of faculty satisfaction and the style of leadership exhibited by the Dean. Discussions with deans and other colleagues indicated a possible low participation by the deans within the context of that analysis. Therefore, the researcher elected to examine the relationships between selected characteristics and experiences and leadership styles. This study was approved by the Michigan State University Human Subjects Committee (Appendix J).

Population

To determine the selected characteristics and experiences and leadership styles of the academic leaders of pharmacy schools, the deans from the 72 U.S. pharmacy schools accredited by the American Council on Pharmaceutical Education were chosen for the study. The deans of only schools receiving American Council on Pharmaceutical Education accreditation were included to assure a similarity of programs and a similar pattern of demands for leadership.[1] The names and addresses of these individuals were obtained from the Roster of Pharmacy Personnel published annually by the American Association of Colleges of Pharmacy.[2]

According to the data from this listing of pharmacy personnel, seven schools are currently under the direction of acting deans, as they are in the process of searching for a Dean. In order to gather as complete a picture of pharmacy school leadership, these individuals, because they are providing the leadership for their schools, were included in the study and were categorized as Deans.

Sampling Procedures

The Deans (and acting Deans), Associate Deans and Assistant Deans of the schools of pharmacy at the 72 U.S.

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[1]American Council on Pharmaceutical Education. Accreditation Standards and Guidelines (Chicago, Illinois: American Council on Pharmaceutical Education, 1984).

[2]American Association of Colleges of Pharmacy, Roster of Pharmacy Personnel (Bethesda, Maryland: American Association of Colleges of Pharmacy, 1985).

Schools of Pharmacy accredited by the American Council on Pharmaceutical Education served as the population for this study. There was no sample drawn from the population. The population was, instead, surveyed in its entirety. The population size was 193.

Survey Instruments

For the purpose of generating data to examine the management styles of pharmacy deans and to describe selected characteristics and experiences of these individuals, two survey instruments, one previously existing and one developed for the study, were utilized.

Styles of Management Inventory

The first instrument is designed to provide information concerning management styles. The Styles of Management Inventory by Hall, Harvey, and Williams, Teleometrics, Int., Woodlands, Texas, was used in the study.[3] A copy of this instrument, which is based on the Managerial Grid concept by Blake and Mouton,[4] can be found in Appendix A. It consists of a series of twelve typical management situations. Under each situation, five alternative ways of handling the situation are listed. Respondents are asked to carefully read each alternative and select the alternatives that are most characteristic and least characteristic of their approach to the particular situation. These are then

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[3]J. Hall, et. al. Styles of Management Inventory (Conroe, Texas: Teleometrics International, 1963).

[4]R.R. Blake and J.S. Mouton, The Managerial Grid (Houston, Texas: Gulf Publishing, 1964).

placed on a "characteristicness" scale of 10 (completely characteristic) to 1 (completely uncharacteristic). The remaining three approaches are placed within this range according to how characteristic each alternative is.

The five alternatives to each problem represent five leadership styles or approaches for management. These include the following styles and their respective numeric designation based upon the grid concept:

9/9. This leader displays a high concern for people and a high concern for production. Production is approached from an integration of tasks and human requirements.

1/9. This manager displays high concern for people and low concern for production. This leader is often described as the "good old boy" and the environment created is labeled the "country club". Production is incidental to lack of conflict to this leader.

9/1. This leadership style maximizes concern for production at the cost of concern for people. People are as machines, only necessary to the completion of production. This leader believes that his primary responsibility is to plan, direct, and control productivity.

5/5. This leader believes that production is important, however, the employee can not be ignored or productivity will wane. This leader is a great compromise worker.

1/1. This manager expects little in terms of production, gives little to the employee, and goes through the motions of administration with a hollow committment to

either the task or the people.

The items in this instrument have been designed to reflect the particular behaviors which are required under each of the five managerial styles given the different combinations of concerns. The instrument allows both a selection of preference for leadership behavior and a weighting of behaviors with respect to the utility they have for the respondent in his or her own approach to management. By examining the relative ordering of the behaviors and their weights, it is possible to determine the respondents preferred approach to accomplishing work through others, or their management style. In addition, the instrument provides for a T-score transformation, a statistical technique which allows for adjustment of raw scores, so that the relative standing of those raw scores - as compared with some normative sample of test respondents - can be ascertained and reflected numerically. The relative standing reveals more about management style preference than raw scores by controlling for response bias which could not be detected in raw scores. The current sample size for the normative profile is 4,819.

The median coefficient of stability for the instrument ranges from .69 to .74 and the instrument discriminates between high, average, and low achieving managers. Construct validity is high as revealed by canonical analyses of the instrument with the MMPI which yielded two functions significant at the .038 and .09 levels of confidence.

Empiric Demographic Profile

The second instrument was designed to provide information about experiences and characteristics of pharmacy deans. The empiric demographic profile data were gathered by utilizing a survey instrument specifically designed for the study. A copy of the empiric demographic profile instrument can be found in Appendix B. The survey is useful in describing the individuals occupying the pharmacy dean positions in the U.S. In addition, useful information regarding career paths is described. The survey instrument includes specific categories. These categories and a rationale for inclusion are as follows:

Sex. The actual number and percentage of male and female deans is reported. This categorization is useful in analyzing leadership styles. Do female deans employ different styles of leadership than male deans? Research by Hall and Donnell would suggest no difference in female managers vs. male managers.[5] Is this true for pharmacy deans?

Race. The actual number and percentage of the following races is reported and includes the following categories: white, black, hispanic, oriental, or other. Is affirmative action providing leaders from minorities? How do pharmacy schools compare with other schools in promoting

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[5]S.M. Donnel and J. Hall, "Men and women as managers: A significant case of no significant difference," Organizational Dynamics, Spring, 1980. The Woodlands, Texas: Teleometrics Int'l., 1980. pp. 467-486.

and encouraging minorities? Are there differences in leadership styles of different races?

Degrees earned. The numbers and percentages of deans holding various degrees is reported. The degrees to be included in the categorization include the following: B.S., B.A., M.S., M.B.A., M.P.H., Pharm.D., Ph.D., D.Sc., Ed.D., or other. This information may be useful in correlating an educational basis for various types of leaders. For example, does an individual possessing the M.B.A. employ a different leadership style than a Ph.D.? What degree is necessary for becoming a pharmacy dean?

Discipline in which highest degree earned. The actual number and percentage of deans receiving their highest degrees from various disciplines is reported. The disciplines to be included in the categorization are as follows: Chemistry, Medicinal Chemistry, Pharmacology, Pharmacy, Pharmaceutics/Biopharmaceutics, Pharmacy Administration, Clinical Pharmacy, Pharmacognosy, Hospital Pharmacy, or other. Is there a discipline that dominates the ranks of deans? Is there a difference in leadership style according to training disciple?

Undergraduate Degree in Pharmacy. Whether the respondent obtained the undergraduate degree in pharmacy is reported. The issue of non-pharmacy trained individuals providing leadership has been raised.

Previous Academic Experience. The specific academic experiences and years spent in each experience is reported.

This will identify career paths of pharmacy deans as well as to provide a basis to analyze relationships of leadership styles with experiences. The specific academic experiences included in the survey are as follows: pharmacy faculty, other faculty, department head, assistant dean, associate dean, dean and other as well as the total number of professional positions held. Is there a relationship between the number of years of experience and the preferred management styles?

Licensure. The status of state board licensure to practice as a pharmacist is reported. There is concern about non-pharmacist scientists in leadership positions in pharmacy schools due to the perceived lack of association of these individuals with pharmacy practice.

Tenure. The tenure status of the deans is reported. This category will help describe job security of the deans as well as provide a measure of academic performance.

Academic Rank. The academic rank is reported. The categories in this descriptor will include: professor, associate professor, assistant professor, instructor, or other. Are there differences in preferred styles of management between the ranks?

Research Record. In order to attempt to quantify the research records of the deans, the number of papers published in refereed journals, the number of book chapters written or the number of textbooks authored is reported. Are productive researchers characteristically certain types of managers?

Professional Association Activity. In order to attempt to quantify the emphasis on professional practice activities of the deans, the number of positions held in professional associations is reported. The associations included in the survey are as follows: American Association of Colleges of Pharmacy, American Pharmaceutical Association, Ammerican Society of Consultant Pharmacists, National Association of Retail Druggists, American Society of Hospital Pharmacists, American College of Clinical Pharmacists, Academy of Pharmaceutical Sciences, American College of Apothecaries, American Association of Pharmaceutical Scientists, or other.

Formal Management Training. In order to quantify the extent of formal management training in the pharmacy deans, the formal management training record is reported. The types of management training to be included are as follows: graduate school coursework, management institutes, American Council of Education internship/fellowship, management seminars, or other. Is there a relationship between the presence of formal management training and preferred management styles?

Type of Institution. The type of institution employing the dean is reported. The categories include: graduate degree granting, non-graduate degree granting, public, private, entry level Pharm.D., non-entry level Pharm.D., unionized faculty, and non-unionized faculty. An analysis will be performed to determine what if any impact they have upon preferred management styles.

Endorsement

In order to maximize the response rate by the Pharmacy Deans, endorsement for the study from the Council of Deans of the American Association of Colleges of Pharmacy was sought and gained. A copy of the endorsement letter can be found in Appendix F. The American Association of Colleges of Pharmacy is the membership association for all U.S. Schools of Pharmacy and for all pharmacy faculty and administrators.

Pilot Test

The empiric demographic profile was pilot-tested on five academic deans to improve clarity and face validity. The list of academic deans used in the pilot study can be found in Appendix G. The five deans were given the survey and asked to complete and return with comments. They were asked if other categories or questions should be included, if the survey was clear and understandable, and if they would recommend any changes. Several changes were incorporated into the final demographic survey instrument.

Data Collection

A mail survey was employed to collect data for this study. Given the number of participants (193) and the geographic locations of the institutions at which they were employed, this method was the only reasonable approach.

Prior to mailing, each instrument was coded to permit the researcher to do a follow-up mailing to non-respondents.

This coding was accomplished by the development of a master list of all pharmacy deans and the assignment of a distinct code to each.

The first mailing was sent via first-class mail to each of the 193 participants on October 17, 1986. The mailing contained a letter explaining the purpose of the study and requesting participation of the individual. A copy of the initial letter can be found in Appendix C.

One week later, on October 24, 1986 a cover letter detailing the procedures for participation was sent via first-class mail along with both the demographic survey instrument and the management style instrument. A copy of the cover letter can be found in Appendix D. The mailing also contained a self-addressed, stamped envelope for return of the questionnaires. Care was taken to ensure the accuracy of the materials which were mailed. Effort was also expended in preparation to ensure the professional and personal appearance of each item. Each letter and envelope was personalized to maximize response rate. The cover letters were typed on stationery using the Ferris State College, School of Pharmacy letterhead. The initial mailing was done using extra large colorful commemorative stamps to maximize the distinctiveness of the letters. Additionally, the return mailing envelopes were given colorful and distinctive address labels as well as pre-stamped with a colorful, commemorative stamp. The demographic survey was

designed with the assistance of a testing expert to insure ease of completion and data compilation.

Two weeks after mailing the surveys, on November 7, 1986, a follow-up reminder letter was sent to each non-respondent. A copy of the follow-up letter can be found in Appendix E.

A total of 146 surveys were returned. That number constitutes a response rate of 75.6 percent. Of the 146 which were returned, 13 were judged by the researcher to be inappropriate for inclusion in the study. Those 13 fell into one of the following categories of unusable instruments:

1) The Styles of Management Inventory instrument was returned uncompleted with a note that the respondent did not have the time to complete.(7)

2) The empiric demographic profile survey was returned uncompleted.(1)

3) The Styles of Management Inventory instrument was improperly completed.(5)

Of the 13 surveys judged to be inappropriate for inclusion in the study, the largest number (7 or 4.7 percent) were in category 1.

In cases where the instructions were not followed completely or where a section was inadvertantly skipped, the inappropriate survey was returned to the respondent with a letter of explanation. The respondents were again asked to complete the instrument and return in the enclosed pre-stamped, return envelope. An example of this type of letter can be found in Appendix H.

Coding and Data Entry

As each returned survey was received, it was recorded as having been received and the data contained in the survey were prepared for entry into the computer. The Styles of Management instrument was scored by the researcher and graphic interpretations were prepared for return with a letter of explanation and a detailed scoring sheet to participating deans to provide them with additional feedback. An example of this type of correspondence can be found in Appendix I. The responses on both the empiric demographic profile survey and management style instrument were carefully checked for accuracy.

There were surveys and instruments which were incomplete. The management style instrument resulted in the largest occurrence of unanswered questions. This can be attributed to the necessary amount of time and concentration needed to complete the instrument.

The data were entered into the computer in December, 1986. Following the entry of the data, editing was performed to further check for accuracy.

Data Analysis Procedures

Following the identification of the research questions listed in the Purposes section of Chapter 1 and the generation of the data through the use of the two survey instruments, the data gathered were categorized with regard to their pertinence to each research question. It was determined by the researcher that two of the questions

(1 and 3) were descriptive in nature and the data were analyzed using frequency counts and response percentages.

The remaining questions (2, 4, and 5) required other methods of analysis. It was determined by the researcher that multivariate tests of significance (MANOVA) would speak to the statistical significance of those continuous variable items in questions 2, 4 and 5, while minimizing type I error. If significance was found using the multivariate tests, further analysis using one-way analysis of variance with either the Scheffe' test or the Tukey-Kramer test to isolate the differences was performed. Chi-square values were used to test the statistical significance of categoric variable items in questions 2, 4, and 5.

These methods of data analysis were judged to be appropriate by the statistical consultants at Ferris State College Testing Center. With the assistance of that office, the data were analyzed by computer using the Statistical Package for the Social Sciences program (SPSS).

CHAPTER IV

ANALYSIS OF THE DATA

Introduction

The purpose of this study was to examine the qualifications and experiences of pharmacy deans including the preferred styles of management employed by these deans, and the relationships between and among the qualifications and experiences and preferred management styles. The qualifications and experiences of the deans were studied via an empiric demographic profile survey (Appendix B). The preferred styles of management were studied via the use of the Styles of Management Inventory instrument (Appendix A).[1] The relationships between and among the qualifications and experiences and the preferred styles of management were studied using data generated from the two study instruments. This chapter contains the analysis of the data generated by means of the two study instruments described in chapter 3.

This chapter is subdivided to facilitate reporting of the data. Each of the five tasks identified under purposes of the study in chapter one is listed, if appropriate the

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[1]J. Hall, et al. Styles of Management Inventory (Conroe, Texas: Teleometrics International, 1963).

hypothesis being tested is stated, the data are detailed, and the hypothesis, if stated, rejected or accepted.

Analysis of Procedures

The descriptive method of research was followed where its application was appropriate in this study. Where the data permitted, statistical significance was determined via the use of several statistical tests. Multi-factor analysis of variance (MANOVA) was calculated to test for significant differences between the Deans, Associate Deans, and Assistant Deans in terms of their demographic characteristics and to test for differences between demographic variables and preferred management styles. Calculation of one-way analysis of variance values and probabilities, the Scheffe' test and the Tukey-Kramer test were used to determine the statistical significance of the continuous variable items pertinent to questions 2, 4, and 5, if indicated by multivariate analysis. Calculation of chi-square values and probabilities was used to determine the statistical significance of the categoric variable items pertinent to questions 2, 4, and 5. The level of statistical significance established for this study was .05.

In the testing of the hypotheses, the finding of statistical significance or lack of statistical significance in the items studied led to a rejection or non-rejection of the null hypotheses.

ANALYSIS

Section I - Description of Demographic Characteristics of Pharmacy Deans

Research question 1 was as follows:

> Describe selected demographic characteristics and and experiences of the Pharmacy Deans, the Associate Deans, and the Assistant Deans.

The frequency counts, response percentages and means for the empiric demographic survey instrument are presented, summarized, and discussed.

Age - The data regarding the age of the pharmacy deans are summarized in Table 1.

TABLE 1.--RESPONSE FREQUENCIES, PERCENTAGES, AND MEANS FOR PHARMACY DEANS REGARDING AGE

Age	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
29					1	3.4	1	.8
33					1	3.4	1	.8
36					1	3.4	1	.8
37	1	1.9			1	3.4	2	1.6
38			3	6.8	2	6.9	5	3.9
39	1	1.9	1	2.3	4	13.8	6	4.7
40	1	1.9			3	10.3	4	3.1
41	4	7.4	3	6.8	1	3.4	8	6.3
42	2	3.7	3	6.8	1	3.4	6	4.7
43	2	3.7			1	3.4	3	2.4
44	3	5.6	2	4.5	2	6.9	7	5.5
45	1	1.9	2	4.5	2	6.9	5	3.9
46	4	7.4	3	6.8	1	3.4	8	6.3
47			1	2.3			1	.8
48	4	7.4	4	9.1			8	6.3
49			2	4.5			2	1.6
50	2	3.7	2	4.5	1	3.4	5	3.9
51	2	3.7					2	1.6
52	2	3.7	3	6.8			5	3.9
53	3	5.6			2	6.9	5	3.9
54	2	3.7	1	2.3	1	3.4	4	3.1
55	4	7.4	1	2.3	1	3.4	6	4.7
56	1	1.9			1	3.4	2	1.6
57	2	3.7	2	4.5			4	3.1

TABLE 1.--Continued

Age	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
58			1	2.3			1	.8
59	1	1.9	2	4.5	2	6.9	5	3.9
60	2	3.7	3	6.8			5	3.9
61	1	1.9	1	2.3			2	1.6
62	5	9.3					5	3.9
63	1	1.9	1	2.3			2	1.6
64	2	3.7	1	2.3			3	2.4
65	1	1.9	1	2.3			2	1.6
67			1	2.3			1	.8
MEAN (YRS)	51.33		50.23		44.00		49.17	

The age of the pharmacy deans is of interest for several reasons. As would be expected, the Deans were slightly older than the Associate Deans who were older than the Assistant Deans. The mean age of the Deans is 51 years, an age that would be predictable as an age where the individual would possess both the wisdom of experience and the vigor of youth to serve in this demanding position. However, the mode for Deans is 62 years of age and 12 of the 54 deans responding (22%) are age 60 and older. If the normal retirement age remains at 65 years of age, approximately one-fourth of all pharmacy schools will have new leadership within the next five years. This will result in a major opportunity for schools of pharmacy to make changes and select new individuals to provide the leadership and management necessary to move ahead and deal with the identified problems. In addition, 15 of the 54 Deans

responding (28%) are 45 years of age or younger, a seemingly young age for this type of position.

Sex - The data regarding the sex of the pharmacy deans are summarized in Table 2.

TABLE 2.--RESPONSE FREQUENCIES AND PERCENTAGES FOR PHARMACY DEANS REGARDING SEX

Sex	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Male	54	100.0	42	95.4	26	89.6	122	96
Female			2	4.6	3	10.4	5	4

The data reveal that 96 percent of all pharmacy deans responding are male and all of the Deans who responded are male. A review of the American Association of College of Pharmacy's Roster of Pharmacy Personnel reveals that all 72 United States' Pharmacy Deans are male.[2] This compares with the results of Moore who found 13.6 percent female Deans nationwide.[3] Pharmacy and pharmacy education have traditionally been and continue to be male-dominated. Of interest is the fact that the current enrollment of

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[2]American Associate of Colleges of Pharmacy, Roster of Pharmacy Personnel (Bethesda, Maryland: American Association of Colleges of Pharmacy, 1985).

[3]Kathryn M. Moore, "The Top-Line: A Report on Presidents', Provosts', and Deans' Careers. Leaders in Transition: A National Study of Higher Education Administrators," (University Park, Pennsylvania: Pennsylvania State University, Center for the Study of Higher Education, 1983).

undergraduate pharmacy students is greater than 50 percent female.

Race - The data regarding the race of the pharmacy deans are summarized in Table 3.

TABLE 3.--RESPONSE FREQUENCIES AND PERCENTAGE FOR PHARMACY DEANS REGARDING RACE

Race	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
White	48	88.9	40	90.9	26	89.7	114	89.8
Black	3	5.6	2	4.5	2	6.9	7	5.5
Hispanic	1	1.9					1	.8
Oriental	2	3.7			1	3.4	3	2.4
Other			2	4.5			2	1.6

Pharmacy deans are predominantly white, with minorities representing 10.2 percent of the respondents. This compares favorably with the 7.2 percent figure reported for Deans nationally by Moore but compares less well with the 13.5 percent minority faculty in pharmacy schools.[4,5]

Degree - The data regarding the degrees held by pharmacy deans are summarized in Table 4.

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[4]Moore, "The Top-Line: A Report on Presidents', Provosts', and Deans' Careers: Leaders in Transition: A National Study of Higher Education Administrators," p.

[5]AACP News, ed. J. Eng (Alexandria, Virginia: American Association of Colleges of Pharmacy, 1987) vol. 17, no. 2, pp. 1.

TABLE 4.--RESPONSE FREQUENCIES AND PERCENTAGES FOR PHARMACY DEANS REGARDING EARNED DEGREES

Degree	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
B.S.								
No	1	1.9	6	13.6	2	6.9	9	7.1
Yes	53	98.1	38	86.4	27	93.1	118	92.9
B.A.								
No	52	96.3	42	95.5	27	93.1	121	95.3
Yes	2	3.7	2	4.5	2	6.9	6	4.7
M.S.								
No	19	35.2	19	43.2	14	48.3	52	40.9
Yes	35	64.8	25	56.8	15	51.7	75	59.1
M.A.								
No	53	98.1	42	95.5	26	89.7	121	95.3
Yes	1	1.9	2	4.5	3	10.3	6	4.7
M.B.A.								
No	52	96.3	41	93.2	29	100.0	122	96.1
Yes	2	3.7	3	6.8			5	3.9
M.P.H.								
No	53	98.1	44	100.0	27	93.1	124	97.6
Yes	1	1.9			2	6.9	3	2.4
Pharm.D.								
No	49	90.7	38	86.4	24	82.8	111	87.4
Yes	5	9.3	6	13.6	5	17.2	16	12.6
Ph.D.								
No	8	14.8	7	15.9	15	51.7	30	23.6
Yes	46	85.2	37	84.1	14	48.3	97	76.4
Ed.D.								
No	53	98.1	44	100.0	29	100.0	126	99.2
Yes	1	1.9					1	.8
D.Sc.								
No	53	98.1	44	100.0	29	100.0	126	99.2
Yes	1	1.9					1	.8
Other								
No	51	94.4	44	100.0	26	89.7	121	95.3
Yes	3	5.6			3	10.3	6	4.7

The Doctor of Philosophy degree was held by 76.4 percent of all respondents, a fact that would be expected when considering these individuals are providing leadership in schools where a large component of the curriculum involves teaching the basic sciences. The Doctor of Pharmacy degree, the professional practice doctorate similar to degrees such as M.D., O.D., D.P.M., etc., was held by only 12.6 percent of respondents and only 9.3 percent of Deans. This is at a time when many programs are being converted to Doctor of Pharmacy programs and there is a renewed interest in clinician-educators taking more leadership roles. In addition, the Masters in Business Administration, a degree finding widespread acceptance among practitioner-managers, is held by only a few pharmacy deans.

Discipline - The data regarding disciplines of the pharmacy deans are summarized in Table 5.

TABLE 5.--RESPONSE FREQUENCIES AND PERCENTAGES FOR PHARMACY DEANS REGARDING DISCIPLINE

Discipline	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Chemistry	1	1.9	1	2.3	1	3.4	3	2.4
Medicinal Chemistry	6	11.1	10	22.7	1	3.4	17	13.4
Pharmacology	11	20.4	6	13.6	3	10.3	20	15.7
Pharmaceutics/ Biopharmaceutics	20	37.0	7	15.9	2	6.9	29	22.8
Pharm Adm.	9	16.7	4	9.1	2	6.9	15	11.8
Clinical Pharm.	3	5.6	4	9.1	6	20.7	13	10.2
Pharmacognosy	2	3.7	4	9.1			6	4.7
Hosp. Pharmacy					4	13.8	4	3.1
Other	2	3.7	8	18.2	10	34.5	20	15.7

The Pharmaceutics/Biopharmaceutics discipline represents the largest portion of pharmacy deans and includes 37 percent of respondents in the category Dean. In recent years, this discipline has both expanded and emerged as one of the leading science discipline for pharmacy researchers. This may have provided the best opportunities to obtain grant dollars and publications needed to establish one's reputation and move into deanships. Clinical Pharmacy, the newest discipline having been firmly established only in the 1970's, accounted for 10.2 percent respondents overall and 5.6 percent of the respondents in the category Dean. As schools continue to develop Doctor of Pharmacy curricular offerings, and as individuals in this discipline move through the ranks, there may be a significant rise in the numbers of deans from this discipline in the future.

Institution Granting Highest Degree - The data regarding institutions granting the dean's highest degree are summarized in Table 6.

TABLE 6.--RESPONSE FREQUENCIES AND PERCENTAGES FOR PHARMACY DEANS REGARDING INSTITUTION GRANTING HIGHEST DEGREE

Institution	Dean		Associate Dean		Assitant Dean		All Deans	
	f	%	f	%	f	%	f	%
Tulane	1	1.9					1	.8
Arizona					2	6.9	2	1.6
California/ San Francisco	1	1.9	5	11.4	2	6.9	8	6.3
Pacific			1	2.3			1	.8

TABLE 6.--Continued.

Institution	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Southern/ California	1	1.9					1	.8
Auburn	1	1.9					1	.8
Denver	1	1.9					1	.8
Connecticut	1	1.9	1	2.3	1	3.4	3	2.4
Loyola	1	1.9					1	.8
Florida	2	3.7	2	4.5	1	3.4	5	3.9
Central Michigan					1	3.4	1	.8
Illinois	1	1.9			1	3.4	2	1.6
Purdue	13	24.1	9	20.5	4	13.8	26	20.5
Chicago	1	1.9					1	.8
Iowa	1	1.9					1	.8
Mass.Inst.Tech.					1	3.4	1	.8
Maryland	1	1.9					1	.8
Mass.Col.Pharm.	1	1.9					1	.8
Howard	1	1.9					1	.8
Boston			1	2.3			1	.8
Michigan			1	2.3			1	.8
Wayne State	1	1.9			1	3.4	2	1.6
Minnesota	2	3.7	3	6.8			5	3.9
Mississippi	3	5.6	3	6.8	1	3.4	7	5.5
Michigan State			1	2.3			1	.8
North Colorado					1	3.4	1	.8
Nebraska					1	3.4	1	.8
Richmond					1	3.4	1	.8
Indiana	1	1.9					1	.8
St. Johns					1	3.4	1	.8
Columbia	1	1.9					1	.8
N. Carolina	2	3.7	1	2.3			3	2.4
Massachusetts			1	2.3			1	.8
St. Louis	1	1.9					1	.8
Ohio State	2	3.7	3	6.8	2	6.9	7	5.5
Oregon State	1	1.9	1	2.3			2	1.6
Phil.Col.Pharm.	1	1.9	1	2.3			2	1.6
Temple			2	4.5			2	1.6
Pittsburgh					1	3.4	1	.8
Georgetown					1	3.4	1	.8
Rhode Island	1	1.9					1	.8
S.Carolina					1	3.4	1	.8
Tennessee	2	3.7	3	6.8	2	6.9	7	5.5
Northwestern			1	2.3			1	.8
Utah	1	1.9					1	.8
Washington	2	3.7	1	2.3			3	2.4
Wisconsin	5	9.3	4	9.1	2	6.9	11	8.7
Wyoming	1	1.9					1	.8

The data regarding institutions granting the highest degree indicate that a wide spectrum of institutions, and hence educational backgrounds have provided the training for the deans responding. Purdue University has, interestingly, provided the most deans in all categories and almost one-fourth of Deans. The researcher is a graduate of Purdue and this possibly could have skewed the data as deans may have been more likely to respond if there was name recognition of the researcher. However, with the excellent overall response rate and the wide diversity of institutions represented, this was not judged to be a problem.

Undergraduate Degree in Pharmacy/U.S. Licensure.--The date regarding undergraduate pharmacy degree and U.S. Licensure are summarized in Table 7.

TABLE 7.--RESPONSE FREQUENCIES AND PERCENTAGES FOR PHARMACY DEANS REGARDING UNDERGRADUATE PHARMACY DEGREE AND U.S. LICENSURE

Demographic Variable	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Undergraduate Degree in Pharmacy								
No	2	3.7	3	6.8	5	17.2	10	7.9
Yes	52	96.3	41	93.2	24	82.8	117	92.1
Licensed Pharmacist in the U.S.								
No	8	14.8	7	15.9	6	20.7	21	16.5
Yes	46	85.2	37	84.1	23	79.3	106	83.5

The vast majority of participating pharmacy deans are graduates of baccalaureate or doctor of pharmacy programs and are licensed to practice in the United States. The concerns about non-pharmacists in leadership positions in pharmacy schools appears to be unfounded.

Academic Experience - The data regarding academic experience are summarized in Table 8.

TABLE 8.--RESPONSE FREQUENCIES AND PERCENTAGES FOR PHARMACY DEANS REGARDING ACADEMIC EXPERIENCE

Academic Experience	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Pharmacy Faculty								
No	1	1.9	1	2.3	2	6.9	4	3.1
Yes	53	98.1	43	97.7	27	93.1	123	96.9
Non-Pharmacy Faculty								
No	48	88.9	39	88.6	23	79.3	110	86.6
Yes	6	11.1	5	11.4	6	20.7	17	13.4
Department Head								
No	23	42.6	23	52.3	22	75.9	68	53.5
Yes	31	57.4	21	47.7	7	24.1	59	46.5
Assistant Dean								
No	37	68.5	19	43.2			56	44.1
Yes	17	31.5	25	56.8	29	100.0	71	55.9
Associate Dean								
No	38	70.4			29	100.0	67	52.8
Yes	16	29.6	44	100.0			60	47.2
Dean								
No			44	100.0	29	100.0	73	57.5
Yes	54	100.0					54	42.5
Other								
No	52	96.3	32	72.7	23	79.3	107	84.3
Yes	2	3.7	12	27.3	6	20.7	20	15.7

The data regarding academic experience provides information about various career paths. The respondents in the category of Dean almost all (98.1 percent) have been pharmacy faculty members, over half have had department head positions, and less than one-third have had either assistant or associate dean training. In addition, only two of the 54 respondents in this category had other academic experience, while assistant and associate deans were much more likely to have other experience of this type.

Years Academic Experience - The data regarding years of academic experience are summarized in Table 9.

TABLE 9.--RESPONSE FREQUENCIES, PERCENTAGES, AND MEANS FOR PHARMACY DEANS REGARDING YEARS OF ACADEMIC EXPERIENCES

Years Academic Experience	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Pharmacy Faculty								
0	1	1.9	1	2.3	2	6.9	4	3.1
1			1	2.3	1	3.4	2	1.6
2	1	1.9			3	10.3	4	3.1
3	1	1.9					1	.8
4	1	1.9			1	3.4	2	1.6
5	3	5.6			1	3.4	4	3.1
6	1	1.9					1	.8
7	2	3.7	1	2.3	1	3.4	4	3.1
8	2	3.7			1	3.4	3	2.4
9	1	1.9					1	.8
10	3	5.6	3	6.8	1	3.4	7	5.5
11	1	1.9	2	4.5	3	10.3	6	4.7
12	2	3.7			3	10.3	5	3.9
13	2	3.7	2	4.5	4	13.8	8	6.3
14	3	5.6	6	13.6			9	7.1
16	3	5.6	3	6.8	2	6.9	8	6.3
17	2	3.7			1	3.4	3	2.4
18	4	7.4	3	6.8			7	5.5
19	1	1.9	4	9.1	1	3.4	6	4.7
20	1	1.9	3	6.8	1	3.4	5	3.9
21			1	2.3	1	3.4	2	1.6

TABLE 9.--Continued

Years Academic Experience	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Pharmacy Faculty								
22	1	1.9					1	.8
23	2	3.7	1	2.3	1	3.4	4	3.1
24	1	1.9					1	.8
25	2	3.7	1	2.3			3	2.4
26			1	2.3			1	.8
27	2	3.7	2	4.5			4	3.1
28	1	1.9	1	2.3	1	3.4	3	2.4
29	3	5.6	2	4.5			5	3.9
30	3	5.6	2	4.5			5	3.9
32	2	3.7					2	1.6
34	2	3.7	1	2.3			3	2.4
35			2	4.5			2	1.6
37			1	2.3			1	.8
MEAN (YEARS)		17.19		19.18		11.10		16.11
Non-Pharmacy Faculty								
0	48	88.9	39	88.6	24	82.8	111	87.4
1	1	1.9	2	4.5	2	6.9	5	3.9
2	3	5.6	1	2.3			4	3.1
3	1	1.9			1	3.4	2	1.6
6	1	1.9					1	.8
10			2	4.5			2	1.6
12					1	3.4	1	.8
15					1	3.4	1	.8
MEAN (YEARS)		.296		.545		1.103		0.556
Department Head								
0	23	42.6	23	52.3	22	75.9	68	53.5
1	3	5.6	5	11.4			8	6.3
2	3	5.6	1	2.3	3	10.3	7	5.5
3	4	7.4	2	4.5	1	3.4	7	5.5
4	1	1.9			1	3.4	2	1.6
5	4	7.5	2	4.5	2	6.9	8	6.3
6	1	1.9	2	4.5			3	2.4
7	2	3.7	2	4.5			4	3.1
8			1	2.3			1	.8
9	1	1.9	1	2.3			2	1.6
10	3	5.6	1	2.3			4	3.1
11	1	1.9	1	2.3			2	1.6
12	2	3.7					2	1.6
13	1	1.9					1	.8
14	1	1.9					1	.8

TABLE 9.--Continued.

Years Academic Experience	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Department Head								
15			2	4.5			2	1.6
18	1	1.9					1	.8
20	2	3.7	1	2.3			3	2.4
21	1	1.9					1	.8
MEAN (YEARS)		4.54		3.11		.74		3.21
Assistant Dean								
0	37	68.5	19	43.2			56	44.1
1	2	3.7	3	6.8	3	10.3	8	6.3
2	4	7.4	5	11.4	6	20.7	15	11.8
3	2	3.7	2	4.5	2	6.9	6	4.7
4	3	5.6	2	4.5	4	13.8	9	7.1
5	2	3.7	6	13.6	6	20.7	14	11.0
6	1	1.9			1	3.4	2	1.6
7			2	4.5			2	1.6
8			1	2.3	1	3.4	2	1.6
10	2	3.7					2	1.6
11					1	3.4	1	.8
12	1	1.9	2	4.5	2	6.9	5	3.9
13			1	2.3	2	6.9	3	2.4
14					1	3.4	1	.8
18			1	2.3			1	.8
MEAN (YEARS)		1.41		3.05		3.38		2.75
Associate Dean								
0	38	70.4			29	100.0	67	52.8
1	3	5.6	8	18.2			11	8.7
2	3	5.6	11	25.0			14	11.0
3	2	3.7	6	13.6			8	6.3
4	2	3.7	3	6.8			5	3.9
5	2	3.7	4	9.1			6	4.7
6			1	2.3			1	.8
7	2	3.7					2	1.6
8	1	1.9	1	2.3			2	1.6
9			3	6.8			3	2.4
10			4	9.1			4	3.1
11			1	2.3			1	.8
14	1	1.9					1	.8
17			1	2.3			1	.8
19			1	2.3			1	.8
MEAN (YEARS)		1.28		4.73		0		2.08

TABLE 9.--Continued.

Years Academic Experience	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Dean								
0			44	100.0	29	100.0	73	57.5
1	9	16.7					9	7.1
2	10	18.5					10	7.9
3	3	5.6					3	2.4
4	1	1.9					1	.8
5	4	7.4					4	3.1
6	3	5.6					3	2.4
8	3	5.6					3	2.4
9	2	3.7					2	1.6
10	5	9.3					5	3.9
11	1	1.9					1	.8
13	1	1.9					1	.8
14	3	5.6					3	2.4
15	2	3.7					2	1.6
17	1	1.9					1	.8
18	1	1.9					1	.8
20	2	3.7					2	1.6
22	1	1.9					1	.8
28	1	1.9					1	.8
30	1	1.9					1	.8
MEAN (YEARS)		7.83		0		0		3.18
Other								
0	52	96.3	32	72.7	23	79.3	107	84.3
1			5	11.4	1	3.4	6	4.7
2			2	4.5	3	10.3	5	3.9
3	1	1.9	3	6.8			4	3.1
4			1	2.3			1	.8
5					1	3.4	1	.8
6					1	3.4	1	.8
7	1	1.9					1	.8
10			1	2.3			1	.8
MEAN (YEARS)		0.19		0.73	M	0.62		0.51
Total Years Administrative								
1	1	1.9	1	2.3	2	6.9	4	3.1
2	1	1.9			1	3.4	2	1.6
3	2	3.7	1	2.3	4	13.8	7	5.5
4	1	1.9	1	2.3	2	6.9	4	3.1
5	2	3.7	4	9.1	1	3.4	7	5.5
6			3	6.8	3	10.3	6	4.7
7	1	1.9	4	9.1			5	3.9

TABLE 9.--Continued.

Years Academic Experience	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Total Years Administrative								
8			3	6.8	3	10.3	6	4.7
9	5	9.3	1	2.3			6	4.7
10	5	9.3	4	9.1	4	13.8	13	10.2
11	2	3.7	1	2.3	2	6.9	5	3.9
12	3	5.6	1	2.3	1	3.4	5	3.9
13	3	5.6	2	4.5	1	3.4	6	4.7
14	2	3.7	3	6.8	2	6.9	7	5.5
15	4	7.4	4	9.1			8	6.3
16	2	3.7	2	4.5			4	3.1
17	1	1.9	3	6.8	1	3.4	5	3.9
18	7	13.0					7	5.5
19	1	1.9	3	6.8			4	3.1
20	2	3.7	1	2.3	1	3.4	4	3.1
21	1	1.9					1	.8
22	1	1.9					1	.8
23					1	3.4	1	.8
24	2	3.7	1	2.3			3	2.4
28	1	1.9					1	.8
30	1	1.9	1	2.3			2	1.6
32	1	1.9					1	.8
34	2	3.7					2	1.6
MEAN (YEARS)		14.69		11.64		8.48		12.09

The data regarding years of academic experience show that Associate Deans have spent the most time as a pharmacy faculty, the Deans have the most years experience as a department head and in overall administrative positions, and the Assistant Deans have the most experience as non-pharmacy faculty and as assistant deans.

Number of Schools Worked/Number Where Dean - The data regarding the number of schools worked and the numbers of schools where dean are summarized in Table 10.

TABLE 10.--RESPONSE FREQUENCIES, PERCENTAGES, AND MEANS FOR PHARMACY DEANS REGARDING SCHOOLS WORKED AND SCHOOLS WHERE DEAN

Number of Schools	Deans		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Worked for								
1	15	27.8	27	61.4	19	65.5	61	48.0
2	24	44.4	14	31.8	7	24.1	45	35.4
3	11	20.4	3	6.8	3	10.3	17	13.4
4	3	5.6					3	2.4
5	1	1.9					1	.8
MEAN		2.09		1.46		1.45		1.75
Where Dean								
0			10	22.7	10	34.5	20	15.7
1	46	85.2	3	77.3	19	65.5	99	78.0
2	8	14.8					8	6.3
MEAN		1.15		0.77		0.66		0.92

As might be expected, those in the Dean category had worked for more schools than the other categories, with the majority working for more than one school. This would indicate that in terms of career paths, individuals must usually move in order to secure the position of Dean. Of further interest is the fact that, as previously seen, the mean age for the Deans and Associate Deans is quite similar and the majority of Associate Deans have worked in only one school. Those facts coupled with the fact that less than one-third of Deans had experience as an Associate Dean would indicate that for many, The Associate Dean is a dead-end position in schools of pharmacy. Also from the data, it does not appear that individuals move frequently from school

to school in the various positions. The "musical-chair" phenomenon of individuals being Dean at several different schools over a career does not frequently happen in pharmacy schools.

Tenure and Rank - The data regarding tenure and rank are summarized in Table 11.

TABLE 11.--RESPONSE FREQUENCIES AND PERCENTAGES FOR PHARMACY DEANS REGARDING TENURE AND ACADEMIC RANK

	Deans		Associate Deans		Assistant Deans		All Deans	
	f	%	f	%	f	%	f	%
Currently On A Tenure Track								
No	5	9.3	5	11.4	7	24.1	17	13.4
Yes	49	90.7	39	88.6	22	75.9	110	86.6
Currently Tenured								
No	5	9.3	5	11.4	10	34.5	20	15.7
Yes	49	90.7	39	88.6	19	65.5	107	84.3
Ever Tenured								
No	3	5.6	5	11.4	10	34.5	18	14.2
Yes	51	94.4	39	88.6	19	65.5	109	85.8
Currently Hold Academic Rank								
No					1	3.4	1	.8
Yes	54	100.0	44	100.0	28	96.6	126	99.2

The majority of respondents were on tenure tracks, were tenured and held academic rank. The Deans and Associate Deans all held academic rank. Less than two-thirds of Assistant Deans were tenured, probably a reflection of their younger age and fewer years experience. Of some surprise is the fact that three Deans were never tenured.

This may reflect institutions where the presence of unions and collective bargaining have negated the need for tenure considerations.

Current Academic Rank - The data regarding current rank are summarized in Table 12.

TABLE 12.--RESPONSE FREQUENCIES AND PERCENTAGES FOR PHARMACY DEANS REGARDING CURRENT ACADEMIC RANK

Current Academic Rank	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Professor	48	88.9	34	77.3	6	20.7	88	69.3
Associate Professor	5	9.3	9	20.5	16	55.2	30	23.6
Assistant Professor	1	1.9			5	17.2	6	4.7
Other Rank			1	2.3	2	6.9	3	2.4

The Deans and Associate Deans are predominately Professors and Assistant Deans are usually Associate Professors. Of interest is the fact that one Dean had only progressed to the Assistant Professor level, a seemingly low academic rank for a Dean. One would expect this type of rank distribution based upon differences in age, years of experience, and other demographic factors.

Institutional Characteristics - The data regarding the institutional characteristics are summarized in Table 13.

TABLE 13.--RESPONSE FREQUENCIES AND PERCENTAGES FOR PHARMACY DEANS REGARDING INSTITUTIONAL CHARACTERISTICS

Institutional Characteristics	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Graduate Programs (MS, PHD)								
No	5	9.3	5	11.4	5	17.2	15	11.8
Yes	49	90.7	39	88.6	24	82.8	112	88.2
Post-BS PharmD Programs								
No	30	55.6	17	38.6	17	58.6	64	50.4
Yes	24	44.4	27	61.4	12	41.4	63	49.6
Entry Level PharmD								
No	37	68.5	22	50.0	18	62.1	77	60.6
Yes	17	31.5	22	50.0	11	37.9	50	39.4
Unionized Faculty								
No	41	75.9	40	90.9	25	86.2	106	83.5
Yes	13	24.1	4	9.1	4	13.8	21	16.5
Public Institution								
No	10	18.5	10	22.7	8	27.6	28	22.0
Yes	44	81.5	34	77.3	21	72.4	99	78.0

The data reported regarding institutional characteristics are varied and indicate that participation by the various deans was not limited to certain institutions but was widespread among schools. Almost one-fourth of the Deans responding dealt with a unionized faculty while Associate and Assistant Deans reported 9.1 and 73.8 percent for the same category. The majority of respondents worked in a public school that had graduate programs.

Publications - The data regarding publications are summarized in Table 14.

TABLE 14.--REPONSE FREQUENCIES, PERCENTAGES, AND MEANS FOR PHARMACY DEANS REGARDING PUBLICATIONS

Publications	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Paper in Refereed Journal								
0			4	9.1	6	20.7	10	7.9
1			2	4.5	1	3.4	3	2.4
2	1	1.9	2	4.5	1	3.4	4	3.1
3	3	5.6	1	2.3	1	3.4	5	3.9
5	5	9.3			2	6.9	7	5.5
6	1	1.9	2	4.5	1	3.4	4	3.1
7			3	6.8			3	2.4
8			1	2.3			1	.8
9	1	1.9					1	.8
10	2	3.7	2	4.5	4	13.8	8	6.3
12	2	3.7					2	1.6
13			2	4.5			2	1.6
14	1	1.9	3	6.8			4	3.1
15			1	2.3	1	3.4	2	1.6
16			1	2.3	2	6.9	3	2.4
17			1	2.3	1	3.4	2	1.6
18	1	1.9	1	2.3			2	1.6
19	1	1.9					1	.8
20	7	13.0			2	6.9	9	7.1
24					1	3.4	1	.8
25	1	1.9	3	6.8			4	3.1
26	2	3.7					2	1.6
28			1	2.3			1	.8
30	1	1.9	3	6.8			4	3.1
32	1	1.9	1	2.3			2	1.6
35	2	3.7	3	6.8			5	3.9
36	1	1.9			1	3.4	2	1.6
37	1	1.9					1	.8
38			1	2.3			1	.8
40	1	1.9	2	4.5			3	2.4
50	5	9.3			1	3.4	6	4.7
52			1	2.3			1	.8
55			1	2.3	1	3.4	2	1.6
56	1	1.9					1	.8
60	4	7.4					4	3.1
68	1	1.9					1	.8
70	1	1.9					1	.8
85			1	2.3			1	.8
90			1	2.3			1	.8

TABLE 14.--Continued.

Publications	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Paper in Refereed Journal								
100	2	3.7					2	1.6
110					1	3.4	1	.8
125					1	3.4	1	.8
150	3	5.6					3	2.4
200	1	1.9					1	.8
212					1	3.4	1	.8
223	1	1.9					1	.8
MEAN		43.80		21.23		26.83		33.09
Book								
0	33	61.1	30	68.2	21	72.4	84	66.1
1	10	18.5	9	20.5	3	10.3	22	17.3
2	5	9.3	4	9.1	4	13.8	13	10.2
3	4	7.4					4	3.1
4			1	2.3	1	3.4	2	1.6
5	1	1.9					1	.8
11	1	1.9					1	.8
MEAN		.889		.477		.517		.677
Chapter In Book								
0	15	27.8	17	38.6	15	51.7	47	37.0
1	6	11.1	7	15.9	4	13.8	17	13.4
2	9	16.7	6	13.6	6	20.7	21	16.5
3	9	16.7	4	9.1			13	10.2
4	2	3.7	3	6.8	2	6.9	7	5.5
5	3	5.6					3	2.4
6	3	5.6	3	6.8			6	4.7
7	1	1.9					1	.8
8	1	1.9	2	4.5			3	2.4
10	2	3.7			1	3.4	3	2.4
13	1	1.9					1	.8
14			1	2.3			1	.8
15			1	2.3			1	.8
16					1	3.4	1	.8
17	1	1.9					1	.8
45	1	1.9					1	.8
MEAN		3.74		2.41		1.74		2.86

The mean number of published papers in refereed journals for Deans was an impressive 43.7 papers. This was almost double the number for Associate Deans and Assistant Deans. In addition, the mean number of books and chapters in books was also higher for Deans than the other categories. This data suggests that Deans are well-established researchers, although the data may be skewed by the seven Deans with 100 or more papers. The modal response for Deans was 20 papers, suggesting less of a difference in papers between the categories than is apparent.

Pharmacy Experience - The data regarding pharmacy experience are summarized in Table 15.

TABLE 15.--RESPONSE FREQUENCIES, PERCENTAGES, AND MEANS FOR PHARMACY DEANS REGARDING YEARS OF PHARMACY EXPERIENCE

Years Pharmacy Experience	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Community								
0	8	14.8	6	13.6	8	27.6	22	17.3
1	12	22.2	15	34.1	11	37.9	38	29.9
2	8	14.8	9	20.5	4	13.8	21	16.5
3	6	11.1	2	4.5	1	3.4	9	7.1
4	7	13.0	3	6.8	1	3.4	11	8.7
5	4	7.4					4	3.1
6	2	3.7	3	6.8			5	3.9
7	2	3.7					2	1.6
8	2	3.7			1	3.4	3	2.4
9	1	1.9					1	.8
10	1	1.9	3	6.8	1	3.4	5	3.9
12	1	1.9					1	.8
14					1	3.4	1	.8
20					1	3.4	1	.8
25			1	2.3			1	.8
35			1	2.3			1	.8
36			1	2.3			1	.8
MEAN		3.10		4.43		2.69		3.44

TABLE 15.--Continued.

Years Pharmacy Experience	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Institutional								
0	26	48.1	25	56.8	14	48.3	65	51.2
1	14	25.9	10	22.7	7	24.1	31	24.4
2	5	9.3	2	4.5	2	6.9	9	7.1
3	3	5.6	2	4.5	1	3.4	6	4.7
4	2	3.7	2	4.5			4	3.1
5			1	2.3			1	.8
6	1	1.9	1	2.3	1	3.4	3	2.4
7	1	1.9					1	.8
10	2	3.7	1	2.3	1	3.4	4	3.1
12					1	3.4	1	.8
22					2	6.9	2	1.6
MEAN		1.37		1.11		2.97		1.59
Industry								
0	41	75.9	34	77.3	27	93.1	102	80.3
1	9	16.7	3	6.8	1	3.4	13	10.2
2	1	1.9	2	4.5			3	2.4
3			2	4.5			2	1.6
4	1	1.9	1	2.3			2	1.6
5	1	1.9					1	.8
10			2	4.5			2	1.6
12					1	3.4	1	.8
15	1	1.9					1	.8
MEAN		.648		.841		.448		.647
Other								
0	48	88.9	40	90.9	29	100.0	117	92.1
1	1	1.9					1	.8
2	2	3.7	1	2.3			3	2.4
3			1	2.3			1	.8
4			1	2.3			1	.8
5	1	1.9					1	.8
8			1	2.3			1	.8
9	1	1.9					1	.8
12	1	1.9					1	.8
MEAN		.574		.383		0		.361

Associate Deans respondents have more years of community pharmacy experience and industrial pharmacy experience than the other categories. Assistant Deans had over double the amount of institutional pharmacy experience than either the Deans or Associate Deans. This may be due to the number of Assistant Deans who head clinical programs, most of which are based in the institutional setting.

Professional Association Experience - The data regarding professional association offices held are summarized in Table 16.

TABLE 16.--RESPONSE FREQUENCIES, PERCENTAGES, AND MEANS FOR PHARMACY DEANS REGARDING PROFESSIONAL ASSOCIATION OFFICES HELD

Professional Association Offices Held	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
National								
0	12	22.2	12	27.3	15	51.7	39	30.7
1	8	14.8	5	11.4	3	10.3	16	12.6
2	6	11.1	8	18.2	1	3.4	15	11.8
3	8	14.8	4	9.1	3	10.3	15	11.8
4	2	3.7	1	2.3			3	2.4
5	4	7.4	4	9.1	3	10.3	11	8.7
6	2	3.7	2	4.5	1	3.4	5	3.9
7	2	3.7					2	1.6
8	1	1.9	2	4.5			3	2.4
9			1	2.3	1	3.4	2	1.6
10	2	3.7	1	2.3			3	2.4
12	2	3.7			1	3.4	3	2.4
14			2	4.5			2	1.6
15	1	1.9	1	2.3			2	1.6
16			1	2.3	1	3.4	2	1.6
20	1	1.9					1	.8
25	1	1.9					1	.8
27	1	1.9					1	.8
34	1	1.9					1	.8
MEAN		5.10		3.71		2.48		4.05

TABLE 16.--Continued.

Professional Association Offices Held	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
State								
0	26	48.1	21	47.7	18	62.1	65	51.2
1	6	11.1	6	13.6	1	3.4	13	10.2
2	9	16.7	7	15.9	2	6.9	18	14.2
3	2	3.7	3	6.8			5	3.9
4	1	1.9	1	2.3	1	3.4	3	2.4
5	4	7.4			2	6.9	6	4.7
6			2	4.5			2	1.6
7	1	1.9			1	3.4	2	1.6
10	3	5.6	1	2.3	2	6.9	6	4.7
12	1	1.9	1	2.3			2	1.6
13			1	2.3			1	.8
14	1	1.9					1	.8
15			1	2.3			1	.8
16					1	3.4	1	.8
20					1	3.4	1	.8
MEAN		2.17		2.16		2.83		2.25
Local								
0	28	51.9	26	59.1	15	51.7	69	54.3
1	7	13.0	8	18.2	3	10.3	18	14.2
2	10	18.5	7	15.9	4	13.8	21	16.5
3	2	3.7	1	2.3	2	6.9	5	3.9
4	2	3.7			4	13.8	6	4.7
5	2	3.7					2	1.6
6	1	1.9	1	2.3	1	3.4	3	2.4
8			1	2.3			1	.8
10	2	3.7					2	3.7
MEAN		1.43		.886		1.35		1.18

The Deans appear to be more active in professional association activity than either Associate or Assistant Deans, although almost one-fourth of Deans had held no national offices and one-half of these individuals held no office in local or state associations.

Professional Association Memberships - The data regarding memberships in professional associations are summarized in Table 17.

TABLE 17.--RESPONSE FREQUENCIES AND PERCENTAGES FOR PHARMACY DEANS REGARDING MEMBERSHIPS IN PROFESSIONAL ASSOCIATIONS

Professional Association Memberships	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
American Assoc. Colleges/Pharm.								
No	2	3.7	1	2.3	3	10.3	6	4.7
Yes	52	96.3	43	97.7	26	89.7	121	95.3
American Pharmaceutical Association								
No	8	14.8	11	25.0	8	27.6	27	21.3
Yes	46	85.2	33	75.0	21	72.4	100	78.7
American Society Hospital Pharmacists								
No	31	57.4	30	68.2	17	58.6	78	61.4
Yes	23	42.6	14	31.8	12	41.4	49	38.6
American College Clinical Pharmacy								
No	49	90.7	41	93.2	26	89.7	116	91.3
Yes	5	9.3	3	6.8	3	10.3	11	8.7
American College Apothecaries								
No	47	87.0	41	93.2	27	93.1	115	90.6
Yes	7	13.0	3	6.8	2	6.9	12	9.4
Academy of Pharmaceutical Scientists								
No	31	57.4	31	70.5	23	79.3	85	66.9
Yes	23	42.6	13	29.5	6	20.7	42	33.1
American Assoc. Pharmaceutical Scientists								
No	43	79.6	38	86.4	27	93.1	108	85.0
Yes	11	20.4	6	13.6	2	6.9	19	15.0

TABLE 17.--Continued

Professional Association Memberships	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
National Assoc. of Retail Druggists								
No	46	85.2	42	95.5	27	93.1	115	90.6
Yes	8	14.8	2	4.5	2	6.9	12	9.4
Amer. Society Consultant Pharmacists								
No	49	90.7	42	95.5	28	96.6	119	93.7
Yes	5	9.3	2	4.5	1	3.4	8	6.3
Other Professional Societies								
No	38	70.4	27	61.4	20	69.0	85	66.9
Yes	16	29.6	17	38.6	8	27.6	41	32.3

The majority of respondents belong to the American Association of Colleges of Pharmacy and the American Pharmaceutical Association. In addition, a high percentage (42.6) of Deans belong to the Academy of Pharmaceutical Scientists.

Formal Management Training - The data regarding formal management training are summarized in Table 18.

TABLE 18.--RESPONSE FREQUENCIES, PERCENTAGES AND MEANS FOR PHARMACY DEANS REGARDING FORMAL MANAGEMENT TRAINING

Management Training Experience	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Formal Training								
No	27	50.0	24	54.5	11	37.9	62	48.8
Yes	27	50.0	20	45.5	18	62.1	65	51.2
Graduate School Courses/Hrs								
0	42	77.8	35	79.5	17	58.6	94	74.0
1	1	1.9	2	4.5	1	3.4	4	3.1
3					2	6.9	2	1.6
10	1	1.9					1	.8
12	2	3.7			5	17.2	7	5.5
15	2	3.7	1	2.3			3	2.4
17	1	1.9					1	.8
20					1	3.4	1	.8
24	1	1.9			1	3.4	2	1.6
30	3	5.6	2	4.5	1	3.4	6	4.7
50			1	2.3			1	.8
60			2	4.5			2	1.6
90			1	2.3			1	.8
99	1	1.9			1	3.4	2	1.6
MEAN		5.46		7.66		8.28		6.57
Institutes/Hrs								
0	49	90.7	39	88.6	28	96.6	116	91.3
1	1	1.9	1	2.3			2	1.6
5	1	1.9					1	.8
10			1	2.3			1	.8
40	1	1.9	2	4.5			3	2.4
90			1	2.3			1	.8
99	2	3.7			1	3.4	3	2.4
MEAN		4.52		4.11		3.41		3.94
Amer. Council Education Fellowship/Hrs								
0	52	96.3	44	100.0	27	93.1	123	96.9
1	1	1.9			1	3.4	2	1.6
40					1	3.4	1	.8
50	1	1.9					1	.8
MEAN		.944		.000		1.41		.692

TABLE 18.--Continued.

Management Training Experience	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Seminars/Hrs								
0	31	57.4	29	65.9	17	58.6	77	60.6
1	2	3.7	2	4.5	3	10.3	7	5.5
3					1	3.4	1	.8
5					1	3.4	1	.8
8	1	1.9					1	.8
10	2	3.7			2	6.9	4	3.1
12	2	3.7					2	1.6
15	3	5.6	1	2.3			4	3.1
16	1	1.9			1	3.4	2	1.6
20	1	1.9	4	9.1	2	6.9	7	5.5
25	1	1.9	1	2.3			2	1.6
30			1	2.3			1	.8
32	1	1.9					1	.8
35	1	1.9					1	.8
40	3	5.6					3	2.4
48	1	1.9	1	2.3			2	1.6
50	1	1.9	3	6.8	1	3.4	5	3.9
60			1	2.3			1	.8
99	3	5.6	1	2.3	1	3.4	5	3.9
MEAN		13.74		11.57		8.14		12.0
Other Training/Hrs								
0	51	94.4	43	97.7	25	86.2	119	93.7
1					1	3.4	1	.8
2					1	3.4	1	.8
22	1	1.9					1	.8
25			1	2.3			1	.8
30					1	3.4	1	.8
90					1	3.4	1	.8
99	2	3.7					2	1.6
MEAN		4.07		.568		4.24		2.77

The data indicate that approximately one-half of pharmacy deans have had some formal management training, with most of it in the form of management seminars. Management Institutes, graduate school courses, and American Council on

Education Fellowships were utilized by only a small segment of the respondents.

Acceptability of Management Training - The data regarding the perceived acceptability of management training are summarized in Table 19.

TABLE 19.--RESPONSE FREQUENCIES AND PERCENTAGES FOR PHARMACY DEANS REGARDING ACCEPTABILITY OF MANAGEMENT TRAINING

Management Training	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Acceptable								
No	23	42.6	21	47.7	10	34.5	54	42.5
Yes	31	57.4	23	52.3	19	65.5	73	57.5

Slightly over half of the respondents were satisfied with their management training. Assistant Deans were most satisfied with their training, perhaps reflective of their having completed formal management more often or reflective of their lower level of responsibility.

Choose To Be An Administrator Again - The data regarding choosing to be an administrator again are summarized in Table 20.

TABLE 20.--RESPONSE FREQUENCIES AND PERCENTAGES FOR PHARMACY DEANS REGARDING CHOOSING ADMINISTRATION AGAIN

	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
Would Choose To Be Administrator Again								
No	8	14.8	3	6.8	3	10.3	14	11.0
Yes	8	14.8	13	29.5	9	31.0	30	23.6
Maybe	38	70.4	28	63.6	17	58.6	83	65.4

Deans would most frequently choose again to be an administrator while assistant deans, with the fewest years administrative experience, would choose that route the least frequently. In addition, almost one-third of the Assistant Deans were unsure as to their career choice, a less than positive job satisfaction indicator.

All Graduates Should Receive Pharm.D. - The data regarding the awarding of the Doctor of Pharmacy degree to all graduates of professional programs are summarized in Table 21.

TABLE 21.--RESPONSE FREQUENCIES AND PERCENTAGES FOR PHARMACY DEANS REGARDING WHETHER ALL GRADUATES SHOULD RECEIVE THE PHARM.D. DEGREE

	Deans		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
All Graduates Should Receive Pharm.D.								
No	24	44.4	21	47.7	16	55.2	61	48.0
Yes	30	55.6	23	52.3	13	44.8	66	52.0

The issue of professional programs and subsequent degrees awarded is a highly debated one and is reflected by the data presented in Table 21. Overall, the pharmacy deans are almost evenly split on the issue. Assistant Deans were most opposed, a fact made somewhat puzzling by the fact that Assistant Deans represent the largest percentage of Doctor of Pharmacy degree holders. Perhaps this is in response to perceived "cheapening" of the Pharm.D. degree if awarded to all graduates or to a desire to retain exclusivity.

Section II - Analysis of Differences in Demographic Characteristics of Pharmacy Deans

Research question 2 was as follows:

Examine the demographic characteristics of the Pharmacy Deans, the Associate Deans, and the Assistant Deans for statistically significant differences between these groups.

The hypothesis being tested was:

Hypothesis 1: There is no significant difference in the demographic characteristics of the Pharmacy Deans, Associate Deans and Assistant Deans.

Analysis of Continuous Variables

In order to analyze the data using multi-factor analysis of variance (MANOVA) and to minimize Type I error, three new continuous variables were computed. These were 1) sum of pharmacy practice experience, 2) sum of publications, and 3) sum of professional association offices. The frequencies, percentages, and means regarding these three variables are summarized in Appendix K.

The results of the multi-factor analysis of variance of the continuous demographic variables by category of pharmacy dean are summarized in Table 22.

TABLE 22.--MULTIFACTOR ANALYSIS OF VARIANCE OF CONTINUOUS DEMOGRAPHIC VARIABLES BY CATEGORY OF PHARMACY DEAN

Continuous Demographic Variable	Hypothesized Sum of Squares	Error Sum of Squares	Hypothesized Sum of Squares	Error Sum of Squares	F	F Prob.
Age	1075.62	7839.72	537.81	63.22	8.50	.000
Yrs.Pharmacy Faculty Exp.	1186.35	9479.38	593.17	76.45	7.76	.001
Yrs. Non-Pharmacy Faculty Exp.	12.32	590.86	6.16	4.76	1.29	.278*
Yrs.Depart. Head Exp.	264.85	3014.62	132.42	24.31	5.45	.005
Yrs.Asst. Dean Exp.	299.45	1627.77	149.73	13.13	11.41	.000
Yrs. Assoc. Dean Exp.	467.27	1169.56	233.64	9.43	24.77	.000
Yrs. Dean Exp.	1904.61	2749.50	952.31	22.17	42.95	.000
Total Yrs. Admin. Exp.	748.19	5649.07	374.09	45.56	8.21	.000
# of Schools Worked For	12.74	76.62	6.37	.62	10.30	.000
# of Schools Where Dean	5.77	21.09	2.89	.17	16.97	.000
Sum of Pharm. Practice Exp .	28.79	6312.07	14.40	50.90	.28	.754*
Sum of Publications	15925.38	239807.50	7962.70	1933.93	4.12	.019
Sum of Professional Assoc.Office s	112.07	10115.63	56.03	81.58	.69	.505*

* Not Significant.

The alpha level chosen for each of the hypotheses tests reported in Chapter IV is 0.05. In those cases where the F probability exceeds 0.05, it will be followed by the notation * or Not Significant. The alpha level reported for each test is the actual level reflected in the data analysis and may often be smaller than 0.05.

As determined by MANOVA, significant differences exist among the categories of deans in the demographic variables

of age, years experience as a pharmacy faculty, years experience as a department head, total years of administrative experience, number of schools worked for, and sum of publications. Further analysis using one-way analysis of variance (ANOVA) and the Scheffe' Post-Hoc Comparison test were performed to locate and characterize the differences.

One-way ANOVA and the Scheffe' Post-Hoc Comparison test were utilized to analyze the differences in age between the categories of deans. These analysis are summarized in Table 23 and Table 24.

TABLE 23.--COMPARISON OF AGE BY CATEGORY OF DEAN USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	2	1075.63	537.81	8.50	.0003
Within Groups	124	7839.73	63.22		
Total	126	8915.35			

TABLE 24.--SCHEFFE' POST-HOC COMPARISON OF DEAN, ASSOCIATE DEAN, AND ASSISTANT DEAN BY AGE

Group	Mean (Years)	Group		
		Dean	Associate Dean	Assistant Dean
Dean	51.33			*
Associate Dean	50.22			*
Assistant Dean	44.00			

(*)Denotes pairs of groups significantly different at the 0.05 level.

As seen in Table 24, there is a statistically significant difference in age between Assistant Deans and the Dean and Associate Deans. One would expect this kind of difference, as the requirements for Dean and Associate Dean generally require more experience than Assistant Dean.

One-way ANOVA and the Scheffe' Post-Hoc Comparison test were utilized to analyze the differences in the years of pharmacy faculty experience by category of dean. The data are summarized in Table 25 and Table 26.

TABLE 25.--COMPARISON OF YEARS EXPERIENCE AS PHARMACY FACULTY BY CATEGORY OF DEAN USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	2	1186.35	593.17	7.75	.0007
Within Groups	124	9479.38	76.45		
Total	126	10665.73			

TABLE 26.--SCHEFFE' POST-HOC COMPARISON OF DEAN, ASSOCIATE DEAN AND ASSISTANT DEAN BY YEARS EXPERIENCE AS PHARMACY FACULTY

Group	Mean (Years)	Group		
		Dean	Associate Dean	Assistant Dean
Dean	17.18			*
Associate Dean	19.18			*
Assistant Dean	11.10			

(*)Denotes pairs of groups significantly different at the 0.05 level.

As seen in Table 26, there is a statistically significant difference in years of pharmacy faculty experience between the Deans and Assistant Deans and between the Associate

Deans and Assistant Deans. Again, due to the nature of the qualifications necessary to move into either a Dean or Associate Dean position, a longer tenure as a faculty member would be expected. In addition, as seen previously, there is a statistically significant difference in the ages of these same groups and years of pharmacy faculty experience are in part reflective of this difference.

The data regarding years of non-pharmacy faculty experience by category of dean are summarized in Table 27. There were no statistically significant differences between the three groups of deans regarding years of non-pharmacy faculty experience.

TABLE 27.--COMPARISON OF YEARS OF NON-PHARMACY FACULTY EXPERIENCE BY CATEGORY OF DEAN USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	2	12.32	6.16	1.29	0.278*
Within Groups	124	590.86	4.76		
Total	126	603.18			

The data regarding total years of administrative experience by dean category are summarized in Table 28 and Table 29.

TABLE 28.--COMPARISON OF TOTAL YEARS ADMINISTRATIVE EXPERIENCE BY CATEGORY OF DEAN USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	2	748.19	374.09	8.21	.0004
Within Groups	124	5647.07	45.56		
Total	126	6397.26			

TABLE 29.--SCHEFFE' POST-HOC COMPARISON OF DEAN, ASSOCIATE DEAN, AND ASSISTANT DEAN BY TOTAL YEARS OF ADMINISTRATIVE EXPERIENCE

Group	Mean (Years)	Group		
		Dean	Associate Dean	Assistant Dean
Dean	14.68			*
Associate Dean	11.64			
Assistant Dean	8.48			

(*)Denotes pairs of groups significantly different at the 0.05 level.

A significant difference was found between the total years of administrative experience of the Deans and the Assistant Deans, again being related to age and stature of the positions.

The data regarding years of department head experience by category of dean are summarized in Table 30 and Table 31.

TABLE 30.--COMPARISON OF YEARS OF DEPARTMENT HEAD EXPERIENCE BY CATEGORY OF DEAN USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	2	264.85	132.42	5.48	.0054
Within Groups	124	3014.62	24.31		
Total	126	3279.46			

TABLE 31.--SCHEFFE' POST-HOC COMPARISON OF DEAN, ASSOCIATE DEAN AND ASSISTANT DEAN BY YEARS OF DEPARTMENT HEAD EXPERIENCE

Group	Mean (Years)	Group		
		Dean	Associate Dean	Assistant Dean
Dean	4.57			*
Associate Dean	3.11			
Assistant Dean	0.79			

(*)Denotes pairs of groups significantly different at the 0.05 level.

As seen in Table 31, there was a statistically significant difference found between years of department head experience of Deans and Assistant Deans.

The data regarding the number of years of experience as Assistant Dean by category of dean are summarized in Table 32 and Table 33. As expected, a signficant difference exist in the years of assistant dean experience between Assistant Deans and the other two dean categories as summarized in Table 33.

TABLE 32.--COMPARISON OF YEARS OF ASSISTANT DEAN EXPERIENCE BY CATEGORY OF DEAN USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	2	299.45	149.73	11.41	.000
Within Groups	124	1627.77	13.13		
Total	126	1927.23			

TABLE 33.--SCHEFFE' POST-HOC COMPARISON OF DEAN, ASSOCIATE DEAN, AND ASSISTANT DEAN BY YEARS OF ASSISTANT DEAN EXPERIENCE

Group	Mean (Years)	Group: Dean	Group: Associate Dean	Group: Assistant Dean
Dean	1.41			*
Associate Dean	3.05			*
Assistant Dean	5.38			

(*)Denotes paris of groups significantly different at the 0.05 level.

The data regarding the years of Associate Dean Experience by category of dean are summarized in Table 34 and Table 35. A significant difference exists as described in Table 35.

TABLE 34.--COMPARISON OF THE YEARS OF ASSOCIATE DEAN EXPERIENCE BY CATEGORY OF DEAN USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	2	467.27	233.64	24.77	.000
Within Groups	124	1169.56	9.43		
Total	126	1636.83			

TABLE 35.--SCHEFFE' POST-HOC COMPARISON OF DEAN, ASSOCIATE DEAN, AND ASSISTANT DEAN BY YEARS OF ASSOCIATE DEAN EXPERIENCE

Group	Mean (Years)	Group: Dean	Group: Associate Dean	Group: Assistant Dean
Dean	1.28		*	
Associate Dean	4.73			
Assistant Dean	0.0		*	

(*)Denotes pairs of groups significantly different at the 0.05 level.

The data regarding years of Dean experience by dean category are summarized in Table 36 and Table 37. Again, as expected a significant difference exists as seen in Table 37.

TABLE 36.--COMPARISON OF YEARS OF DEAN EXPERIENCE BY CATEGORY OF DEAN USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	2	1904.61	952.31	42.95	.000
Within Groups	124	2749.50	22.17		
Total	126	4654.11			

TABLE 37.--SCHEFFE' POST-HOC COMPARISON OF DEAN, ASSOCIATE DEAN AND ASSISTANT DEAN BY YEARS OF DEAN EXPERIENCE

Group	Mean (Years)	Group: Dean	Group: Associate Dean	Group: Assistant Dean
Dean	7.83		*	*
Associate Dean	0.0			
Assistant Dean	0.0			

(*)Denotes pairs of groups significantly different at the 0.05 level.

The data regarding the number of schools worked for by dean category are summarized in Table 38 and Table 39.

TABLE 38.--COMPARISON OF NUMBER OF SCHOOLS WORKED FOR BY CATEGORY OF DEAN USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	2	12.74	6.37	10.31	.0001
Within Groups	124	76.61	0.62		
Total	126	89.35			

TABLE 39.--SCHEFFE' POST-HOC COMPARISON OF DEANS, ASSOCIATE DEANS AND ASSISTANT DEANS BY NUMBER OF SCHOOLS WORKED

Group	Mean (Years)	Dean	Group: Associate Dean	Group: Assistant Dean
Dean	2.09		*	*
Associate Dean	1.46			
Assistant Dean	1.45			

(*) Denotes pairs of groups significantly different at the 0.05 level.

Statistically significant differences in the number of schools worked for exist between Deans and Associate Deans, and between Deans and Assistant Deans. Deans apparently move from school to school more frequently than Associate or Assistant Deans.

The data regarding the number of schools where the respondents worked as a dean are summarized in Table 40 and Table 41.

TABLE 40.--COMPARISON OF NUMBER OF SCHOOLS WHERE DEAN BY CATEGORY OF DEAN USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	2	5.77	2.89	16.97	.0000
Within Groups	124	21.09	.17		
Total	126	26.87			

TABLE 41.--SCHEFFE' POST-HOC COMPARISON OF DEAN, ASSOCIATE DEAN, AND ASSISTANT DEANS BY NUMBER OF SCHOOLS WHERE DEAN

Group	Mean (Years)	Dean	Group Associate Dean	Assistant Dean
Dean	1.15		*	*
Associate Dean	0.77			
Assistant Dean	0.66			

(*)Denotes pairs of groups significantly different at the 0.05 level.

There is a statistically signficant difference between the number of schools where dean between the categories Dean and Associate Dean and Assistant Dean. This would be expected expected as the position of Dean is less likely to be filled from within than Associate and Assistant Dean positions. This question was apparently misunderstood by many respondents. The question was intended to determine the number of schools where the respondent had worked as a dean, including all

categories of deans. However the data reveal that the mean number of schools where dean for Associate and Assistant Deans was less than one indicating a misinterpretation of the survey question.

The data regarding the sum of pharmacy practice experience by dean category are summarized in Table 42. The data revealed no significant difference in the years of pharmacy practice experience for the dean categories.

TABLE 42.--COMPARISON OF YEARS OF PHARMACY PRACTICE EXPERIENCE BY DEAN CATEGORY USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	2	28.79	14.39	.282	.754*
Within Groups	124	6312.07	50.90		
Total	126	6340.85			

*Not significant.

The data regarding the sum of publications by category of dean are summarized in Table 43 and Table 44.

TABLE 43.--COMPARISON OF THE SUM OF PUBLICATIONS BY CATEGORY OF DEAN USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	2	15925.38	7962.69	4.12	.0185
Within Groups	124	239807.56	1933.93		
Total	126	255732.88			

TABLE 44.--SCHEFFE' POST-HOC COMPARISON OF DEAN, ASSOCIATE DEAN, AND ASSISTANT DEAN BY SUM OF PUBLICATIONS

Group	Mean (Years)	Group		
		Dean	Associate Dean	Assistant Dean
Dean	48.43		*	
Associate Dean	24.11			
Assistant Dean	29.07			

(*)Denotes pairs of groups significantly different at the 0.05 level.

A significant difference was found between the sum of publications between Deans and Associate Deans. This is interesting in view of the fact that age, years of experience, and other demographic items were not significantly different. In addition, one would expect the differences to be between Assistant Dean and the other two categories based upon other differences in demographics identified in this study.

The data regarding the sum of professional association offices held by category of dean are summarized in Table 45. The data revealed no significant differences in the number of professional association offices held by dean category.

TABLE 45.--COMPARISON OF THE SUM OF PROFESSIONAL ASSOCIATION OFFICES HELD BY DEAN CATEGORY USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	2	112.07	56.03	.686	.505*
Within Groups	124	10115.64	81.58		
Total	126	10227.70			

Analysis of Categoric Variables

The results of Chi-square Probability testing of categoric demographic variable by category of pharmacy dean are summarized in Table 46.

TABLE 46.--COMPARISON OF CATEGORIC DEMOGRAPHIC VARIABLES BY CATEGORY OF DEAN USING CHI-SQUARE PROBABILITY TESTING

Categoric Demographic Variable	Chi-Square Value	Degrees of Freedom	P	Significant at the 0.05 level
Sex	5.40	2	.060	
Race	6.90	8	.547	
Earned Degree				
B.S.	5.12	2	.077	
B.A.	0.43	2	1.37	
M.S.	1.48	2	.478	
M.A.	3.03	2	.220	
M.B.A.	2.16	2	.339	
M.P.H.	3.71	2	.156	
Pharm.D.	1.16	2	.561	
Ph.D.	16.47	2	.0003	*
Ed.D.	1.36	2	.506	
Other	4.29	2	.116	
B.S. Pharmacy	4.87	2	.087	
U.S. License	0.49	2	.782	
Academic Experience				
Pharmacy Faculty	1.74	2	.418	
Non-Pharmacy Faculty	1.73	2	.420	
Department Head	8.44	2	.014	*
Assistant Dean	35.96	2	.000	*
Associate Dean	81.83	2	.000	*
Dean	127	2	.000	*
Other	10.48	2	.004	*
Tenure/Rank				
Tenured Now	10.02	2	.006	*
Tenured Ever	13.42	2	.001	*
On Tenure Track	3.84	2	.146	
Hold Rank	3.41	2	.182	
Current Rank	46.85	6	.000	*

TABLE 46.--Continued.

Categoric Demographic Variable	Chi-square Value	Degrees of Freedom	P	Significant at the 0.05 level
Association Memberships				
AACP	2.75	2	.253	
APhA	2.40	2	.301	
ASHP	1.31	2	.519	
ACCP	0.32	2	.853	
ACA	1.36	2	.507	
APS	4.47	2	.107	
AAPS	2.78	2	.248	
NARD	3.27	2	.194	
ASCP	1.43	2	.489	
Other	4.56	2	.335	
Management Training				
Formal Training	1.98	2	.370	
Graduate School	4.67	2	.096	
Institute	1.43	2	.490	
ACE Fellowship	2.02	2	.244	
Seminar	.576	2	.750	
Other	5.14	2	.080	
Acceptable	1.25	2	.534	
Choose Again	4.95	4	.292	
Degree Question				
All Pharm.D.	.872	2	.647	

The chi-square analysis of the data revealed nine categoric demographic variables that were significantly different at the 0.05 level. These variables are discussed below.

The deans differed significantly in regard to having earned the Doctor of Philosophy degree with 85 percent of Deans, 84 percent of Associate Deans, and only 48 percent of Assistant Deans. As previously described, the position of Assistant Dean is usually two administrative levels below the Dean and is often more of a "staff" position than a true "academic leader" position.

Deans and Associate Deans differed significantly from Assistant Deans in their academic experience as department heads. From the data, department head experience appears to be much more important as a career step for Deans and Associate Deans than for Assistant Deans, with 57 percent of Deans, 48 percent of Associate Deans, and only 24 percent of Assistant Deans having this type of experience.

The deans differed significantly in regard to their having experience as an Assistant Dean. As expected, 100 percent of current Assistant Deans reported this type of experience, but only 32 percent of Deans and 57 percent of Associate Deans reported experience at the Assistant Dean level. The Assistant Dean position appears to be a more important step for Associate Deans than for Deans.

A significant difference also is apparent between the categories of dean as regards experience at the Associate Dean level. Again, as expected, 100 percent of current Associate Deans report this type of experience and only 30 percent of Deans indicate Associate Dean experience. No Assistant Deans reported this type of experience as would be expected. These findings indicate that greater than two-thirds of the Pharmacy Deans moved into the deanship without Associate Dean experience. In addition, it does not appear that individuals in Dean's positions move back into Associate Dean's positions.

All Deans responding to the survey reported experience as Dean, with no Assistant Dean or Associate Dean

respondents reported this experience. Again, this type of response would have been predicted and indicates that those Deans leaving their positions move into other Dean's positions, faculty positions, or other positions, but do not move back down the line of command into an Associate or Assistant Dean's position.

Other academic experience was significantly more frequent in Associate and Assistant Dean respondents than in Deans, with only 4 percent of Deans reporting this type of experience. It would appear that Deans most frequently come from within schools of pharmacy, most commonly from faculty and department head positions.

The Deans and Associate Deans were more likely to have been tenured that Assistant Deans, with 94 percent and 89 percent of Deans and Associate Deans reporting tenure, and only 66 percent of Assistant Deans reporting the same. The position descriptions, requirements, and status of the positions would dictate that the Deans and Associate Deans, be individuals who have been successful faculty, as indicated by tenure. The position of Assistant Dean is often a lower level position; many times a "staff" position rather than a "leadership" position, and therefore, tenure may not be as important a requirement for employment of individuals in these positions.

The numbers for individuals currently holding tenure are almost identical to those for individuals ever having obtained tenure, with the only difference being one Dean

respondent having obtained tenure, but not being tenured as Dean. This may reflect a particular administrative policy of a school or may be due to collective bargaining issues. The rationales discussed regarding tenure would pertain to this finding.

Deans and Associate Deans more frequently hold the rank of Professor than do Assistant Deans. Assistant Deans are most often Assistant or Associate Professors, probably reflecting the difference in qualifications required for the various deanships.

Rank, tenure and experience characteristics appear to be, and would be expected to be, interrelated. As expected, the Deans and Associate Deans, being at higher administrative levels than Assistant Deans, more often have higher rank, tenure, and more experience than Assistant Deans.

On the basis of significant differences identified in fifteen of the fifty-four areas studied in Section II, the null hypothesis is rejected for Section II.

Section III - Description of Preferred Management Styles of Pharmacy Deans

Research question 3 was as follows:

Describe the preferred styles of management of the Pharmacy Deans, the Associate Deans, and the Assistant Deans.

The frequency counts and response percentages for preferred styles of management are presented, summarized, and discussed.

TABLE 47.--RESPONSE FREQUENCIES AND PERCENTAGES FOR PHARMACY DEANS REGARDING PREFERRED STYLES OF MANAGEMENT

Preferred Management Style	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
9,9 - high people/ high task	14	25.9	8	18.2	7	24.1	29	22.8
5,5 - medium people/ medium task	15	27.8	7	15.9	7	24.1	29	22.8
9,1 - low people/ high task	3	5.6	7	15.9	1	3.4	11	8.7
1,9 - high people/ low task	11	20.4	7	15.9	7	24.1	25	19.7
1,1 - low people/ low task	11	20.4	15	34.1	7	24.1	33	26.0

The analysis of preferred management styles employed by pharmacy deans raises serious concerns about the leadership in the U.S. Pharmacy Schools. Twenty-six percent of all deans and 20 percent of Deans preferred a 1,1 style as

measured by the instrument used in this study. This style, labeled as a caretaker administrator, indicates a low regard for both people and task, not the ideal orientation for educational leaders. In addition only approximately one-fourth of all deans preferred the desired 9,9 style, indicating a high regard for both people and task.

Section IV - Analysis of the Differences in Preferred Management Styles of Pharmacy Deans

Research question 4 was as follows:

Examine the preferred styles of management of the Pharmacy Deans, the Associate Deans, and the Assistant Deans for statistically significant differences between these groups.

The hypothesis being tested was:

Hypothesis 2: There is no difference in the preferred management styles of the Pharmacy Deans, the Associate Deans, and the Assistant Deans.

Preferred styles of management for pharmacy deans were analyzed by the calculation of the chi-square value and probability. These are summarized in Table 48.

TABLE 48.--COMPARISON OF PREFERRED STYLES OF MANAGEMENT BY CATEGORY OF DEAN USING CHI-SQUARE PROBABILITY TESTING

Chi-Square Value	Degrees of Freedom	P
8.80	8	0.359 (NS)

Based upon chi-square probability testing, there is no difference in preferred styles of management of the Pharmacy Deans, the Associate Deans, and the Assistant Deans. On this basis, the null hypothesis in Section IV is not rejected.

Section V - Analysis of the Relationships Between Demographic Characteristics and Preferred Management Styles of Pharmacy Deans

Research question 5 was as follows:

Examine the relationships between selected demographic characteristics and preferred management styles.

The hypothesis being tested was:

Hypothesis 3: There is no statistically significant difference between demographic characteristics of the pharmacy deans and their preferred management styles.

The analysis for Section V consisted of multi-factor analysis of variance (MANOVA), one-way analysis of variance, the Scheffe' Post-Hoc Comparison test and the Tukey-Krumer Post-Hoc Comparison test for continuous demographic variables; and calculation of Chi-square values and probabilities for categoric demographic variables in the hypothesis statement.

Analysis of Continuous Demographic Variables

The result of multifactor analysis of variance of continuous demographic variables related to the hypothesis statement of Section V are summarized in Table 49. Included in this analysis, due to a finding of significance in the sum of pharmacy practice variable, were the following variables: 1) years of community pharmacy practice, 2) years of institutional pharmacy practice, and 3) years of industrial pharmacy practice.

TABLE 49.--MULTIFACTOR ANALYSIS OF VARIANCE OF DIFFERENCES IN DEMOGRAPHIC CHARACTERISTICS BETWEEN THE PREFERRED STYLES OF MANAGEMENT

Demographic Variables	Hypothesized Sum of Squares	Error Sum of Squares	Hypothesized Mean Square	Error Mean Square	F	P
Age	127.89	8839.10	31.97	69.60	.459	.756
Academic Exp. Yrs.						
Pharmacy Faculty	90.46	11016.17	22.62	86.74	.260	.903
Non-Pharmacy Faculty	7.06	599.46	1.76	4.72	.373	.827
Department Head	69.03	3284.69	17.26	25.86	.667	.616
Assistant Dean	21.38	1952.87	5.34	15.38	.348	.845
Associate Dean	93.38	1566.34	23.34	12.33	1.89	.116
Dean	141.69	4565.79	35.42	35.95	.985	.418
Other	10.23	306.73	2.56	2.42	1.06	.379
Total Admin.	528.27	6035.59	132.06	47.32	2.78	.030*
# Schools Worked	1.74	91.00	.435	.717	.607	.658
# Schools Dean	1.88	26.21	.469	.206	2.27	.065
Practice Exp. Yrs.						
Sum of Practice	710.63	5721.25	177.66	45.05	3.94	.005*
Community Pharmacy	341.90	3639.82	85.47	28.66	2.98	.022*
Institutional Pharmacy	96.21	1432.42	24.05	11.28	2.13	.081
Industrial Pharmacy	78.39	535.57	19.60	4.22	4.65	.002*
Sum of Publications	698.66	27339.85	174.67	2152.12	.081	.988
Sum of Professional Associations	539.19	9833.81	134.80	77.43	1.74	.145

*Statistically significant at the 0.05 level.

Multifactor analysis revealed significant differences in the continuous demographic variables of 1) total years of administrative experience, 2) the sum of years of pharmacy practice, 3) years of community pharmacy practice, and 4) years of industrial pharmacy experience between the preferred styles of management. These differences werre further analyzed.

The data regarding total years of administrative experience and preferred styles of management are summarized in Table 50 and Table 51.

TABLE 50.--COMPARISON OF TOTAL YEARS OF ADMINISTRATIVE EXPERIENCE BY PREFERRED STYLES OF MANAGEMENT USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	4	528.27	132.07	2.78	.028
Within Groups	127	6035.39	47.52		
Total	131	6563.66			

TABLE 51.--SCHEFFE' POST-HOC COMPARISON OF TOTAL YEARS OF ADMINISTRATIVE EXPERIENCE BY PREFERRED STYLES OF MANAGEMENT

		Group				
Group	Mean (Years)	9,9	5,5	9,1	1,9	1,1
9, 9	13.22					
5, 5	14.52					
9, 1	13.55					
1, 9	11.12					
1, 1	9.35					

(*)Denotes pairs of groups significantly different at the 0.05 level.

Multivariate analysis of variance and one-way ANOVA revealed a significant difference in total years of administrative experience between the various preferred management styles. The Scheffe' Post-Hoc Comparison test did not detect significant differences, however, and a more specific analysis using the Tukey-Kramer test was performed. The results are summarized in Table 52.

TABLE 52.--TUKEY-KRAMER POST-HOC COMPARISON OF TOTAL YEARS OF ADMINISTRATIVE EXPERIENCE BY PREFERRED MANAGEMENT STYLE

Style	Mean (Years)	Group 9,9	5,5	9,1	1,9	1,1
9,9	13.22					
5,5	14.52					*
9,1	13.55					
1,9	11.12					
1,1	9.35					

(*)Denotes pairs of groups significantly different at the 0.05 level.

The Tukey-Kramer test revealed the significant difference in total years administrative experience to be between those preferring a 5,5 management orientation and those preferring a 1,1 management orientation. It appears that a dean with more years of experience moves from a less preferred management orientation (1,1) to a more preferred orientation (5,5).

The data regarding the sum of the years of pharmacy practice experience and preferred styles of management are summarized in Table 53 and Table 54.

TABLE 53.--COMPARISON OF THE YEARS OF PHARMACY PRACTICE BY PREFERRED STYLES OF MANAGEMENT USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	4	710.63	177.66	3.94	.005
Within Groups	127	5721.25	45.05		
Total	131	6431.85			

TABLE 54.--SCHEFFE' POST-HOC COMPARISON OF THE SUM OF THE YEARS OF PHARMACY PRACTICE BY THE PREFERRED STYLES OF MANAGEMENT

Preferred Management Style	Mean (Years)	Preferred Management Style 9,9	5,5	9,1	1,9	1,1
9,9	3.65			*		
5,5	7.23					
9,1	11.55					
1,9	7.27					
1,1	4.18			*		

(*)Denotes pairs of groups significantly different at the 0.05 level.

The data show a significant difference in the sum of the years of pharmacy practice experience between those respondents preferring a 9,1 (high task/low people) orientation and those preferring either a 9,9 (high task/high people) orientation or a 1,1 (low task/low people) orientation.

In order to further analyze the effect of practice experience on preferred management style, those continuous variables making up the sum of practice experience were examined.

The data regarding the years of community pharmacy practice experience and preferred styles of management are summarized in Table 55 and Table 56.

TABLE 55.--COMPARISON OF THE YEARS OF COMMUNITY PHARMACY PRACTICE EXPERIENCE BY PREFERRED STYLES OF MANAGEMENT USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	4	341.90	85.47	2.98	.022
Within Groups	127	3639.82	28.66		
Total	131	3981.72			

TABLE 56.--SCHEFFE' POST-HOC COMPARISON OF THE YEARS OF COMMUNITY PHARMACY PRACTICE EXPERIENCE BY PREFERRED STYLES OF MANAGEMENT

Preferred Management Style	Mean (Years)	Preferred Management Style 9,9	5,5	9,1	1,9	1,1
9,9	2.13					
5,5	3.67					
9,1	5.45					
1,9	5.85					
1,1	1,79					

(*)Denotes pairs of groups significantly different at the 0.05 level.

The one-way analysis of variance and the MANOVA revealed a significant different in years of community pharmacy practice experience and preferred management style. The Scheffe' Comparison revealed no two groups significantly different, therefore the data were analyzed using the Tukey-Kramer test. The results of the Tukey-Kramer analysis are presented in table 57.

TABLE 57.--TUKEY-KRAMER POST-HOC COMPARISON OF YEARS OF COMMUNITY PHARMACY PRACTICE EXPERIENCE BY PREFERRED STYLES OF MANAGEMENT

Preferred Managment Style	Mean (Years)	Preferred Management Style 9,9	5,5	9,1	1,9	1,1
9,9	2.13					
5,5	3.67					
9,1	5.45					
1,9	5.85					
1,1	1.79				*	

(*)Denotes pairs of groups significantly different at the 0.05 level.

The Tukey-Kramer Comparison reveals a significant difference in years of community pharmacy practice experience between those respondents preferring a 1,1 (low task/low people) and those preferring a 1,9 (low task/high people) orientation. Those deans who preferred a style of management that emphasized people at the expense of production had spent a statistically greater number of years in community pharmacy practice than those who preferred the "caretaker" style as measured by the study instrument.

The data regarding the years of industrial pharmacy experience and preferred styles of management are summarized in Table 58 and Table 59.

TABLE 58.--COMPARISON OF THE YEARS OF INDUSTRIAL PHARMACY EXPERIENCE BY PREFERRED STYLES OF MANAGEMENT USING ONE-WAY ANOVA

Source	Degrees of Freedom	Sum of Squares	Mean Square	F Ratio	F Prob.
Between Groups	4	78.40	19.60	4.65	.002
Within Groups	127	535.57	4.21		
Total	131	613.97			

TABLE 59.--SCHEFFE' POST-HOC COMPARISON OF YEARS OF INDUSTRIAL PHARMACY EXPERIENCE BY PREFERRED STYLES OF MANAGEMENT

Preferred Management Style	Mean (Years)	Preferred Management Style 9,9	5,5	9,1	1,9	1,1
9,9	.258			*		
5,5	.457			*		
9,1	3.18					
1,9	.384			*		
1,1	.559			*		

(*)Denotes pairs of groups signficantly different at the 0.05 level.

The Scheffe' test revealed significant differences in experience in industry between those respondents preferring the 9,1 (high task/low people) orientation and those preferring all four other styles of management.

Analysis of Categoric Demographic Variables

The data regarding the results of Chi-square probability testing of categoric demographic variables relating to research question 5 are summarized in Table 60.

TABLE 60.--COMPARISON OF CATEGORIC DEMOGRAPHIC VARIABLES BY PREFERRED STYLES OF MANAGEMENT USING CHI-SQUARE PROBABILITY TESTING

Categoric Demographic Variables	Chi-Square Value	Degrees of Freedom	P	Significant at the 0.05 level
Discipline	25.90	32	0.768	
Institutional Characteristics				
Graduate Programs	4.94	4	0.293	
Union	1.06	4	0.901	
Public	4.58	4	0.331	
Entry Pharm.D.	3.52	2	0.172	
Post B.S. Pharm.D.	3.79	2	0.150	
Management Training				
Formal	1.11	4	0.892	
Acceptable	5.63	4	0.228	

As seen in Table 60, three were no additional categoric variables related to preferred styles of management that were significant.

The analysis of data pertaining to hypothesis 3 revealed four demographic variables of significance as related to preferred styles of management. The variables were 1) total years of administrative experience, 2) the sum of the years of pharmacy practice, 3) years of community pharmacy practice, and 4) years of industrial pharmacy experience. Based upon these findings, the null hypothesis for Section V is rejected.

CHAPTER 5

SUMMARY, FINDINGS AND CONCLUSIONS, AND IMPLICATIONS

Summary

This study was an examination of the preferred management styles of pharmacy deans including an examination of the selected qualifications and experiences of these individuals, and an examination of the relationships between these management styles and selected qualifications and experiences.

A review of the literature in the areas to be examined was conducted in preparation for the study. The review was organized according to the following sub-headings: a) literature pertaining to management in academia, b) literature pertaining to management style assessment, c) literature pertaining to assessment of management styles in academia, and d) literature pertaining to descriptive studies of academic deans. The review detailed the problems with leadership in academia, the lack of a systematic approach to preparing, selecting and evaluating academic leaders, and an absence of information regarding pharmacy deans.

Purposes

The purposes of this study were to:

1. Describe selected demographic characteristics of the Pharmacy Deans, the Associate Deans, and the Assistant Deans.
2. Examine the demographic characteristics of the Pharmacy Deans, the Associate Deans, and the Assistant Deans for statistically significant differences between these groups.
3. Describe the preferred styles of management of the Pharmacy Deans, the Associate Deans, and the Assistant Deans.
4. Examine the preferred styles of management of the Pharmacy Deans, the Associate Deans, and the Assistant Deans for statistically significant differences between these groups.
5. Examine the relationships between selected demographic characteristics and preferred management styles.

Design

The study was conducted through the administration of two survey instruments which were used to describe demographic characteristics and preferred management styles. The information gathered by the survey instruments also enabled the researcher to 1) examine differences in demographic characteristics of pharmacy deans, 2) examine differences in management styles of pharmacy deans, and

3) examine relationships between demographics and management styles.

The analysis of the data included the use of descriptive techniques where they were appropriate and comparative techniques in other instances. Three null hypotheses were developed to determine whether there were statistically significant differences in demographics, in management styles, and in the relationship between the two. The statistical significance level of .05 was used to test the hypotheses.

Hypotheses

The hypotheses tested in this study were stated in the null form. They were:

Hypothesis 1: There is no significant difference in the demographic characteristics of the Pharmacy Deans, Associate Deans, and Assistant Deans.

Hypothesis 2: There is no significant difference in the preferred management styles of the Pharmacy Deans, Associate Deans, and Assistant Deans.

Hypothesis 3: There is no statistically significant difference between demographic characteristics of the pharmacy deans and their preferred management style.

LIMITATIONS

The limitations which must be considered when interpreting the results of the study were:

1. The data used in the study were self-reported.
2. The returned responses upon which the analyses of data is based may not constitute a representative sample of the population.

FINDINGS

Section I provides a descriptive analysis of the demographic characteristics of pharmacy deans. These findings provide useful insights into identification of career paths.

Pharmacy Deans were profiled as 50 year-old, white males, who had earned the Ph.D. degree, were licensed pharmacists, had pharmacy faculty and department head experience, had worked at several schools, were tenured and held the rank of professor, had published extensively, and were active in professional associations at the national level.

Pharmacy Associate Deans were profiled as 50 year-old, white males, who had earned the Ph.D. degree, were licensed pharmacists, had pharmacy faculty and assistant dean experience, had worked at one school, were tenured and held the rank of professor, had published least frequently of all the deans, and had experience in community pharmacy.

Pharmacy Assistant Deans were profiled as white males, in their early forties, who had earned the M.S. degree, were licensed phamacists, had pharmacy faculty experience, had worked at one school, were tenured and held the rank of associate professor, had published frequently, had

experience in institutional pharmacy, and were active in professional associations at the state level.

Section II was an analysis of the demographic characteristics of pharmacy deans to identify statistically significant differences between them. Hypothesis 1 was stated in the null form. It suggested no significant difference in the demographic characteristics of the Pharmacy Deans, the Associate Deans, and the Assistant Deans, and was rejected at the level of significance used in the study.

The pharmacy deans were found to differ significantly in several demographic characteristics including the following:

(i) age
(ii) earned Ph.D.
(iii) years of pharmacy faculty experience
(iv) department head experience
(v) years of department head experience
(vi) assistant dean experience
(vii) years of assistant dean experience
(viii) associate dean experience
(ix) years of associate dean experience
(x) dean experience
(xi) years of dean experience
(xii) other academic experience
(xiii) total years of administrative experience
(xiv) number of schools where dean
(xv) number of schools where worked
(xvi) currently tenured
(xvii) ever tenured
(xviii) current rank

Section III provides a descriptive analysis of the preferred styles of management of the pharmacy deans. These findings provide information potentially useful in evaluating the nature of management in the Schools of Pharmacy. It would appear that with over one-fourth of all

pharmacy deans preferring the least desirable, 1,1 (low task/low people) management orientation, improvements can and should be made in the management of pharmacy education.

Section IV was an analysis of the preferred styles of management of the pharmacy deans to identify statistically significant differences between them. Hypothesis 2 was stated in the null form. It suggested no significant difference in the preferred styles of management of the Pharmacy Deans, the Associate Deans, and the Assistant Deans and was accepted at the level of significance used in the study.

Section V was an analysis of the demographic characteristics of the pharmacy deans and their preferred styles of management. Hypothesis 3 was stated in the null form. It suggested no significant difference in demographic characteristics of deans preferring any of the five styles of management and was rejected at the level of signifance used in the study.

Significant differences were found in four demographic variables. Those deans preferring a 5,5 (medium task/medium people) style had a statistically significant greater number of total years of administrative experience than those preferring a 1,1 (low task/low people) style. Deans preferring a 9,1 (high task/low people) orientation had a statistically significant greater sum of years of pharmacy practice experience than those preferring either a 9,9 (high task/high people) or a 1,1 (low task/low people)

orientation. Deans who preferred a 1,9 (low task/high people) style has significantly more years of community pharmacy practice than those preferring a 1,1 style. Finally, deans preferring a 9,1 (high task/low people) style had significantly greater years of experience in industry than deans selecting any of the other four styles.

CONCLUSION AND DISCUSSION

The results of the study suggest several findings that may be of interest and provide insights to pharmacy educators and others. With a response rate of over 75 percent and full endorsement by the American Association of Colleges of Pharmacy, the subject areas studied appear to have the interest of pharmacy school administrators. The areas to be discussed include findings from the demographic data and the preferred style of management data.

The results of the demographic survey were interesting for several reasons. Almost one-fourth of Deans were age 60 or older indicating significant turnover of these critical leadership positions within the next five years. One would question whether appropriate steps are being taken to assure that young pharmacy faculty are being given appropriate opportunities to develop necessary leadership skills to move into these positions. Additionally, the data revealed that over one-fourth of Deans are 45 years of age or younger. This large segment of relatively young individuals might lead to concerns about the experience and wisdom possessed by these individuals as well as concerns about eventual

management "burn-out" by this group. Another interesting question would be whether those individuals may be sacrificing promising careers as faculty members and scholars to pursue academic management where rewards are usually less tangible (with the possible exception of salary). Examining the publication records of respondents, it would appear that a majority of deans have been productive scholastically. At the same time, only slightly over one-half of deans have had any formal training in management and almost 60 percent found their training to be acceptable. Additionally, less than 25 percent of deans would definitely choose to be an administrator again. These data raise some troubling questions regarding the individuals in the deans positions and the system used to select them. Based upon these findings, one could, with some certainty, criticize the placement record of schools of pharmacy's search committees.

The position of Associate Dean in Schools of Pharmacy appears to be a "dead-end" position based upon a number of observations. The Associate Deans were approximately the same age as the Deans, an indication that if the individual had not yet attained the Dean title, they probably would not. Additionally, less than one-third of Deans had experience at the Associate Dean position indicating that it is not a major "stepping-stone" to the position of Dean. Associate Deans also had significantly fewer publications than Deans and tended to move from school to school less

than Deans. The portrait of Associate Deans emerging from these observations is that of veteran faculty member, promoted from within, usually with no formal management training, but several years of administrative experience, and an average scholarly record. These individuals may be selected to insure that some measure of continuity exists between "old" ways and "new" ways, to avoid potential rivals to the Dean, or to possibly take advantage of certain skills or characteristics of the individual.

The Assistant Deans, as expected, were younger, had the fewest years of experience, but were most likely to have had formal management training and to perceive the training to be acceptable. Despite this, Assistant Deans would choose to be an administrator less frequently than either Deans or Associate Deans. The Assistant Deans were less likely to have earned the Ph.D. degree and, based upon the fact that less than one-third of Deans had experience at the Assistant Dean position, the position also does not appear to be an important career-step toward the position of Dean.

The data regarding the sex of pharmacy deans reveals that pharmacy has not done a very good job of promoting women into leadership positions, but some progress may be evident by virtue of an increasing percentage of women in the Associate and Assistant Dean positions. Compared with national data, schools of pharmacy are doing an adequate job of promoting minorities.

Less than six percent of Deans are from the Clinical Pharmacy discipline and less than ten percent have earned the Pharm.D. degree, the professional practice doctorate. This indicates that clinicians are still not fully accepted as academicians and academic leaders and the basic scientist, not the practitioner is still in charge. One might ask, as Dr. H. A. K. Whitney did in 1971, "are basic scientists fiddling? Isn't it time to yield the reins governing professional practice to the clinical faculty?"[1]

The data regarding preferred management styles is interesting as well as somewhat disturbing. Interesting is the fact that there were no significant differences in preferred styles between dean categories. Disturbing is the fact that over one-fourth of all deans and over one-fifth of Deans preferred a style of management that, as measured by the test instrument, indicates a low regard for both production and people and results in low achievement as demonstrated by Hall and Donnell.[2] Over one-third of Associate Deans preferred this style of management (1,1), which may be associated with the individuals or may be inherent in the position.

These data indicate that additional efforts are needed to both better define and structure career alternatives for

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[1]H.A.K. Whitney, Drug Intelligence and Clinical Pharmacy, vol. 5, 1971, pp. 73.

[2]J. Hall and S.M. Donnell, "Managerial Achievement: The Personal Side of Behavioral Theory," Humor Relations, vol. 32, no. 1, 1979, pp. 97-98.

faculty members and to provide additional management training to individuals currently serving as deans. The results of the study have been shared with the Council of Deans of the American Association of Colleges of Pharmacy in order to assist them in designing just such training programs.

The relationships between the demographic characteristics and preferred management styles were interesting. The finding of a significant difference in years of total administrative experience between deans preferring a 1,1 orientation and those preferring a 5,5 orientation might be predicted. However, it is puzzling that those with the fewest years of administrative experience would prefer the 1,1 style while those with the greatest amount of experience would choose the 5,5 orientation. The 1,1 style would appear to be more likely in a "tired" old veteran administrator perhaps hanging on until retirement than in a, presumably, younger individual earlier in their career. Perhaps the longer one remains in administration, the more likely one is to be less idealistic and more compromising (5,5). Additionally puzzling is the relationship between total years of pharmacy practice and preferred management style. Those respondents with the fewest years experience preferred either a 9,9 orientation or a 1,1 orientation which are at opposite ends of the spectrum. Both of these groups differed significantly in total years of pharmacy practice from those deans preferring

a 9,1 style. One could speculate that the more pharmacy practice experience that a dean has, the more task-oriented he or she becomes regardless of initial orientation. However, the data regarding community pharmacy practice experience and industrial pharmacy practice experience differ, almost in direct opposition, in their relationship with management orientation. Those preferring a 1,9 orientation had the greatest number of years of community practice experience and the difference in years of community experience between those preferring the 1,9 style and those preferring a 1,1 style was significant. A relationship between a high people orientation and more experience in a "people-oriented" segment of practice is not that surprising. One could speculate that in order to survive in community pharmacy practice, people must rate higher than task. After all, "the customer is always first and right" is the often used phrase describing the attitude necessary to be successful in community practice. Also not surprising is the significant difference in years of experience in the pharmaceutical industry in those preferring a 9,1 orientation and those preferring any other orientation. Contrasting industry with community practice, one would expect a high task orientation. Again, one would only need look at a typical company slogan of "quality first" to perceive the task orientation associated with industry.

IMPLICATIONS FOR FURTHER RESEARCH

The data gathered for this study provided a useful beginning in identifying the individuals occupying leadership positions in the Schools of Pharmacy and analyzing the quality of management being provided. Further studies should be developed to explore the following areas:

1. The relationship between the preferred style of management of the dean and "success" of the school.

2. The relationship between the preferred style of management of the dean and faculty satisfaction.

3. The relationship between the preferred style of management of the dean and that of the associate and assistant deans.

4. The preferred styles of management of the deans today and the preferred styles of management of future deans.

APPENDICES

APPENDIX A

STYLES OF MANAGEMENT INVENTORY

STYLES OF MANAGEMENT INVENTORY

An analysis of individual behavior in fulfilling the functions of management

by

Jay Hall, Ph.D.

Jerry B. Harvey, Ph.D.

Martha Williams, Ph.D.

NOTICE

The language in this learning instrument is male oriented. Although we do not wish to offend anyone, to add feminine pronouns now would make the instrument literally different from the one which was validated. Both female and male managers are included in the normative sample.

ANOTHER LEARNING INSTRUMENT from

TELEMETRICS INT'L. 1755 WOODSTEAD COURT
THE WOODLANDS, TEXAS 77380
[713] 367-0060

Example Question*

I. **CONCERNING A PHILOSOPHY OF MANAGEMENT:** The opinions, attitudes and assumptions people make regarding the accomplishment of work through others may be considered to reflect a general managerial philosophy. In turn, an individual's philosophy is often an index of the way he manages and, consequently, of his managerial success. Below are listed some areas of philosophic concern to managers.

A. Most managers recognize the fact that a variety of goals or needs—both individual and organizational—operate in the average work situation. In general, how do you view the relative importance of these needs?

a. I feel that I can best insure a smooth running organization by first attending to the needs of my subordinates and providing the conditions for high morale.

b. I feel that, while the needs of both subordinates and the organization or agency are important considerations, in the final analysis the needs of the organization should prevail.

c. I feel that the needs of the organization come first and that subordinates are obligated to sacrifice their personal goals, when necessary, in order to maintain a high quality of performance.

d. I feel that the needs of both subordinates and the organization are equally important in determining the quality of organizational performance and that neither can be sacrificed if optimal results are to be obtained.

e. I feel that the tasks of the organization or agency are dictated primarily by organizational policy and that the individual employee—regardless of rank or needs—can do little to alter it significantly.

Completely Characteristic : : : : : : : : : : Completely Uncharacteristic
10 9 8 7 6 5 4 3 2 1

*Due to copyright law, the reproduction of the entire instrument is illegal. Teleometrics Int'l has given permission to reproduce one question as an example.

STYLES OF MANAGEMENT INVENTORY

Please Read Carefully: The purpose of the following inventory of 60 items is to gain information about the way in which individuals manage—or would manage if given the opportunity—under a variety of conditions and in a variety of situations. An attempt has been made to cover a wide range of management situations in order to provide you with meaningful information about yourself as a manager.

THE INVENTORY FORMAT

Twelve typical management situations have been included in this survey. Under each situation, five alternative ways of handling the situation are listed.

Each alternative is slightly different from the other four. Thus, read all five alternatives before answering so that you can select the alternatives most and least characteristic of you.

There is no right or wrong way to manage, therefore, the best response to each item is your own personal practice. Answer honestly, since only realistic answers will provide you with any useful information about yourself.

Instructions: From each five alternatives, select the one which is most characteristic of you and place the letter designate of that item at the point on the scale which reflects the degree of "characteristic-ness" that item is for you. Then, select the alternative which is least characteristic of you and place its letter on the appropriate point on the scale. Once you have found the most and least characteristic alternatives, enter the letters of the remaining alternatives within this range according to how characteristic each alternative is. For example, you might answer as follows for a set of five alternatives:

Completely Characteristic	a.				b.	c.			d.		e.	Completely Uncharacteristic
	10	9	8	7	6	5	4	3	2	1		

APPENDIX B

EMPIRIC DEMOGRAPHIC SURVEY

Pharmacy Dean's Profile Questionnaire

Seq. #

The following questions ask for information about your professional background and some related personal characteristics. Please respond by checking the appropriate blanks. Your comments are encouraged. Upon completion, place this questionnaire and the completed management style survey in the return envelope for mailing. Thank you.

Age: ____

Sex:
____ 1. Male
____ 2. Female

Race:
____ 1. White
____ 2. Black
____ 3. Hispanic
____ 4. Oriental
____ 5. Other

Academic Background:
Please check all of the following degrees that you have earned:

	no(1)	yes(2)
B.S.	___	___
B.A.	___	___
M.S.	___	___
M.A.	___	___
M.B.A.	___	___
M.P.H.	___	___
Pharm.D.	___	___
Ph.D.	___	___
Ed.D.	___	___
D.Sc.	___	___
Other _____	___	___

In which discipline did you earn your highest degree?
____ 1. Chemistry
____ 2. Medicinal Chemistry
____ 3. Pharmacology
____ 4. Pharmaceutics/Biopharmaceutics
____ 5. Pharmacy Administration
____ 6. Clinical Pharmacy
____ 7. Pharmacognosy
____ 8. Hospital Pharmacy
____ 9. Other, specify _____

At what institution did you receive your highest degree?

_____

Is your undergraduate degree earned in pharmacy? ___no(1) ___yes(2)
Are you a licensed pharmacist in the U.S.? ___no(1) ___yes(2)

Academic Experience:
Do you have academic experience in any of the following positions?

	no(1)	yes(2),	if yes, # of yrs.?
pharmacy faculty?	___	___	____
non-pharmacy faculty?	___	___	____
department head?	___	___	____
assistant dean?	___	___	____
associate dean?	___	___	____
dean?	___	___	____
other? _____	___	___	____

How many years have you been in an administrative position? _____
How many schools of pharmacy have you worked for? _____
In how many schools of pharmacy have you been a dean? _____
Are you on a tenure track? ___no(1) ___yes(2)
If yes, are you tenured? ___no(1) ___yes(2)
Have you ever been tenured? ___no(1) ___yes(2)
Do you hold academic rank? ___no(1) ___yes(2)
If yes, current rank
___1. professor
___2. associate professor
___3. assistant professor
___4. instructor
___5. other, specify _____

Institutional Type:
Which of the following characterizes your school? (check all that apply)

	No(1)	Yes(2)
graduate programs (MS, Ph.D.)	___	___
post-B.S. Pharm.D.	___	___
entry level Pharm.D.	___	___
unionized faculty	___	___
public institution	___	___

Publications:
How many publications in refereed journals have you authored? _____
How many books have you published? _____
How many chapters in books have you published? _____

Practice Experience:
Do you have experience in any of the following?

	no(1)	yes(2)	if yes, # of yrs?
community pharmacy?	___	___	____
institutional pharmacy?	___	___	____
pharmaceutical industry?	___	___	____
other? _____	___	___	____

Professional Associations:
How many positions (elected and appointed) have you held in:
national professional associations? _____
state professional associations? _____
local associations? _____

Are you a member of the following national organizations?

	no(1)	yes(2)
A.A.C.P.	___	___
A.Ph.A.	___	___
A.S.H.P.	___	___
A.C.C.P.	___	___
A.C.A.	___	___
A.P.S.	___	___
A.A.P.S.	___	___
N.A.R.D.	___	___
A.S.C.P.	___	___
other,_____	___	___

Management Background:

Have you had formal management training? ___no(1) ___yes(2)

(If yes, please indicate type and # of hrs.)	no(1)	yes(2)	hrs
graduate school courses	___	___	___
management institute (Harvard, Mich, Wisc, etc.)	___	___	___
American Council of Education (Fellowship/Internship)	___	___	___
Management seminars, programs	___	___	___
other, specify_____	___	___	___

Do you consider that your management training has been acceptable?
___no(1) ___yes(2)

If you could begin your career again, would you choose to be an administrator? ___no(1) ___yes(2) ___maybe(3)

Do you believe that the Pharm.D. should be entry level degree awarded to all graduates? ___no(1) ___yes(2) (Comments on back, please.)

****

Upon completion, please place this questionnaire and the completed management style survey in the return envelope and place in the mail. Thank you!!

****

APPENDIX C

LETTER SEEKING PARTICIPATION

FERRIS STATE COLLEGE | Big Rapids, Michigan 49307 616/796-0461

School of Pharmacy

October 10, 1986

Dear Dean,

I am writing to ask for your assistance. I am currently the Director of Clinical Education at the School of Pharmacy at Ferris State College and a Ph.D. candidate in Educational Administration at Michigan State University. I am commencing my dissertation work and have chosen to study you and your fellow pharmacy deans because of the critical role you play in determining the direction of pharmacy education. The purpose of my study is two-fold. The first objective is to prepare an empiric profile of the pharmacy deans and the second is to describe the preferred style of management of the deans.

The proposal for this study was submitted to Dr. Trinca at the AACP, who stated, "the AACP has reviewed the research proposal and has endorsed this survey in that its purposes are consistent with association goals and policy." In addition, the results of the project will be shared with AACP to help in the planning and design of a management conference tentatively set for March 1988. Your participation is important to provide meaningful data to AACP with which to design this program.

Next week I will be sending you a profile questionnaire and a management style assessment instrument. I would appreciate your taking the time to complete both documents. It should take no more than 30 minutes to complete both instruments. In return, I will provide you with information about your individual preferred management style and the overall study findings. All responses will be held in strict confidence and at no time will questionnaire responses be identified by name.

I realize that you are inundated with surveys, however, I would be grateful for your participation in this study. Again, thank you.

Sincerely yours,

R. Pete Vanderveen, M.Sc., R.Ph.
Director of Clinical Education
Associate Professor of Clinical Pharmacy

mkp

APPENDIX D

COVER LETTER

FERRIS STATE COLLEGE | Big Rapids, Michigan 49307 616/796-0461

School of Pharmacy

October 10, 1986

Dear Dean

Thank you for participating in my AACP endorsed doctoral study which will attempt to profile the pharmacy deans and to characterize their management styles. This information will be valuable in documenting career pathways of pharmacy deans and in providing feedback to the deans regarding preferred management styles.

Please take a few minutes to complete the enclosed demographic survey and the management style instrument and return them as soon as possible. For your convenience, I have provided a pre-addressed, postage-paid return envelope.

The number on your questionnaires is to insure your confidentiality, and at no time will questionnaire responses be identified by name.

I will send your individual management style results and the overall results as soon as available.

If you have any questions about the two instruments, please call me at (616) 796-0461, ext. 3310.

Thank you again for your participation.

Sincerely,

R. Pete Vanderveen, M.Sc., R.Ph.
Director of Clinical Education
Associate Professor of Clinical Pharmacy

mkp

Enclosure

APPENDIX E

FOLLOW-UP REMINDER LETTER

FERRIS STATE COLLEGE | Big Rapids, Michigan 49307 616/796-0461

School of Pharmacy

November 18, 1986

Dear Dean

Approximately two weeks ago, I sent you two surveys as a part of my AACP - endorsed doctoral study to profile the pharmacy deans and characterize their management styles. According to my records, your surveys have not yet reached my office via return mail.

If you have not yet completed the surveys, I would once again ask you to take the 30 minutes to complete the demographic survey and management style instrument and return them to me in the pre-addressed, postage-paid return envelopes. Your responses are critical to the success of the study and I hope you will participate.

If you have already completed and returned the surveys, please disregard this reminder and thank you. If you have misplaced the original surveys and would like to participate, please call or write and I will see that you receive another set of questionnaires.

Again, thank you for your participation.

Sincerely,

R. Pete Vanderveen, M.Sc., R.Ph.
Director of Clinical Education
Associate Professor of Clinical Pharmacy

mkp

APPENDIX F

LETTER OF ENDORSEMENT FROM A.A.C.P.

AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY
4720 Montgomery Lane, Suite 602
Bethesda, Maryland 20814
(301) 654-9060

Carl E. Trinca, Ph.D.
Executive Director

July 30, 1986

Mr. Pete Vanderveen
Director of Clinical Education
Associate Professor of Clinical Pharmacy
School of Pharmacy
Ferris State College
Big Rapids, MI 49307

Dear Pete:

I am pleased to inform you that the Association will endorse your dissertation survey instrument in keeping with your submitted proposal and letter of July 22, 1986. Enclosed is a copy of association policy regarding endorsement of surveys.

As we discussed, you might wish to use language similar to the following in your cover letter:

> "The AACP has reviewed the research proposal and has endorsed this survey in that its purposes are consistent with association goals and policy."

I would appreciate receiving a packet of materials you plan to mail; also, your (preliminary) data will help us with planning for a March 1988 conference.

Please feel free to call me if this statement does not meet your needs.

Sincerely,

CET:jnc

Enclosure

APPENDIX G

DEANS PARTICIPATING IN PILOT STUDY

William Hardigan, Ph.D., Associate Dean, School of Pharmacy, Ferris State College, Big Rapids, Michigan, 49307.

Kenneth Kirk, Ph.D., Associate Dean, College of Pharmacy, University of Texas at Austin, Austin, Texas, 78712.

Ian Mathison, Ph.D., Dean, School of Pharmacy, Ferris State College, Big Rapids, Michigan, 49307.

Richard Ovhall, Ph.D., Dean, College of Pharmacy, Oregon State University, Corvallis, Oregon, 97331.

James Turner, M.S., Assistant Dean, School of Pharmacy, Ferris State College, Big Rapids, Michigan, 49307.

APPENDIX H

LETTER TO DEANS
RETURNING INCOMPLETE SURVEYS

FERRIS STATE COLLEGE | Big Rapids, Michigan 49307 616/796-0461

School of Pharmacy

November 3, 1987

Dear Dean

Thank you for your prompt response to my surveys. In compiling your results, I found that you had inadvertently skipped one small section. Because I believe that your input is important to my study, and because I can not provide feedback to you without a completed instrument, I have copied the incomplete section of the management style questionnaire and attached it to this letter. I would ask that you complete this one section and return it to me in the enclosed envelope.

Again, thank you for your participation.

Sincerely,

R. Pete Vanderveen, M.Sc., R.Ph.
Director of Clinical Education
Associate Professor of Clinical Pharmacy

mkp

Attachment

FERRIS STATE COLLEGE | Big Rapids, Michigan 49307 616/796-0461

School of Pharmacy

November 3, 1986

Dear Dean

Thank you for your prompt response to my surveys. I appreciate your important participation.

In compiling your responses to the management assessment instrument, I found that you had, inadvertently, not completed the survey. In addition to identifying the most characteristic and least characteristic alternative, the remaining alternatives for each question must be entered on the "characteristicness" scale. In order to utilize your survey in the study and in order to provide you with personal information regarding your preferred style of management, the survey must be completely filled out.

I have enclosed your survey and I would ask you to take the few minutes to complete it and return it in the enclosed envelope. Your response, as one of the leaders in pharmacy education, is very important to the usefulness of this study.

Thank you.

Sincerely,

R. Pete Vanderveen, M.Sc., R.Ph.
Director of Clinical Education
Associate Professor of Clinical Pharmacy

mkp

Enclosure

APPENDIX I

LETTER EXPLAINING INDIVIDUAL RESULTS

FERRIS STATE COLLEGE | Big Rapids, Michigan 49307 616/796-0461

School of Pharmacy

January 16, 1987

Dear Dean

Thank you for participating in my recent doctoral study to describe the preferred management style of pharmacy deans. The overall survey return rate was 75%, and for that enthusiastic response, I am very grateful.

Enclosed are two documents for your information and review which pertain directly to you. The first is an explanation of the Managerial Grid upon which the management questionnaire was based. The second is your personal score sheet based upon that same questionnaire. I hope that you find the information to be useful and informative.

The overall results of the study are currently being compiled and an article will be submitted to the American Journal of Pharmaceutical Education when completed. Should it be selected for publication, I will automatically send you a reprint.

Again, thank you very much for your participation and support.

Sincerely yours,

R. Pete Vanderveen, M.Sc., R.Ph.
Director of Clinical Education
Associate Professor of Clinical Pharmacy

mkp

Enclosures

APPENDIX J

LETTER OF APPROVAL FROM UCRIHS

MICHIGAN STATE UNIVERSITY

UNIVERSITY COMMITTEE ON RESEARCH INVOLVING
HUMAN SUBJECTS (UCRIHS)
238 ADMINISTRATION BUILDING
(517) 355-2186

EAST LANSING • MICHIGAN • 48824-1046

October 3, 1986

Mr. Randall Lee Vanderveen
Director of Clinical Education
School of Pharmacy
Ferris State College
Big Rapids, Michigan 49307

Dear Mr. Vanderveen:

Subject: Proposal Entitled, "A Study Identifying Selected Demographic Characteristics of Pharmacy Deans, Their Preferred Styles of Management; and Examining the Relationship Between Selected Demographic Characteristics and Preferred Styles of Management in These Individuals"

I am pleased to advise that I concur with your evaluation that this project is exempt from full UCRIHS review, and approval is herewith granted for conduct of the project.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval prior to October 3, 1987.

Any changes in procedures involving human subjects must be reviewed by the UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to my attention. If I can be of any future help, please do not hesitate to let me know.

Sincerely,

Henry E. Bredeck, Ph.D.
Chairman, UCRIHS

HEB/jms

cc: Dr. E. Nonnamaker

APPENDIX K

RESPONSE FREQUENCIES, PERCENTAGES, AND MEANS FOR PHARMACY DEANS REGARDING 1) SUM OF PHARMACY PRACTICE, 2) SUM OF PUBLICATIONS, AND 3) SUM OF PROFESSIONAL ASSOCIATION OFFICES

TABLE 61.--RESPONSE FREQUENCIES, PERCENTAGES, AND MEANS FOR PHARMACY DEANS REGARDING SUM OF PHARMACY PRACTICE EXPERIENCE

Years Pharmacy Practice Exp.	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
0	6	11.1	4	9.1	6	20.7	16	12.6
1	7	13.0	7	15.9	3	10.3	17	13.4
2	6	11.1	8	18.2	7	24.1	21	16.5
3	3	5.6	5	11.4			8	6.3
4	5	9.3	1	2.3	4	13.8	10	7.9
5	6	11.1	3	6.8			9	7.1
6	4	7.4	1	2.3			5	3.9
7	3	5.6	4	9.1			7	5.5
8	3	5.6					3	2.4
9	3	5.6	1	2.3			4	3.1
10			2	4.5	1	3.4	3	2.4
12	1	1.9			2	6.9	3	2.4
13	1	1.9	1	2.3			2	1.6
14					2	6.9	2	1.6
15	1	1.9	1	2.3	1	3.4	3	2.4
16	1	1.9	1	2.3			2	1.6
17	1	1.9	1	2.3			2	1.6
18	1	1.9					1	.8
19	1	1.9					1	.8
20			1	2.3			1	.8
21					1	3.4	1	.8
22					1	3.4	1	.8
23	1	1.9					1	.8
24					1	3.4	1	.8
25			1	2.3			1	.8
36			2	4.5			2	1.6
MEAN		5.69		6.77		6.10		6.03

TABLE 62.--RESPONSE FREQUENCIES, PERCENTAGES, AND MEANS FOR PHARMACY DEANS REGARDING SUM OF PUBLICATIONS

Sum of Publications	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
0			2	4.5	5	17.2	7	5.5
1			4	9.1	2	6.9	6	4.7
2	1	1.9	2	4.5	1	3.4	4	3.1
3	2	3.7			1	3.4	3	2.4
5	2	3.7					2	1.6
6	3	5.6	2	4.5	1	3.4	6	4.7
7	1	1.9	2	4.5	1	3.4	4	3.1
8			1	2.3	1	3.4	2	1.6
9			1	2.3			1	.8
10	1	1.9			2	6.9	3	2.4
11	1	1.9	1	2.3			2	1.6
12	3	5.6	1	2.3	2	6.9	9	4.7
14	1	1.9	3	6.8			4	3.1
15			1	2.3			1	.8
16	1	1.9	1	2.3	1	3.4	3	2.4
17			1	2.3	1	3.4	2	1.6
18			3	6.8	1	3.4	4	3.1
19	1	1.9					1	.8
20	2	3.7			1	3.4	3	2.4
21	2	3.7	1	2.3	1	3.4	4	3.1
22	2	3.7			1	3.4	3	2.4
24	1	1.9					1	.8
25			1	2.3			1	.8
26	1	1.9	1	2.3			2	1.6
29	1	1.9	1	2.3			2	1.6
31			1	2.3			1	.8
32			3	6.8			3	2.4
35	2	3.7					2	1.6
36	1	1.9			1	3.4	2	1.6
37	1	1.9					1	.8
38			1	2.3	1	3.4	2	1.6
39	1	1.9					1	.8
40	1	1.9	1	2.3			2	1.6
41			1	2.3			1	.8
44	1	1.9					1	.8
45			1	2.3			1	.8
46	1	1.9	1	2.3			2	1.6
48			1	2.3			1	.8
51	2	3.7	1	2.3			3	2.4
52	2	3.7					2	1.6
53	1	1.9					1	.8
56	1	1.9			2	6.9	3	2.4
60	1	1.9	2	4.5			3	2.4
62	2	3.7					2	1.6
63	2	3.7					2	1.6

TABLE 62.--CONTINUED.

Sum of Publications	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
74	1	1.9					1	.8
81	1	1.9					1	.8
90			1	2.3			1	.8
96			1	2.3			1	.8
104	1	1.9					1	.8
111	1	1.9					1	.8
127					1	3.4	1	.8
128					1	3.4	1	.8
152	1	1.9					1	.8
153	1	1.9					1	.8
200	1	1.9					1	.8
206	1	1.9					1	.8
216					1	3.4	1	.8
243	1	1.9					1	.8
MEAN		49.1		24.7		29.2		36.624

TABLE 63.--RESPONSE FREQUENCIES, PERCENTAGES, AND MEANS FOR PHARMACY DEANS REGARDING SUM OF PROFESSIONAL ASSOCIATION OFFICES

Sum of Professional Association Offices	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
0	5	9.3	8	18.2	10	34.5	23	18.1
1	2	3.7	4	9.1	2	6.9	8	6.3
2	6	11.1	4	9.1	3	10.3	13	10.2
3	5	9.3	5	11.4	1	3.4	11	8.7
4	6	11.1	1	2.3	2	6.9	9	7.1
5	4	7.4	3	6.8	3	10.3	10	7.9
6	4	7.4	2	4.5			6	4.7
7	5	9.3	2	4.5			7	5.5
8			1	2.3			1	.8
9	3	5.6			1	3.4	4	3.1
10	1	1.9	5	11.4			6	4.7
11			1	2.3			1	.8
12	3	5.6			1	3.4	4	3.1
14	1	1.9			1	3.4	2	1.6
15			2	4.5			2	1.6

TABE 63.--CONTINUED.

Sum of Professional Association Offices	Dean		Associate Dean		Assistant Dean		All Deans	
	f	%	f	%	f	%	f	%
17	2	3.7			1	3.4	3	2.4
18			1	2.3	1	3.4	2	1.6
19					1	3.4	1	.8
20	2	3.7	2	4.5			4	3.1
21			1	2.3			1	.8
23			1	2.3			1	.8
24			1	2.3			1	.8
25	2	3.7					2	1.6
34	1	1.9			1	3.4	2	1.6
36					1	3.4	1	.8
41	1	1.9					1	.8
47	1	1.9					1	.8
MEAN		8.61		6.75		6.55		7.47

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BIBLIOGRAPHY

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