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A STUDY OF THE CORRELATION AMONG GRADUATING GRADE POINT AVERAGE, JOB SATISFACTION, AND LIFE SATISFACTION OF PHARMACY COLLEGE GRADUATES

By

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ABSTRACT

A STUDY OF THE CORRELATION AMONG GRADUATING GRADE POINT AVERAGE, JOB SATISFACTION, AND LIFE SATISFACTION OF PHARMACY COLLEGE GRADUATES

By

James B. Turner

The School of Pharmacy at Ferris State University is one of 74 schools and colleges of pharmacy in the United States and possessions. Ferris State University is located in Big Rapids, Michigan. Students graduate after a five-year course of study with a Bachelor of Science degree in Pharmacy and become Registered Pharmacists following successful completion of a national board examination. All 112 graduates of Ferris's School of Pharmacy (1982-1983) were surveyed to evaluate their perceptions of job and life satisfaction five years after graduation.

Three research questions were developed to determine (a) whether a relationship existed between academic achievement and job and life satisfaction, (b) whether perceptions of male and female pharmacists differed in job and life satisfaction, and (c) the influence place of employment may have had on job and life satisfaction. The survey instrument consisted of five statements each in six areas related to job satisfaction and one section of eight statements related to life satisfaction.

MANOVA, specifically Wilks' lambda, ANOVA, and t-tests, were applied to the data, and the results revealed that there was no significant difference at the .05 level based on either academic achievement or gender. Significance was found in but 3 of 30 statements on job satisfaction based on place of employment (hospital or retail pharmacy). The three null hypotheses were not rejected.

Ferris's pharmacy graduates were generally satisfied with their everyday work, supervision, compensation, chance for promotion, and overall job satisfaction. Frequency analysis test results of their perceptions of life satisfaction revealed that they were very satisfied with their lives in general.

Recommendations for future study include using a larger population of pharmacy school graduates, graduates from other geographic areas, and graduates of other health professions. If the percentage of female graduates continues to rise, research should be conducted to see how this trend may affect the data. This same group of graduates ought to be surveyed again in another five years to see what changes may have taken place in their perceptions of job and life satisfaction.

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CHAPTER I

THE PROBLEM

Introduction

Over the past 80-plus years, pharmacy education has undergone significant and constant change. In the 1890s, those who wished to become pharmacists were required to be pharmacists' apprentices until such time as they could gain enough knowledge to pass an examination administered by the State Board of Pharmacy. Beginning in the early 1900s, those who would become pharmacists were required to complete one year of formalized education and one year of apprenticeship before they were allowed to sit for examination.

This requirement remained in place for about 15 years, until the educational experience was increased to two years. Another 15 years elapsed before the classroom experience was increased to three years. Graduates of these programs received the degree of Pharmacy Graduate (Ph.G.) or Pharmaceutical Chemist (Ph.C.). In 1936, students began to enter a four-year degree program and received a Bachelor of Science degree in Pharmacy upon graduation.

Graduates of these various programs were still required to pass a licensure examination, administered by the State Board of Pharmacy in their state, before they were allowed to practice their profession as Registered Pharmacists.

This licensing procedure continues today. The examination is now administered by the National Association of Boards of Pharmacy, although the states are still responsible for the jurisprudence part of the examination. Through all of these changes in pharmacy education, the role of the pharmacist remained the same, i.e., that of properly preparing and dispensing medications.

The length of pharmacy education was increased from four to five years in 1960. Mrtek (1976) wrote that this increase of one year in the pharmacy curriculum was intended to enhance both the general education requirement and the basic science part of the curriculum. With this increase in schooling, some changes began to appear in the practice areas of the pharmacy college curriculum. Pharmacy faculty, particularly those involved in the dispensing courses, began to perceive the pharmacist's role as more than merely a preparer and dispenser of medications. Students began to be taught that an additional part of their function ought to be to advise and counsel their patients/customers concerning the medications they dispensed. Would-be pharmacists were taught that they should reinforce directions to their patients for the proper use of drugs, and to review possible drug/drug and drug/disease interactions that could adversely affect the patient's health and well-being. These changes in education took place in the classroom of the pharmacy schools and colleges, but this perceived change in the role of the pharmacist in the hospital and community pharmacy setting was not so readily received by the pharmacists already in

practice. Those already in practice had not received this type of education. The role and function these newly graduated students were prepared in the classroom to perform were not necessarily the role and function their supervisors would allow them to perform in the practice setting.

Studies conducted over the past several years have focused on the apparent lack of job satisfaction that has come about because of the difference between pharmacy education and pharmacy practice. Researchers have attempted to measure the degree of job satisfaction experienced by newly graduated pharmacists in their places of employment. Williamson and Kabat (1972) surveyed Minnesota hospital pharmacists and found that the primary job satisfiers for pharmacists were related to humanitarian contributions and that pharmacists desired a more challenging role, as well as a higher degree of patient and patient-counseling contact.

Kirk (1976) found that although admitting students who were capable of completing the pharmacy curriculum was important, of equal importance should be the level of job satisfaction the students achieved when they moved from the classroom to the practice setting. Donnehew and Hammerness (1976) concluded that the technical (dispensing) aspects of pharmacists' duties tended to be nonmotivators and that pharmacists would have a higher level of job satisfaction if they could be more involved with patient counseling, patient profile review, drug interactions, and other related functions more challenging to their intellectual capacities. In a

survey of graduates of eight pharmacy colleges, Hammel, Curtiss, and Heinen (1979) found that job satisfaction was not very high, 3.03 on a five-point scale, and that 57% of those graduates would have second thoughts about pharmacy as a career if they had it to do over again. Curiously, 80% of these same pharmacists would continue to practice pharmacy even if given enough money to live comfortably for the rest of their lives.

Pharmacy colleges in California were the first to offer a six-year degree program in pharmacy. This degree was titled Pharm.D. or Doctor of Pharmacy. The sixth year of this program included even more of the clinical or patient-counseling aspects of pharmacy education. Reid and McGhan (1986) surveyed California pharmacists to see if place of employment and/or degree (B.S. or Pharm.D.) had a bearing on job satisfaction. Most pharmacists in their study who had received a B.S. degree were employed in retail pharmacies, whereas those with a Pharm.D. degree were more likely to be employed in hospitals. Regardless of pharmacists' degree or place of employment, the researchers found no significant difference in job satisfaction. Rauch (1981) found that pharmacists who were involved in tasks that required reviewing adverse drug reactions to drug therapy, efficacy of drug therapy, and so on, were more satisfied with their positions than were those who spent the majority of their time with the dispensing aspects of pharmacy.

During this same period, more and more females chose to enter what previously was a male-oriented profession, to the point that

pharmacy schools began to admit more females than males. Betz and O'Connell (1987) discussed the reasons why women at the University of Tennessee had chosen pharmacy as a career. They found that:

> Women, more than men: (i) want to work with and help people; (ii) prefer part-time employee status; (iii) are concerned with employing specialized occupational skills; and (iv) have higher test scores and/or receive better grades. (p. 40)

These findings suggest several questions. Are pharmacy school admission committees using the proper criteria to select those who may be admitted to pharmacy schools? Should admission committees attempt to select only scientifically (chemistry, biology, and mathematics) oriented applicants, or should they also make an attempt to select those who are motivated toward more empathic patient care? Phelan and Phelan (1973) stated:

> While better grades are associated with higher income and more job and life satisfaction, an interesting exception to this pattern is that those with the very highest grade point averages report below average levels of life satisfaction. (p. 676)

Statement of the Problem

Considerable research has been conducted on pharmacy school graduates over the past several years to determine to what degree pharmacists are satisfied with their position in the work setting. These studies have focused on pharmacy graduates' degree of satisfaction with their normal day-to-day tasks, relationship with supervisors, possibility of upward mobility, satisfaction with compensation, and co-worker relationships.

Chain drug store pharmacists and those employed in independent or community pharmacies have been compared to assess their job

satisfaction. Similarly, males and females have been studied for contrasts in job satisfaction, but the studies have been concerned with only job satisfaction. The degree to which pharmacists are satisfied with other outcomes, for instance life satisfaction, has not been explored. This is true not only of research in pharmacy, but also of research in the other health professions.

Pharmacy school admission committees have traditionally chosen those who would be admitted into their courses of study based on the applicants' previous academic record, mainly cumulative grade point average, but also with their ability in chemistry, biology, and mathematics. Are the students who graduate from schools of pharmacy with the higher grade point averages the same students who attain a higher degree of job satisfaction and, more important, attain more life satisfaction?

The Ferris State University School of Pharmacy program is 95 years old and has gone through all of the curriculum changes mentioned in this chapter. Ferris graduates receive a B.S. degree at the end of five years of training, and no Pharm.D. degree is currently offered at the university.

Purpose of the Study

The purpose of this study was to determine whether there is a relationship among graduating grade point average, job satisfaction, and life satisfaction; whether gender makes a difference in job and life satisfaction; and if place of employment makes a difference in

job and life satisfaction for Ferris State University School of Pharmacy students who graduated during academic year 1982/1983.

Hypotheses Tested in the Study

The following hypotheses, stated in the null form, were tested in the study:

Hypothesis 1: There is no relationship among graduating grade point average, job satisfaction, and life satisfaction for graduates of the School of Pharmacy at Ferris State University during the academic year 1982/83.

Hypothesis 2: There is no difference between female and male graduates from the Ferris State University School of Pharmacy in their attainment of job and life satisfaction.

Hypothesis 3: There is no difference between Ferris State University School of Pharmacy graduates who are employed in hospitals and those who are employed in retail (chain, independent) pharmacies in their attainment of job and life satisfaction.

Limitations and Delimitations

Limitations

Two limitations should be considered when reviewing the results of this study. First, graduates from the pharmacy curriculum may graduate after a minimum of five years of college. Some of these graduates enter the final three professional years of the curriculum after completing associate or bachelor degrees in other programs. These graduates tend to be older, have had varying college training and experiences, and may have different perceptions of job and life satisfaction. Second, this study was limited to Ferris State University graduates and should not be generalized to other Ferris State graduating classes or to other pharmacy schools and colleges.

Delimitations

This study did not consider variations within occupational categories. Since this study focused on job and life satisfaction, perceptions could vary between chief and staff pharmacists in hospitals and pharmacists in managerial positions versus staff pharmacists in retail pharmacies.

The demographic section of the survey instrument was not designed to differentiate among age groups.

No attempt was made to categorize the graduates based on compensation. Job and life satisfaction perceptions may well vary, based on differences in income.

The population for this study was limited to Ferris State University pharmacy school graduates, academic year 1982/1983. These graduates had been in the field for five years and had an opportunity to settle into more permanent employment classifications and were thought to be more mature in their life styles than graduates with less experience. Other graduating classes could be the subject of further study.

Definition of Terms

Academic year. The annual period of sessions of an academic institution.

American Journal of Pharmaceutical Education (AJPE). The official publication of the American Association of Colleges of Pharmacy.

American Association of Colleges of Pharmacy (AACP). An organization of schools and colleges of pharmacy in the United States.

Apothecary. In the United States, a retail pharmacy confining sales to prescriptions and closely related products.

B.S. degree. The first professional degree in pharmacy. Minimum completion time is five years.

Chain drug store. More than one pharmacy under the ownership of an individual, a group of individuals, or a corporation. In this study, a small chain is two to nine pharmacies, and a large chain is ten or more pharmacies.

Clinical setting. Hospitals and other institutions where pharmacists are involved in immediate patient care.

Community pharmacy. An independently owned pharmacy, usually located in a neighborhood.

Drug interaction. An untoward reaction caused by a drug product.

Drug/drug interaction. An untoward reaction caused by the reaction of one or more drugs to another.

Drug/disease interaction. The worsening of a disease caused by drug use.

Graduating grade point average (GGPA). A mathematical average obtained by dividing honor points by credit hours.

Independent pharmacy. A pharmacy not associated with another pharmacy.

Michigan Board of Pharmacy (MBP). The licensing and governing body for pharmacists in Michigan.

Patient counseling. The discussion between the patient and the pharmacist, reinforcing directions for drug use and warnings concerning drug interactions, drug/drug reactions, and drug/disease interactions.

Patient profile review. Inspection of a patient's record for drug use, disease states, and possible drug interactions.

Pharm.D. The title given to those who complete a six-year pharmacy degree. May also be awarded to persons with a B.S. degree in Pharmacy who complete specified additional courses.

Pre-pharmacy education. A group of courses in general education and basic science taken before being accepted into a school or college of pharmacy.

Study Overview

In this chapter, the study problem was introduced. Chapter II contains a review of the literature as it pertains to pharmacy education, job satisfaction, life satisfaction, female pharmacy graduates, and pharmacists' practice settings.

The methodology is explained in Chapter III. The data were analyzed using MANOVA, ANOVA, t-tests, cross-tabulation, and frequency responses. The results are discussed and presented with tables in Chapter IV. Conclusions and reflections appear in Chapter V.

CHAPTER II

REVIEW OF THE LITERATURE

Purpose of the Study

The purpose of this study was to determine whether there is a relationship among graduating grade point average, job satisfaction, and life satisfaction; whether gender makes a difference in job and life satisfaction; and whether place of employment makes a difference in job and life satisfaction for Ferris State University School of Pharmacy students who graduated during academic year 1982/83.

Three hypotheses were tested in this study, and the literature was searched with consideration given to these three questions:

1. Is there a relationship among pharmacists' graduating grade point average, job satisfaction, and life satisfaction?

2. Do female pharmacists attain more job satisfaction and life satisfaction than do male pharmacists?

3. Do hospital pharmacists attain more job satisfaction and life satisfaction than do retail pharmacists?

General Discussion

Much has been written in an attempt to discover what motivates people to behave the way they do in the workplace and in their lives in general. What kinds of goals do people set for themselves, and

what behavioral patterns do people follow in an attempt to attain these goals?

Maslow (1954) is well known for this Theory of Actualization, which describes five levels of need that all individuals are said to have. These five levels range from the lowest level of basic need for food, shelter, and water through the need for safety and security, need for friendship and love, need for self-esteem, and the final stage, which Maslow called "self-actualization." Maslow said that self-actualization is the need all of us have to maximize our abilities, skills, and potential. Maslow's theory is a general theory of human motivation.

Herzberg (1959) developed a two-factor theory of motivation that addressed motivation in the work place. The first factor Herzberg said was necessary was what he called extrinsic (hygiene) conditions, which, if they were absent from the job situation, were dissatisfiers. The extrinsic conditions, as defined by Herzberg, included things like job security, healthy working conditions, satisfactory salary, and the like. Herzberg did not say that if these extrinsic conditions were present workers would be satisfied, but that the presence of these conditions would maintain a level of "no dissatisfaction." The second factor Herzberg said was necessary was a set of intrinsic conditions. These included the worker's positive perception of achievement, responsibility, chance for advancement, the work in general, and the possibility for growth.

A search of the literature was conducted with the help of an ERIC search at the Ferris State University library, a review of

Dissertation Abstracts, and a search of pharmacy research papers published principally in the American Journal of Pharmaceutical Education (AJPE). AJPE reviews and publishes research papers from accredited colleges of pharmacy belonging to the American Association of Colleges of Pharmacy. Currently, all 74 pharmacy schools and colleges in the United States and U.S. possessions belong to this organization.

While some research has been devoted to the job satisfaction of pharmacy school graduates, no literature was found in which an attempt was made to find a correlation between GGPAs and job satisfaction. Some titles of articles indicated that both job and life satisfaction had been examined separately, but upon reading the articles no such distinction was made. Similarly, no research was found dealing with the job satisfaction and life satisfaction of other health professionals--physicians, nurses, dentists, or optometrists--relating to GGPA, the possible differences in the perceptions of male and female graduates, or place of employment.

Mrtek (1976) was commissioned to do a study of the changes in pharmaceutical education from 1900 to 1975. Mrtek wrote that after years of study, survey, and discussion, the schools and colleges of the American Association of Colleges of Pharmacy voted in Boston in 1954 to extend the pharmacy curriculum from four to five years. The minimum of five years of study for a B.S. degree was made mandatory after April 1, 1965, which meant that the new curriculum would begin in 1960. The additional year of study was to be used to strengthen

the admission requirements with a year of pre-pharmacy education necessary before students were allowed to enter the four years of scientific curriculum. The effect was that the number of credit hours was increased in both the general education and basic science segments of the curriculum.

With the additional hours available, pharmacy faculty began to teach that the pharmacist's role should include more than merely preparing and dispensing medication. They began to teach that pharmacists should also be involved in advising and counseling their patients/customers about the medications they dispensed. Students were taught that they should reinforce prescription directions for their patients and discuss possible drug/drug interactions and drug/disease interaction with their patients/ customers.

While these changes took place in the classroom, they were not so readily accepted by those pharmacists who had been in practice for some time and had not been trained in the same professional expectations. The apparent difference between what students are taught in the classroom and the duties they actually perform, or are allowed to perform by their supervisors, has prompted some studies in this area. A discussion of some of these studies follows.

Pharmacists' Job Satisfaction

Indications of a lack of job satisfaction among pharmacists were found in many publications. Williamson and Kabat (1972), in a survey of Minnesota hospital pharmacists, found that the primary job

satisfier for these pharmacists was related to the contact they had with patients. These pharmacists attained more job satisfaction when they were allowed more patient contact and patient counseling.

Kirk (1976) concluded that:

> While admitting students who were capable of completing the pharmacy curriculum was important to admission committees, of equal importance ought to be the level of job satisfaction the students attained when they moved from the classroom into the practice setting. (p. 125)

Donnehew and Hammerness (1976), in a study of 44 Denver, Colorado, pharmacists who had been in practice for an average of four and one-half years, found that:

> Technical (dispensing) aspects of the pharmacists' duties tended to be non-motivators and pharmacists would have a higher level of job satisfaction if they were more involved with patient counseling, patient profile review, drug interactions and other related functions more challenging to them as pharmacists. (p. 24)

In a survey of graduates from eight pharmacy colleges, Hammel et al. (1979) found that job satisfaction was neither high nor low. Job satisfaction was 3.03 on a five-point scale, and 57% of this group would have second thoughts about pharmacy as a career if they had a second choice of careers. Curiously, 80% of this same group would continue to practice their profession even if given enough money to live comfortably for the rest of their lives.

In a study of 69 pharmacists employed in the U.S. Army Medical Treatment Facilities, Rauch (1981) found that pharmacists who were involved in tasks that required reviewing adverse drug reaction to drug therapy, and the like, were more satisfied with their positions

than were those who spent the majority of their time with dispensing duties.

An examination of studies (1965-1982) on job and career satisfaction among pharmacists was conducted by Barnett and Kimberlin (1984). They concluded that:

> Pharmacists in hospitals and retail settings have not been shown to differ greatly in job satisfaction with two possible exceptions. Practitioners in apothecary settings and clinical positions have reported higher levels of satisfaction than pharmacists in other settings. (p. 1)

Similarly, in a review of the literature (1951-1982), Robers (1983) reported that:

> Job dissatisfaction among pharmacists has not been shown to be strikingly dissimilar from that of the general population. Both job position and ability utilization appear related to job satisfaction. The literature on clinical pharmacists and patient/professional orientation seems to suggest that the clinical/professional aspects of job performance are related to job satisfaction for pharmacists across work setting, position and educational background. (p. 398)

Female Pharmacists' Job Satisfaction

Many investigations have been conducted over the past several years concerning women in the pharmacy profession. Betz and O'Connell (1987) investigated reasons why women at the University of Tennessee College of Pharmacy had chosen pharmacy as a career and found that:

> Women more than men: (i) want to work with and help people; (ii) prefer part-time employee status; (iii) are concerned with exercising special occupational skills; and (iv) have higher test scores and/or receive better grades. (p. 40)

The higher GPAs that women have when compared with men in pharmacy colleges was explored by Shepherd, Henderson, and Ohvall

(1983) in a paper on graduate and postbaccalaureate Pharm.D. students. The authors reported that:

> With the increasing proportion of women entering undergraduate pharmacy colleges coupled with their high GPA's, the human resource pool of potential candidates for graduate and postbaccalaureate Pharm.D. programs also is increasing in its proportion of women. (p. 10)

Shoaf and Gagnon (1980) surveyed 1,700 North Carolina employee pharmacists. Their study was conducted to determine the differences between males' and females' perceptions of employee benefits, salaries, and job satisfaction. They made the following statement concerning males' versus females' perceptions of job satisfaction:

> Job satisfaction scores when cross-tabulated by sex showed that women were significantly less satisfied with their work than men. But this difference was found to be due to women's lower age in comparison with men. When age was held constant there was no significant difference in work satisfaction between the sexes. (p. 50)

In a national survey of 700 young practicing pharmacists, Curtiss (1980) made this observation:

> Women in pharmacy are more satisfied with their compensation than are men and do not differ from men in satisfaction with other facets of the job or general job satisfaction. No differences between male and female practitioners on perceived job stress, life happiness, anxiety and depression also serve to refute charges that women differ from men in job attitudes, psychological stress and life happiness. (p. 267)

Pharmacy colleges in California were the first to offer a six-year program in pharmacy education. The degree of Doctor of Pharmacy or Pharm.D. was awarded upon completion of this program. Before this degree offering, all schools of pharmacy offered only five-year programs resulting in a B.S. degree in Pharmacy. Sixty percent of pharmacy schools now offer this Doctor of Pharmacy

degree. Reid and McGhan (1986), using data from a 1982 Socioeconomic Survey of California Pharmacists, compared B.S. degree pharmacists with Pharm.D. pharmacists and found that while those graduates with the B.S. degree tended to be employed in retail pharmacies and those who had the Pharm.D. degree were more likely to be employed in hospitals, the academic degree did not have a statistically significant effect on job satisfaction.

Life Satisfaction

No studies have been conducted specifically to determine the life satisfaction of pharmacists or others in the health-related professions. Therefore, literature from across other occupations was reviewed.

Phelan and Phelan (1983) surveyed 9,039 graduates from throughout the United States who participated in the 1977 follow-up of the 1970 Cooperative Institutional Research Program's freshman norms survey. This survey covered all occupational groups. Phelan and Phelan reported that higher education contributed not only to higher earning capacity but also to a perceptible increase in both job and life satisfaction:

> While better grades are associated with higher income and more life and job satisfaction, an interesting exception to this pattern is that those with the very highest grade point averages reported below average levels of life satisfaction. (p. 676)

Some studies have been conducted dealing with the relationship between job and life satisfaction. Does one need to have job satisfaction in order to experience life satisfaction, or vice

versa? Intuitively, it would seem there is certainly some positive relationship between the two. Oshner and Solomon (1976), in a study of college graduates at that time, found that:

> The more important it was for them [college graduates] to raise a family and become community leaders, the more likely they were to be very satisfied with their jobs. These are strictly non-job-related goals, but add credence to the view that job and life satisfaction are positively associated, not compensatory. (p. 98)

In a study that looked at job satisfaction and happiness from a managerial/psychological perspective, Weaver (1978) drew on four independently conducted surveys reporting on job satisfaction and happiness. In his evaluation, the author concluded that:

> Even a small step toward the development of more nearly definitive knowledge about happiness is obviously of great importance, and personnel managers, employers, and others concerned with employee welfare should be interested in the correlation between job satisfaction and happiness. (p. 832)

In a review of the relationship between job and life satisfaction, Muchinsky (1983) made the following generalization:

> Job satisfaction is but one aspect of feelings of satisfaction with life in general. Among those for whom work is a central life interest, such feelings are more pronounced. Feelings of job satisfaction also contribute to general mental health. The relationship between job satisfaction and life satisfaction varies for different groups. The results of Weaver's study suggest that degree of happiness is fairly pervasive. People are either generally satisfied or dissatisfied with the many factors that contribute to overall happiness. For most people, it is unlikely that a satisfying job can compensate for dissatisfaction in other areas of life. (p. 434)

Summary

This review of the literature suggests that some pharmacists feel overtrained and underused for the duties they perform and they would attain more job satisfaction if they had more patient contact

and more challenging roles. Pharmacists are trained while in college to expect more patient contact than their supervisors sometimes allow them, and demonstrate a need to have a more positive effect on the patients they serve. The research has indicated that neither academic degree nor the employment setting contributes measurably to job satisfaction.

Psychological researchers have agreed that job satisfaction and life satisfaction are not independent factors. Job satisfaction imparts a positive effect on life satisfaction, and vice versa.

The literature is void of any research on the relationship of academic achievement, job satisfaction, and life satisfaction relating to pharmacists or the other health professions. As stated previously, some articles mentioned life satisfaction or happiness in their titles, but careful scrutiny divulged no real attempt to explore these relationships.

Finally, are pharmacy schools and colleges training the right people, or should a more personal-type admission policy be used to select those who will become pharmacists in the United States? In an article on admission policy and affirmative action policy at the University of California, San Francisco, Goyan (1979) suggested that:

> Our difficulty in choosing students so as to predict future academic success is simple compared to trying to predict who will be successful in our profession. Indeed, it is next to impossible to define "success." (p. 55)

If one takes the view that life satisfaction is the ultimate goal of all college graduates, can life satisfaction be defined as a measure of success?

This study was intended to determine whether a relationship exists among academic achievement, job satisfaction, and life satisfaction; whether perceptions of male and female pharmacy school graduates differ; and the influence place of employment may have on the job and life satisfaction of pharmacy school graduates five years after graduation.

CHAPTER III

METHODOLOGY

The Study

The study design and instruments used to collect data to determine whether there is a correlation among graduating grade point average, job satisfaction, and life satisfaction of pharmacy school graduates are presented in this chapter. The hypotheses tested in this study were:

Hypothesis 1: There is no relationship among graduating grade point average, job satisfaction, and life satisfaction for graduates of the School of Pharmacy at Ferris State University during the academic year 1982/83.

Hypothesis 2: There is no difference between female and male graduates from the Ferris State University School of Pharmacy in their attainment of job and life satisfaction.

Hypothesis 3: There is no difference between Ferris State University School of Pharmacy graduates who are employed in hospitals and those who are employed in retail (chain, independent) pharmacies in their attainment of job and life satisfaction.

Population

The population for this study included all students who graduated from the School of Pharmacy at Ferris State University during the period from September 1, 1982, through August 31, 1983. Since students may graduate at the end of all four quarters (terms), this group included graduates for fall 1982, winter 1983, spring

1983, and summer 1983 quarters. There were 112 graduates during this period: 66 males and 46 females.

Study Design

Graduating Grade Point Average (GGPA)

The GGPAs were obtained from files located in the Dean's Office in the School of Pharmacy. The GGPAs ranged from 2.13 to 3.96, with a mean of 2.73. Ferris State University uses a four-point scale where A = 4.00, B = 3.00, C = 2.00, D = 1.00, and F = 0.00.

Tabachnick and Fidell (1983) pointed out that as long as sample sizes are relatively equal, both the univariate and multivariate F-test are sufficiently robust to violations of the assumptions of normality and homogeneity of variance. However, the extent of robustness of various tests to various violations is not currently known. As the total sample size in this study was under 100, and division of subsamples for hypothesis testing could lead to very small n-counts in the extreme groups, it was decided to avoid statistical issues involving the assumptions. Therefore, the grade point intervals were selected to make the three groups as nearly equal in size among the GGPAs as follows:

Group I (n = 32) GGPA 2.83-3.96

Group II (n = 33) GGPA 2.55-2.82

Group III (n = 33) GGPA 2.13-2.54

Demographics

The demographic portion of the survey instrument (Appendix C) was used to identify the graduates as males or females and also as those employed in hospitals versus all retail settings (chain or community).

Job Satisfaction

The job satisfaction portion of the survey instrument asked for the graduates' perceptions of their present position in the following areas: everyday work, supervision, compensation, promotion policy, their relationship with co-workers, and overall job and career satisfaction. Responses to five statements on a five-point Likert scale (Appendix D) were asked for in each of these segments. To construct this section of the survey instrument, the Job Description Index (JDI) from The Measurement of Satisfaction in Work and Retirement (Smith, Kendall, & Hulin, 1969) was used as a guide. The JDI has been previously used as a measure of job satisfaction for many occupational categories. Referring to the use of the JDI, Golembieski and Yeager (1978) stated:

> The Job Description Index is without a doubt the most carefully constructed measure of job satisfaction in existence today. A strong case has been built for construct validity in numerous publications that report correlations between JDI scales and other measures of job satisfaction. The JDI dimensional structure seems stable across occupational groupings. (pp. 514-515; see also Vroom, 1964, p. 100)

Life Satisfaction

The Phelan Life Satisfaction Index (PLSI) was used by Phelan and Phelan (1983) with a large (N = 9,039) sample of 1970 college

graduates who participated in the 1977 follow-up survey of the 1970 Cooperative Institutional Research Program's freshman norms survey. The life satisfaction section of the survey (Appendix D), consisting of ten statements, was used exactly as Phelan and Phelan had done with the exception of the two statements that had to do with job satisfaction, which had been dealt with in the other portion of this instrument. A five-point Likert scale was used with the following designations:

1 = Strongly Disagree
2 = Tend to Disagree
3 = Neither Agree nor Disagree
4 = Tend to Agree
5 = Strongly Agree

Pilot Test of Survey Instrument

Ten graduates randomly selected from the class of 1981/82 were used to pilot test the instrument before the general mailing. The Ferris State University alumni address records were used for the pilot test mailing. The pilot group was asked to complete the survey instrument and return it with comments or suggestions for improving the instrument's clarity. Six of the ten graduates returned the instrument, finding no fault with the instrument. However, when four of the ten instruments mailed were returned for nondeliverable addresses, another source of more current addresses was sought. Since Michigan pharmacists are required to report changes of address when they apply for relicensure, a decision was made to purchase this list from the Michigan Board of Pharmacy (MBP). Before the first mailing, the addresses were updated using

the MBP list. This turned out to be very helpful, at least in contacting those graduates who were still residing and practicing in Michigan. No attempt was made to update addresses for those graduates no longer residing in Michigan.

Administration of Survey Instrument

The survey instrument (Appendix C), along with a cover letter (Appendix A), was mailed to all graduates (academic year 1982/83) of the School of Pharmacy, Ferris State University, using the updated address list.

The initial mailing of the survey instrument on October 3, 1988, prompted 44 responses. A second mailing, along with a more personal cover letter (Appendix B), provided an additional response from 39 graduates. While the Ferris State University alumni mailing addresses had not been very reliable as far as graduates' current addresses, the same lists did provide telephone numbers of their parents. Those parents who could be contacted by telephone were able to give their sons' or daughters' current telephone number or address. With this additional information, 17 personal contacts were made, which produced another 15 responses. Fifty-five of 66 males responded, for a 83.3% response rate. Forty-three of 46 females responded, for a response rate of 93.5%. Total responses were 98 of 112, for a final response rate of 87.5%.

The Survey Instrument

The survey instrument was printed on yellow-gold paper with maroon letters, the university's colors, on 8-1/2" x 11" paper folded once and stapled at the fold line. The instrument the graduate received measured 8-1/2" x 5-1/2" and, when folded once, fit easily into the postage-paid return envelope.

Each survey instrument was numbered by hand only to assist in the subsequent follow-up mailings. The graduates were assured of confidentiality in each of the cover letters and in the personal contacts, and were reminded that only group data would be presented.

Data Analysis

The data were entered into the mainframe IBM computer (3090 group II) and were analyzed using the Statistical Package for the Social Sciences. Multivariate analysis of variance (MANOVA) (Wilks' lambda) was used to test for significance in each of the six sections of the job satisfaction section and in the segment on life satisfaction. The significance level was set at .05. Where significance was found in a section, t-test and cross-tabulation were used to find which statement(s) in the section had significance. Frequency responses were also recorded. The findings of the study are discussed in the following chapter.

Summary

All 112 Ferris State University School of Pharmacy graduates during the academic year 1982/83 were surveyed. The three hypotheses tested were stated at the beginning of this chapter.

The survey instrument was pilot tested with ten graduates from the academic year 1981/82. When four of ten addresses were found not to be current, corrections were made to update mailing list addresses. The instruments were then mailed to the graduates. A subsequent mailing and telephone follow-up produced 98 responses from 112 mailings, a response rate of 87.5%.

The data were analyzed using the SPSSx package, testing for significance (.05) with MANOVA, follow-up analysis of variance (ANOVA), and t-tests. Frequency responses were also observed using cross-tabulation where significance was found.

CHAPTER IV

DATA ANALYSIS

The purpose of this study was to determine whether there was a relationship among graduating grade point average, job satisfaction, and life satisfaction of Ferris State University School of Pharmacy graduates five years after graduation.

Overview of Methodology

One hundred twelve graduates of the School of Pharmacy at Ferris State University, academic year 1982/83, were sent a survey instrument. Ninety-eight of the graduates returned the instrument, for a response rate of 87.5%. The survey instrument was designed to collect the graduates' perceptions of job satisfaction (JS) and life satisfaction (LS). The JS segment of the survey instrument contained five statements in each of six categories of JS. The six segments dealt with the graduates' perceptions of their everyday work, supervision, compensation, chance for promotion, co-workers, and overall job and career satisfaction. A five-point Likert scale was used, with 1 = Strongly Disagree (SD), 2 = Tend to Disagree (TD), 3 = Neither Agree nor Disagree (NAD), 4 = Tend to Agree (TA), and 5 = Strongly Agree (SA). The LS segment of the survey instrument consisted of eight statements intended to obtain the

graduates' perceptions of overall LS. A five-point Likert Scale was used for this segment also, with 1 = Very Dissatisfied (VD), 2 = Dissatisfied (D), 3 = Neither Satisfied nor Dissatisfied (NSD), 4 = Satisfied (S), and 5 = Very Satisfied (VS).

Demographics

Personal Demographics

The personal demographic segment assessed the graduates' gender and their postgraduate education, if any. Ninety-eight graduates returned the survey instrument. There were 42 females (43%) and 56 males (57%), which is representative of the relative number of males and females who graduated during the academic year 1982/83. The 112 graduates in the total sample were composed of 40% females and 60% males.

One graduate had completed a Doctor of Pharmacy (Pharm.D.) degree, one an M.B.A. degree, and three some other degree. One graduate was pursuing a Pharm.D. degree, four were pursuing an M.B.A. degree, and nine were pursuing some other degree. One graduate was pursuing both an M.D. and a Ph.D. degree and was employed as a pharmacist part time.

Employment Demographics

Twenty-nine graduates were employed in hospitals and 62 in some area of retail pharmacy: 17 in independent pharmacies, 9 in small chain pharmacies (2 to 9 pharmacies), and 36 in large chain pharmacies (10 or more pharmacies). Two were sales representatives for pharmaceutical companies, and five were in some other type of

employment. No respondents were unemployed. Eighty-six were employed full time, working at least 35 hours a week. Twenty of the 86 worked over 45 hours a week. Sixteen were employed part time, which was defined as working fewer than 35 hours a week. Sixteen part-time workers and 86 full-time workers totaled 102, but 98 surveys were returned. It was determined that although respondents were asked to indicate only their major place of employment, four had indicated two places of employment. They were working full time at a hospital and part time at a retail pharmacy or vice versa. For this study, the responses used were based on the pharmacists' major place of employment.

Twenty-six graduates were employed in states other than Michigan. These people were spread across 13 other states, with the largest concentrations in Illinois (7) and Florida (5). That 27% of the graduates had left Michigan to seek employment elsewhere may well have been a reflection of the poor economic outlook for Michigan at the time of their graduation.

Hypotheses

The survey solicited responses relating to the following three hypotheses:

> Hypothesis 1: There is no relationship among graduating grade point average, job satisfaction, and life satisfaction for graduates of the School of Pharmacy at Ferris State University during the academic year 1982/83.
>
> Hypothesis 2: There is no difference between female and male graduates from the Ferris State University School of Pharmacy in their attainment of job and life satisfaction.

Hypothesis 3: There is no difference between Ferris State University School of Pharmacy graduates who are employed in hospitals and those who are employed in retail (chain, independent) pharmacies in their attainment of job and life satisfaction.

Each of the three hypotheses was subjected to the same statistical analysis. For each hypothesis the six sections of JS and the one section of LS were analyzed using multivariate analysis of variance (MANOVA), specifically Wilks' lambda, to test for significance at the .05 level in any of the segments. If significance was found in a segment, the segment was subjected to further analysis using univariate analysis of variance (ANOVA) to determine in which statement of the segment the significance occurred. Cross-tabulation was used to further analyze the data in each cell where significance occurred. Seven tables were developed for each of the three hypotheses, each one showing Wilks' lambda, F-value, and p-value for the segment. Means, standard deviations, F-values, and p-values are presented for each statement in the segment. Finally, frequency responses and percentages are analyzed in seven tables (six JS and one LS).

Hypothesis 1

There is no relationship among graduating grade point average, job satisfaction, and life satisfaction for graduates of the School of Pharmacy at Ferris State University during the academic year 1982/83.

As described in Chapter III, the respondents were divided into three approximately equal groups. Group I (n = 32) included those with GGPAs ranging from 2.83-3.96, Group II (n = 33) had GGPAs

ranging from 2.55-2.82, and Group III (n = 33) had GGPAs ranging from 2.13-2.54.

No statistical significance was found in any segment of job satisfaction or life satisfaction as it related to GGPA. Therefore, the hypothesis was not rejected. Table 1 shows Wilks' lambda, F-values, and p-values for Hypothesis 1. A discussion of the findings related to each segment follows.

Table 1.--Comparison of graduating grade point average with the seven survey segments relating to Hypothesis 1.

	Wilks' Lambda	F	p
Job satisfaction			
Everyday work	.960	.377	.955
Supervision	.846	1.536	.130
Compensation	.921	.767	.660
Promotion	.854	1.475	.151
Co-workers	.897	.996	.449
Overall satisfaction	.857	1.456	.159
Life satisfaction	.884	.686	.805

Everyday work. The test of the five statements related to Everyday Work produced a Wilks' lambda of .960, an F-value of .377, and a p-value of .955 (see Table 2). Regardless of GGPA, every group had a better-than-average (mean = 3.00) feeling about their everyday work satisfaction. In response to Item 5, "In my everyday work I feel that I am contributing to the health and well-being of

Table 2.--Comparison of graduating grade point average groups with job satisfaction (Everyday Work).

MANOVA: Wilks' lambda = .960 F = .377 p = .955

Items	GGPA I (n=32)		GGPA II (n=33)		GGPA III (n=33)		ANOVA	
	Mean	SD	Mean	SD	Mean	SD	F	p
In my everyday work I:								
1. find that my duties are challenging.	3.53	1.22	3.64	1.03	3.64	1.08	.096	.908
2. feel a sense of accomplishment at the end of the day.	3.44	1.05	3.64	1.06	3.55	.97	.301	.737
3. feel that I am overly trained for the duties I perform.	3.31	1.06	3.06	1.14	3.21	1.24	.394	.675
4. perform many consulting duties.	3.56	1.01	.348	1.06	3.55	1.15	.046	.959
5. feel that I am contributing to the health and well-being of my patients/customers.	3.97	.69	4.15	.80	4.24	.97	.916	.404

my patients/customers," all groups had a strong positive feeling, ranging from a mean of 3.97 to 4.24. All GGPA groups felt slightly overtrained for the duties they performed, as indicated in Item 3.

Supervision. The test of the five statements related to Supervision produced a Wilks' lambda of .846, an F-value of 1.536, and a p-value of .130 (see Table 3). The responses for all GGPA groups were above average, near Tend to Agree (4.0). However, it should be noted that the means for Item 1, "My supervisor applies policies and practices uniformly"; Item 2, "gives sufficient feedback"; Item 3, "allows me to be creative"; and Item 4, "is concerned about my well-being," showed that the graduates with low grade point averages had a more negative feeling about these statements.

Compensation. The test of the five statements related to Compensation produced a Wilks' lambda of .960, an F-value of .767, and a p-value of .955 (see Table 4). For this section, most responses were on the positive side of the scale. One exception was Item 1, "My compensation is about right in relation to my education," where the lower the GGPA the more negative the feeling about compensation. In Item 3, the respondents had a positive feeling about their fringe benefits. The means for Item 5, which were below the mid-point of 3.00, indicate that these pharmacists did not think they would be more fairly compensated if they belonged to a union.

Promotion. The test of the five statements related to Promotion produced a Wilks' lambda of .854, an F-value of 1.475, and

Table 3.--Comparison of graduating grade point average groups with job satisfaction (Supervision).

MANOVA: Wilks' lambda = .846 F = 1.536 p = .130

Items	GGPA I (n=32)		GGPA II (n=33)		GGPA III (n=33)		ANOVA	
	Mean	SD	Mean	SD	Mean	SD	F	p
My supervisor:								
1. applies policies and practices uniformly.	3.41	1.13	3.26	1.15	2.94	1.27	1.303	.277
2. gives sufficient feedback on how well I am performing.	3.06	1.11	3.00	1.34	2.88	1.31	.184	.832
3. allows me to be creative.	3.44	1.16	3.35	1.31	3.13	1.34	.519	.597
4. is concerned about my well-being.	3.78	.83	3.68	1.17	3.13	1.24	3.329	.040
5. is concerned more with the amount of work I complete rather than whether or not I enjoy my work.	3.28	1.08	2.55	1.39	3.24	1.30	2.748	.069

Table 4.--Comparison of graduating grade point average groups with job satisfaction (Compensation).

MANOVA: Wilks' lambda = .921 F = .767 p = .660

Items	GGPA I (n=32)		GGPA II (n=33)		GGPA III (n=33)		ANOVA	
	Mean	SD	Mean	SD	Mean	SD	F	p
Compensation:								
1. My compensation is about right in relation to my education.	3.13	1.29	2.79	1.19	2.52	1.18	.753	.474
2. My compensation is fair when compared to others in my organization performing the same functions.	3.50	1.05	3.33	1.24	3.36	1.11	.197	.822
3. My fringe benefits are fair and equitable.	3.56	1.22	3.63	1.06	3.45	1.23	.202	.817
4. My compensation has increased steadily in relationship to my duties.	3.06	1.19	3.03	1.19	2.73	1.07	.849	.431
5. If I belonged to a union I would be compensated more fairly.	2.72	1.05	2.42	1.23	3.06	1.41	2.171	.120

a p-value of .151 (see Table 5). The graduates' responses to this category were the most negative of any of the seven tables presented in the GGPA versus JS and LS sections. Twelve of 15 means were below 3.00. The responses to Item 1, "There is a good chance for promotion in my organization," indicate that the pharmacists with the lower GGPAs had a more negative feeling about their chance for promotion. Almost all responses to Item 4, "I am NOT willing to assume the responsibility necessary for promotion in my organization," clustered around 2.00, which means they disagreed with this statement.

Co-workers. The test of the five statements related to Co-workers produced a Wilks' lambda of .897, an F-value of .996, and a p-value of .449 (see Table 6). Graduates had a mostly positive feeling about their co-workers. Twelve of the 15 means were close to 3.00 or above. Especially high were the means for Item 2, "My co-workers are concerned with the health and well-being of their patients/customers." Graduates also responded positively to Item 5, "My co-workers feel that they have a good relationship with others in the health professions."

Overall Job and Career Satisfaction. The test of the five statements relating to Overall Job and Career Satisfaction produced a Wilks' lambda of .857, an F-value of 1.456, and a p-value of .159 (see Table 7). Responses to Item 1 showed that, regardless of GGPA, graduates felt at least somewhat "overly trained and underutilized in their profession." There was a rather flat response to Item 2, "Knowing what I know now, I would again chose pharmacy as a career."

Table 5.--Comparison of graduating grade point average groups with job satisfaction (Promotion).

MANOVA: Wilks' lambda = .854 F = 1.475 p = .151

Items	GGPA I (n=32)		GGPA II (n=33)		GGPA III (n=33)		ANOVA	
	Mean	SD	Mean	SD	Mean	SD	F	p
Promotion:								
1. There is a good chance for promotion in my organization.	2.78	1.45	2.66	1.21	2.36	1.14	.924	.400
2. In my organization promotions are based on ability.	2.97	1.18	3.31	.93	2.82	1.18	1.701	.188
3. There are uniform standards for promotion in my organization.	2.53	1.08	2.91	1.09	2.64	1.25	.921	.402
4. I am NOT willing to assume the responsibility necessary for promotion in my organization.	2.16	1.11	2.31	1.23	2.12	1.39	.214	.807
5. I feel frustrated by the lack of upward mobility in my organization.	3.25	1.34	2.52	1.25	3.27	1.33	2.879	.061

Table 6.--Comparison of graduating grade point average groups with job satisfaction (Co-workers).

MANOVA: Wilks' lambda = .897 F = .996 p = .449

Items	GGPA I (n=32)		GGPA II (n=33)		GGPA III (n=33)		ANOVA	
	Mean	SD	Mean	SD	Mean	SD	F	p
My co-workers:								
1. are stimulating and creative.	3.22	.94	3.35	1.05	2.94	.97	1.485	.232
2. are concerned with the health and well-being of their patients/ customers.	3.72	.85	4.06	.85	3.61	.83	1.538	.084
3. are concerned more with their compensation than with their profession.	2.88	1.01	2.45	1.09	3.06	.97	2.962	.057
4. have a negative feeling about the organization in general.	3.13	1.07	2.84	1.13	2.94	.97	.599	.552
5. feel that they have good relationships with others in the health profession.	3.31	1.00	3.21	1.32	3.30	.92	.134	.875

Table 7.--Comparison of graduating grade point average groups with job satisfaction (Overall Job and Career Satisfaction).

MANOVA: Wilks' lambda = .857 F = 1,456 p = .159

Items	GGPA I (n=32)		GGPA II (n=33)		GGPA III (n=33)		ANOVA	
	Mean	SD	Mean	SD	Mean	SD	F	p
Overall job and career satisfaction:								
1. I feel overly trained and underutilized in my profession.	3.66	1.18	3.09	1.07	3.42	.97	2.271	.109
2. Knowing what I know now, I would again choose pharmacy as a profession.	2.94	1.37	3.48	1.12	3.12	1.14	1.722	.184
3. If I had a son, I would encourage him to receive an education in pharmacy.	2.50	1.19	3.09	1.04	2.76	1.23	2.140	.123
4. If I had a daughter, I would encourage her to receive an education in pharmacy.	3.22	1.26	3.36	1.17	3.18	1.31	.195	.823
5. If I had enough assets to live comfortably the rest of my life, I would continue to practice pharmacy.	3.06	1.37	3.21	1.32	3.03	1.40	.167	.847

However, in Item 3, "If I had a son, I would encourage him to receive an education in pharmacy," the higher GGPA group had a somewhat negative response of 2.50. The means for Item 4, "If I had a daughter, I would encourage her to receive an education in pharmacy," were much higher than the means for Item 3 across all three GGPA groups. The positive means for this statement are in agreement with the continually increasing numbers of females entering pharmacy schools and the pharmacy profession. Item 5, "If I had enough assets to live comfortably the rest of my life, I would continue to practice pharmacy," is in agreement with the study by Hammel et al. (1979). Eighty percent of the pharmacists that Hammel et al. studied would continue to practice their profession. The means in this study indicated that at least 50% of these recent graduates would also continue to practice their profession even if they had enough assets to live comfortably for the rest of their lives.

Life satisfaction. The test of the eight statements related to life satisfaction produced a Wilks' lambda of .884, an F-value of .686, and a p-value of .805 (see Table 8). Most all responses to the life satisfaction statements were positive. Some means were up to the Tend to Agree level of 4.00. This group of graduates seemed to be well-pleased with life in general. Although the responses to the JS segment of the survey were generally positive, the responses to the LS segment were even more so. The single exception was in Item 4, "Overall, how satisfied are you with the amount of leisure

Table 8.--Comparison of graduating grade point average groups with life satisfaction.

MANOVA: Wilks' lambda = .884 F = .686 p = .805

Items	GGPA I (n=32)		GGPA II (n=33)		GGPA III (n=33)		ANOVA	
	Mean	SD	Mean	SD	Mean	SD	F	p
Overall, how satisfied are you with:								
1. life in general.	4.13	.66	4.19	.74	4.44	.56	2.201	.138
2. your family life.	4.16	.88	4.41	.84	4.22	.79	.770	.465
3. the quality of your leisure time.	3.72	.99	3.75	1.02	3.88	1.04	.212	.809
4. the amount of leisure time available.	2.69	1.12	2.97	.95	2.88	1.10	.705	.497
5. the town where you live.	3.88	.83	3.94	.79	3.85	1.06	.179	.836
6. the geographic area where you live.	3.88	.87	4.12	.65	4.06	1.00	.977	.380
7. the climate where you live.	3.56	1.01	3.79	.82	3.73	1.31	.761	.470
8. your social life.	3.53	1.05	3.55	1.09	3.55	1.30	.111	.895

time available." The means for this item were below 3.00, and these responses were the only ones in the entire LS segment to be below a mean of 3.00.

Hypothesis 2

> There is no difference between female and male graduates from the Ferris State University School of Pharmacy in their attainment of job and life satisfaction.

Forty-two (43%) females and 56 (57%) males responded to the survey instrument. The response percentages were representative of the number of females and males who graduated during the academic year 1982/83. The 112 graduates surveyed were composed of 40% females and 60% males.

No statistical significance was found in any of the six sections of the JS portion of the survey or in the LS section. Therefore, the hypothesis was not rejected. Table 9 shows Wilks' lambda, F-values, and p-values for Hypothesis 2.

Table 9.--Comparison of males and females with the seven survey segments relating to Hypothesis 2.

	Wilks' Lambda	F	p
Job satisfaction			
Everyday work	.958	.817	.541
Supervision	.908	1.806	.120
Compensation	.970	.575	.719
Promotion	.900	2.026	.082
Co-workers	.938	1.183	.324
Overall satisfaction	.908	1.874	.107
Life satisfaction	.942	.669	.717

Although no statistical significance was found relating to Hypothesis 2, some points are emphasized for each section of the survey. Comments are made for each section, along with Wilks' lambda, F-values, and p-values.

Everyday Work. The test of the five statements related to Everyday Work produced a Wilks' lambda of .958, an F-value of .817, and a p-value of .541 (see Table 10). Males and females had a better than mid-range feeling about their everyday work satisfaction. The most positive means, 4.12 for females and 4.13 for males, were in response to Item 5, "In my everyday work I feel that I am contributing to the health and well-being of my patients/ customers."

Supervision. The test of the five statements related to Supervision produced a Wilks' lambda of .908, an F-value of 1.806, and a p-value of .120 (see Table 11). The means for this section were grouped around 3.00, which indicates that both males and females neither agreed nor disagreed with any of the statements. Males and females agreed that they were slightly overtrained for the duties that they perform (Item 3). It is interesting that while the difference in the means was not great, females had lower means than males for all statements. To some degree, females felt less positive about their supervisors than did males.

Compensation. The test of the five statements related to Compensation produced a Wilks' lambda of .970, an F-value of .575, and a p-value of .719 (see Table 12). For the first four statements, the means were at or about 3.00, with responses to

Table 10.--Comparison of males and females with job satisfaction (Everyday Work).

MANOVA: Wilks' lambda = .958 F = .817 p = .541

Items	Females (n=42)		Males (n=56)		ANOVA	
	Mean	SD	Mean	SD	F	p
In my everyday work I:						
1. find that my duties are challenging.	3.57	1.06	3.63	1.14	.056	.813
2. feel a sense of accomplishment at the end of the day.	3.60	.96	3.50	1.06	.209	.649
3. feel that I am overly trained for the duties I perform.	3.26	1.15	3.14	1.15	.257	.613
4. perform many consulting duties.	3.31	1.09	3.70	1.03	3.229	.075
5. feel that I am contributing to the health and well-being of my patients/ customers.	4.12	.74	4.13	.90	.001	.972

Table 11.--Comparison of males and females with job satisfaction (Supervision).

MANOVA: Wilks' lambda = .908 F = 1.806 p = .120						
					ANOVA	
Items	Females (n=42)		Males (n=56)			
	Mean	SD	Mean	SD	F	p
My supervisor:						
1. applies policies and practices uniformly.	3.10	1.39	3.28	1.02	.531	.468
2. gives sufficient feedback on how well I am performing.	2.93	1.42	3.02	1.11	.125	.724
3. allows me to be creative.	3.12	1.40	3.44	1.14	1.526	.220
4. is concerned about my well-being.	3.51	1.29	3.54	.99	.011	.915
5. is concerned more with the amount of work I complete rather than whether or not I enjoy my work.	2.81	1.40	3.18	1.21	2.880	.093

Table 12.--Comparison of males and females with job satisfaction (Compensation).

MANOVA: Wilks' lambda = .970 F = .575 p = .719

Items	Females (n=42)		Males (n=56)		ANOVA	
	Mean	SD	Mean	SD	F	p
Compensation:						
1. My compensation is about right in relation to my education.	3.02	1.20	2.82	1.24	.659	.419
2. My compensation is fair when compared to others in my organization performing the same functions.	3.31	1.18	3.46	1.09	.449	.504
3. My fringe benefits are fair and equitable.	3.64	1.17	3.48	1.16	.459	.500
4. My compensation has increased steadily in relationship to my duties.	3.00	1.25	2.89	1.07	.208	.650
5. If I belonged to a union, I would be compensated more fairly.	2.62	1.17	2.82	1.32	.620	.433

Item 3, "My fringe benefits are fair and equitable," the most positive. The lowest responses were for Item 5, "If I belonged to a union, I would be compensated more fairly."

Promotion. The test of the five statements related to Promotion produced a Wilks' lambda of .900, an F-value of 2.026, and a p-value of .082 (see Table 13). The responses show the lowest means of any table in the males/females versus JS section, with females giving lower responses than males to all statements except Item 4, in which females indicated they were more willing than males to "assume the responsibility necessary for promotion in my organization."

Co-workers. The test of the five statements related to Co-workers produced a Wilks' lambda of .938, an F-value of 1.183, and a p-value of .324 (see Table 14). Eight of ten means in this section were over 3.00, or positive, with the most positive responses for Item 2, "My co-workers are concerned with the health and well-being of their patients/customers." The means for this statement were 3.95 for females and 3.67 for males.

Overall Job and Career Satisfaction. The test of the five statements related to Overall Job and Career Satisfaction produced a Wilks' lambda of .908, an F-value of 1.874, and a p-value of .107 (see Table 15). Males and females were relatively satisfied with their jobs and careers, as shown by this table, where eight of ten means were above 3.00. The two slightly negative responses were both to Item 3, "If I had a son I would encourage him to receive an education in pharmacy." Both males and females were more positive

Table 13.--Comparison of males and females with job satisfaction (Promotion).

MANOVA: Wilks' lambda = .900 F = 2.026 p = .082

Items	Females (n=42)		Males (n=56)		ANOVA	
	Mean	SD	Mean	SD	F	p
Promotion:						
1. There is a good chance for promotion in my organization.	2.38	1.25	2.76	1.28	2.182	.143
2. In my organization promotions are based on ability.	2.81	1.11	3.20	1.10	2.992	.087
3. There are uniform standards for promotion in my organization.	2.40	1.06	2.91	1.16	4.849	.030
4. I am NOT willing to assume the responsibility necessary for promotion in my organization.	2.40	1.34	2.03	1.14	2.131	.148
5. I feel frustrated by the lack of upward mobility in my organization.	2.88	1.19	3.11	1.45	1.103	.296

Table 14.--Comparison of males and females with job satisfaction (Co-workers).

MANOVA: Wilks' lambda = .938 F = 1.183 p = .324

Items	Females (n=42)		Males (n=56)		ANOVA	
	Mean	SD	Mean	SD	F	p
My co-workers:						
1. are stimulating and creative.	3.29	.84	3.07	1.09	1.159	.284
2. are concerned with the health and well-being of their patients/customers.	3.95	.80	3.67	.88	2.518	.116
3. are concerned more with their compensation than with their profession.	2.51	.98	3.02	1.05	5.814	.018
4. have a negative feeling about the organization in general.	2.93	1.08	3.00	1.04	.113	.738
5. feel that they have good relationships with others in the health professions.	3.36	1.19	3.21	1.00	.671	.415

Table 15.--Comparison of males and females with job satisfaction (Overall Job and Career Satisfaction).

MANOVA: Wilks' lambda = .908 F = 1.874 p = .107

Items	Females (n=42)		Males (n=56)		ANOVA	
	Mean	SD	Mean	SD	F	p
Overall job and career satisfaction:						
1. I feel overly trained and underutilized in my profession.	3.43	1.09	3.36	1.10	.102	.750
2. Knowing what I know now, I would again choose pharmacy as a profession.	3.36	1.25	3.05	1.20	1.490	.225
3. If I had a son, I would encourage him to receive an education in pharmacy.	2.67	1.14	2.88	1.19	.761	.385
4. If I had a daughter, I would encourage her to receive an education in pharmacy.	3.10	1.28	3.38	1.20	1.229	.270
5. If I had enough assets to live comfortably the rest of my life, I would continue to practice pharmacy.	3.07	1.31	3.13	1.39	.037	.847

about encouraging their daughters to receive an education in pharmacy (Item 4).

Life satisfaction. The test of the eight statements related to life satisfaction produced a Wilks' lambda of .942, an F-value of .669, and a p-value of .107 (see Table 16). Males and females agreed that they were generally satisfied with their lives, five years after graduation. Positive responses were given, with means well above 3.00 and many means above 4.00, for all statements except Item 4. Both males and females were slightly negative about the "amount of leisure time available." While responses for both male and female graduates were positive for all sections of the JS part of the survey, excepting the Promotion segment, the responses for the LS segment were the most positive.

Hypothesis 3

> There is no difference between Ferris State University School of Pharmacy graduates who are employed in hospitals and those who are employed in retail (chain, independent) pharmacies in their attainment of job and life satisfaction.

Ninety eight graduates responded to the survey. Of these, 29 were employed in hospitals and 62 were employed in retail pharmacies. Of the 62 employed in retail pharmacies, 17 were employed in independent pharmacies, 9 in small chain pharmacies (2 to 9 pharmacies), and 36 in large chain pharmacies (10 or more pharmacies). Seven of the graduates who responded to the survey were employed outside of either hospital or retail pharmacy.

Table 16.--Comparison of males and females with life satisfaction.

MANOVA:	Wilks' lambda = .942	F = .669	p = .717

Items	Females (n=42)		Males (n=56)		ANOVA	
	Mean	SD	Mean	SD	F	p
Overall, how satisfied are you with:						
1. life in general.	4.19	.77	4.30	.57	.596	.442
2. your family life.	4.31	.78	4.22	.88	.255	.615
3. the quality of your leisure time	3.88	1.11	3.70	.92	.729	.395
4. the amount of leisure time available.	2.74	1.06	2.93	1.05	.901	.345
5. the town where you live.	3.93	.81	3.86	.96	.000	.988
6. the geographic area where you live.	4.05	.88	4.00	.83	.004	.952
7. the climate where you live.	3.83	.91	3.59	1.16	.657	.420
8. your social life.	3.55	1.15	3.54	1.14	.079	.779

Statistical significance was found in the JS section on Promotion, Items 4 and 5, and also in the JS section on Co-workers, Item 4. No significance was found in any other JS section or in the LS section. Therefore, Hypothesis 3 was not rejected. Table 17 shows Wilks' lambda, F-values, and p-values for Hypothesis 3.

Table 17.--Comparison of place of employment with the seven survey segments relating to Hypothesis 3.

	Wilks' Lambda	F	p
Job satisfaction			
Everyday work	.983	.285	.920
Supervision	.932	1.194	.320
Compensation	.941	1.073	.381
Promotion	.861	2.719	.025*
Co-workers	.816	3.755	.004*
Overall satisfaction	.903	1.833	.115
Life satisfaction	.906	1.036	.417

*Significant at the .05 level.

Following are comments concerning the resulting data on place of employment and job and life satisfaction. Although the null hypothesis as a whole was not rejected, significance was found in 3 of 38 responses. Comments are made on each section, and Wilks' lambda, F-values, and p-values are presented in each table. The three statements where significance was found are explored further with cross-tabulation analysis.

Everyday Work. The test of the five statements related to Everyday Work produced a Wilks' lambda of .983, an F-value of .285,

and a p-value of .920 (see Table 18). The means for every statement in this section were above 3.00, although in each statement the responses of those employed in hospitals were slightly below the means of those employed in retail pharmacies. Both hospital and retail pharmacy graduates felt slightly overtrained for the duties they performed. A strongly positive response was noted for Item 5, "I feel that I am contributing to the health and well-being of my patients/customers," with means for both hospital and retail pharmacists above 4.00.

Supervisor. The test of the five statements related to Supervisor produced a Wilks' lambda of .932, an F-value of 1.194, and a p-value of .320 (see Table 19). The means for statements in this section were all around 3.00. Retail pharmacists thought their supervisors "applied policies and practices more uniformly" than did hospital pharmacists (Item 1). Retail pharmacists also thought their supervisors were more "concerned about my well-being" than did hospital pharmacists (Item 4). Hospital pharmacists agreed that their supervisors were somewhat "more concerned with the amount of work completed than whether they enjoyed their work" (Item 5).

Compensation. The test of the five statements related to Compensation produced a Wilks' lambda of .941, an F-value of 1.073, and a p-value of .381 (Table 20). Hospital (mean = 2.79) and retail (mean = 2.90) pharmacists were slightly negative about the relationship of compensation to education (Item 1) but agreed their "compensation was fair when compared to others in the organization"

Table 18.--Comparison of place of employment with job satisfaction (Everyday Work).

MANOVA: Wilks' lambda = .900 F = 2.026 p = .082

Items	Hospital (n=29)		Retail (n=62)		ANOVA	
	Mean	SD	Mean	SD	F	p
In my everyday work I:						
1. find that my duties are challenging.	3.48	1.09	3.60	1.11	.211	.647
2. feel a sense of accomplishment at the end of the day.	3.45	.87	3.60	1.06	.430	.513
3. feel that I am overly trained for the duties I perform.	3.14	1.30	3.19	1.11	.044	.834
4. perform many consulting duties.	3.38	1.12	3.60	1.06	.002	.373
5. feel that I am contributing to the health and well-being of my patients/ customers.	4.03	.87	4.19	.81	.734	.394

Table 19.--Comparison of place of employment with job satisfaction (Supervision).

MANOVA: Wilks' lambda = .932 F = 1.194 p = .320

Items	Hospital (n=29)		Retail (n=62)		ANOVA	
	Mean	SD	Mean	SD	F	p
My supervisor:						
1. applies policies and practices uniformly.	3.03	1.38	3.29	1.03	.935	.336
2. gives sufficient feedback on how well I am performing.	3.03	1.27	2.97	1.22	.060	.808
3. allows me to be creative.	3.21	1.35	3.31	1.19	.121	.729
4. is concerned about my well-being.	3.24	1.12	3.64	1.11	2.538	.115
5. is concerned more with the amount of work I complete rather than whether or not I enjoy my work.	3.31	1.26	2.85	1.33	1.276	.262

Table 20.--Comparison of place of employment with job satisfaction (Compensation).

MANOVA:	Wilks' lambda = .941	F = 1.073	p = .381

Items	Hospital (n=29)		Retail (n=62)		ANOVA	
	Mean	SD	Mean	SD	F	p
Compensation:						
1. My compensation is about right in relation to my education.	2.79	1.40	2.90	1.11	.164	.687
2. My compensation is fair when compared to others in my organization performing the same functions.	3.31	1.28	3.35	1.04	.031	.861
3. My fringe benefits are fair and equitable.	3.86	.95	3.37	1.15	4.004	.048
4. My compensation has increased steadily in relationship to my duties.	2.76	1.12	2.94	1.16	.470	.495
5. If I belonged to a union, I would be compensated more fairly.	2.79	1.24	2.82	1.24	.001	.916

(Item 2). Both groups agreed that their "fringe benefits were fair and equitable" (Item 3). Neither group thought their income had increased steadily (Item 4), but they did not think that "if they belonged to a union they would be more fairly compensated" (Item 5).

Promotion. The test of the five statements related to Promotion produced a Wilks' lambda of .861, an F-value of 2.719, and a p-value of .025 (Table 21). Statistical significance was found in this section (p = .025). The significance was found in Items 4 and 5. In Item 4, hospital pharmacists, with a mean of 1.86, were more strongly negative about this statement than were retail pharmacists, who had a mean of 2.49. The level of significance for Item 4 was p = .039. Cross-tabulation for Item 4, Table 22, showed that 23 of 29 hospital pharmacists (79%) responded either 2 = Tend to Disagree or 1 = Strongly Disagree with the statement, "I am NOT willing to assume the responsibility necessary for promotion in my organization," while only 34 of 61 (56%) retail pharmacists responded in the same manner. Item 5, "I feel frustrated by the lack of upward mobility in my organization," produced mean responses of 3.62 for hospital pharmacists and 2.81 for retail pharmacists. The level of significance for Item 5 was .008. Cross-tabulation of the responses to this statement (Table 23) showed 18 of 29 (62%) hospital pharmacists responded 4 = Tend to Agree or 5 = Strongly Agree, whereas only 20 of 62 (32%) retail pharmacists responded similarly. While no statistical significance was found for Items 1, 2, or 3, the hospital pharmacists had more negative feelings about these statements than did retail pharmacists.

Table 21.--Comparison of place of employment with job satisfaction (Promotion).

MANOVA: Wilks' lambda = .861 F = 2.719 p = .025*

Items	Hospital (n=29)		Retail (n=62)		ANOVA	
	Mean	SD	Mean	SD	F	p
Promotion:						
1. There is a good chance for promotion in my organization.	2.14	1.30	2.66	1.17	3.589	.061
2. In my organization promotions are based on ability.	2.76	1.41	3.13	.94	2.217	.140
3. There are uniform standards for promotion in my organization.	2.52	1.43	2.69	.96	.452	.504
4. I am NOT willing to assume the responsibility necessary for promotion in my organization.	1.86	1.09	2.44	1.28	4.400	.039*
5. I feel frustrated by the lack of upward mobility in my organization.	3.62	1.37	2.81	1.25	7.266	.008*

*Significant at the .05 level.

Table 22.--Cross-tabulation comparison of place of employment with job satisfaction (Promotion, Item 4).

Place of Employment	Strongly Disagree	Tend to Disagree	Neither Agree Nor Disagree	Tend to Agree	Strongly Agree	Row Total
Hospital (n)	14	9	3	2	1	29
Hospital (%)	48.3	31.0	10.3	6.9	3.4	32.2
Retail (n)	19	15	12	11	4	61
Retail (%)	31.1	24.6	19.7	18.0	6.6	67.8
Column total	33	24	15	13	5	90
Column %	36.7	26.7	16.7	14.4	5.6	100.0

Table 23.--Cross-tabulation comparison of place of employment with job satisfaction (Promotion, Item 5).

Place of Employment	Strongly Disagree	Tend to Disagree	Neither Agree Nor Disagree	Tend to Agree	Strongly Agree	Row Total
Hospital (n)	3	4	4	8	10	29
Hospital (%)	10.3	13.8	13.8	27.6	34.5	32.2
Retail (n)	11	14	17	15	5	61
Retail (%)	17.7	22.6	27.4	24.2	8.1	67.8
Column total	13	18	21	23	15	90
Column %	14.3	19.8	23.1	25.3	16.5	100.0

Co-workers. The test of the five statements related to Co-workers produced a Wilks' lambda of .816, an F-value of 3.755, and a p-value of .004 (see Table 24). Statistical significance was found in this section (p = .004). The significance was located in Item 4, where the responses to "My co-workers have a negative feeling about the organization in general" produced means of 3.48 for hospital pharmacists and 2.73 for retail pharmacists. The level of significance for Item 4 was p = .002. Cross-tabulation (Table 25) showed that 16 of 29 (55%) hospital pharmacists responded either 4 = Tend to Agree or 5 = Strongly Agree, whereas only 14 of 60 (23%) of retail pharmacists responded in the same manner. All other means in this section were similar for the two groups.

Overall Job and Career Satisfaction. The test of the five statements related to Overall Job and Career Satisfaction produced a Wilks' lambda of .903, an F-value of 1.833, and a p-value of .115 (see Table 26). No significance was found in this section, but a negative feeling on the part of hospital pharmacists was evident in the responses to each statement. For Item 1, hospital pharmacists felt more overly trained and underutilized than did retail pharmacists. In Item 2, hospital pharmacists responded slightly more negatively when asked to respond to "Knowing what I know now, I would again choose pharmacy as a profession." Hospital pharmacists would be less likely than retail pharmacists to encourage their sons or daughters to pursue an education in pharmacy.

Table 24.--Comparison of place of employment with job satisfaction (Co-workers).

MANOVA: Wilks' lambda = .816 F = 3.755 p = .004*

Items	Hospital (n=29)		Retail (n=62)		ANOVA	
	Mean	SD	Mean	SD	F	p
My co-workers:						
1. are stimulating and creative.	3.24	.91	3.13	1.02	.236	.629
2. are concerned with the health and well-being of their patients/customers.	3.83	.76	3.77	.91	.097	.756
3. are concerned more with their compensation than with their profession.	2.62	.86	2.85	1.13	.927	.338
4. have a negative feeling about the organization in general.	3.48	.95	2.73	1.04	10.737	.002*
5. feel that they have good relationships with others in the health professions.	3.34	.94	3.23	1.18	.003	.960

*Significant at the .05 level.

Table 25.--Cross-tabulation comparison of place of employment with job satisfaction (Co-workers, Item 4).

Place of Employment	Strongly Disagree	Tend to Disagree	Neither Agree Nor Disagree	Tend to Agree	Strongly Agree	Row Total
Hospital (n)	1	3	9	13	3	29
Hospital (%)	3.4	10.3	31.0	44.8	10.3	32.6
Retail (n)	6	21	19	11	3	60
Retail (%)	10.0	35.0	31.7	18.3	5.0	67.4
Column total	7	24	28	24	6	89
Column %	7.9	27.0	31.5	27.0	6.7	100.0

Table 26.--Comparison of place of employment with job satisfaction (Overall Job and Career Satisfaction).

MANOVA: Wilks' lambda = .903 F = 1.833 p = .115

Items	Hospital (n=29)		Retail (n=62)		ANOVA	
	Mean	SD	Mean	SD	F	p
Overall job and career satisfaction:						
1. I feel overly trained and underutilized in my profession.	3.66	1.04	3.26	1.10	2.656	.107
2. Knowing what I know now, I would again choose pharmacy as a profession.	3.00	1.25	3.19	1.19	.508	.478
3. If I had a son, I would encourage him to receive an education in pharmacy.	2.38	1.15	2.89	1.09	4.158	.044
4. If I had a daughter, I would encourage her to receive an education in pharmacy.	2.97	1.35	3.31	1.14	1.571	.213
5. If I had enough assets to live comfortably the rest of my life, I would continue to practice pharmacy.	3.07	1.22	3.03	1.40	.015	.904

Life satisfaction. The test of the eight statements related to life satisfaction produced a Wilks' lambda of .906, an F-value of 1.036, and a p-value of .417 (see Table 27). Hospital pharmacists and retail pharmacists responded very positively to this section, with some means above 4.00 and many approaching that level. Both groups, hospital and retail pharmacists, would be happier with more leisure time (Item 4).

Frequency Response

While no statistical significance is attached to frequency response rates, it is useful to examine the responses for high percentages at the extremes. The percentage rates are examined in this section, and attention is directed to statements in each section that brought responses away from the center of the scale.

The percentages do not always add across the tables to 100%. This occurred because there were 98 respondents and the percentages were carried to only one decimal point.

Everyday Work. The response rates for Everyday Work were as follows: 62.2% thought their duties were challenging, 61.3% felt a sense of accomplishment at the end of the day, 61.2% indicated that they performed many consulting duties, and 86.8% of these graduates thought they were contributing to the health and well-being of their patients/customers (see Table 28).

Table 27.--Comparison of place of employment with life satisfaction.

MANOVA: Wilks' lambda = .906 F = 1.036 p = .417

Items	Hospital (n=29)		Retail (n=62)		ANOVA	
	Mean	SD	Mean	SD	F	p
Overall, how satisfied are you with:						
1. life in general.	4.10	.82	4.32	.60	1.949	.166
2. your family life.	4.07	.92	4.38	.80	2.709	.103
3. the quality of your leisure time.	3.55	1.05	3.87	1.00	1.872	.175
4. the amount of leisure time available.	2.72	1.10	2.92	1.04	.763	.385
5. the town where you live.	3.86	.74	3.84	.98	.037	.847
6. the geographic area where you live.	3.90	.82	4.02	.88	.630	.429
7. the climate where you live.	3.79	.90	3.68	1.13	.037	.848
8. your social life.	3.62	1.08	3.45	1.21	.168	.683

Table 28.--Percentage response for job satisfaction (Everyday Work).

	Percentage Response					
	SD	TD	NAD	TA	SA	Total
In my everyday work I:						
1. find that my duties are challenging.	5.1	12.2	20.4	41.8	20.4	100.0
2. feel a sense of accomplishment at the end of the day.	5.1	10.2	23.5	48.0	13.3	100.0
3. feel that I am overly trained for the duties I perform.	7.1	22.4	27.6	29.6	13.3	100.0
4. perform many consulting duties.	4.1	15.3	20.4	43.9	16.3	100.0
5. feel that I am contributing to the health and well-being of my patients/ customers.	1.0	5.1	7.1	54.1	32.7	100.0

Key: SD = Strongly Disagree, TD = Tend to Disagree, NAD = Neither Agree nor Disagree, TA = Tend to Agree, SA = Strongly Agree

Supervision. The response rates for Supervision were as follows: 47.3% thought their supervisor applied policies and practices uniformly, 42.1% indicated that their supervisor gave them sufficient feedback on how well they were performing, 51.5% said their supervisor allowed them to be creative, 59% said their supervisor was concerned with their well-being, and 40.8% thought their supervisor was more concerned with the amount of work completed than whether they enjoyed their work (see Table 29).

Compensation. Whereas only 42.8% indicated their compensation was about right in relation to their education, 60.2% thought they were fairly compensated when compared to others in the organization, and the same percentage (60.2%) responded that their fringe benefits were fair and equitable (see Table 30). Only 28.6% held the position that they would be more fairly compensated with union representation.

Promotion. Graduates had negative feelings about Promotion, as evidenced by the following percentages: 37.1% said they thought promotions were based on ability, and 55.6% responded that there was not a good chance for promotion in their organization (see Table 31). Sixty-five percent of the graduates disagreed that they were unwilling to assume the responsibility for promotion in their organization. Almost 40% said they were frustrated by the lack of upward mobility in their organization.

Co-workers. In contrast to the negative responses in the previous section on promotions, Table 32 shows that graduates had mostly positive feelings about their co-workers. Graduates'

Table 29.--Percentage response for job satisfaction (Supervision).

	Percentage Response					
	SD	TD	NAD	TA	SA	Total
My supervisor:						
1. applies policies and practices uniformly.	9.5	21.1	22.1	34.7	12.6	100.0
2. gives sufficient feedback on how well I am performing.	14.7	24.2	18.9	32.6	9.5	100.0
3. allows me to be creative.	11.6	15.8	21.1	33.7	17.9	100.0
4. is concerned about my well-being.	7.1	9.2	24.2	41.1	17.9	100.0
5. is concerned more with the amount of work I complete rather than whether or not I enjoy my work.	13.3	21.4	24.5	28.6	12.2	100.0

Key: SD = Strongly Disagree, TD = Tend to Disagree, NAD = Neither Agree nor Disagree, TA = Tend to Agree, SA = Strongly Agree

Table 30.--Percentage response for job satisfaction (Compensation).

	Percentage Response					
	SD	TD	NAD	TA	SA	Total
Compensation:						
1. My compensation is about right in relation to my education.	12.2	34.7	10.2	35.7	7.1	100.0
2. My compensation is fair when compared to others in my organization performing the same functions.	8.2	15.3	16.3	49.0	11.2	100.0
3. My fringe benefits are fair and equitable.	4.1	17.3	18.4	38.8	21.4	100.0
4. My compensation has increased steadily in relationship to my duties.	8.1	32.7	23.5	27.6	8.2	100.0
5. If I belonged to a union, I would be compensated more fairly.	23.5	16.3	31.6	20.4	8.2	100.0

Key: SD = Strongly Disagree, TD = Tend to Disagree, NAD = Neither Agree nor Disagree, TA = Tend to Agree, SA = Strongly Agree

Table 31.--Percentage response for job satisfaction (Promotion).

	Percentage Response					
	SD	TD	NAD	TA	SA	Total
Promotion:						
1. There is a good chance for promotion in my organization.	21.6	34.0	16.5	18.6	9.3	100.0
2. In my organization promotions are based on ability.	11.3	18.6	33.0	29.9	7.2	100.0
3. There are uniform standards for promotion in my organization.	15.5	30.9	29.9	16.5	7.2	100.0
4. I am NOT willing to assume the responsibility necessary for promotion in my organization.	39.2	25.8	16.5	13.4	5.2	100.0
5. I feel frustrated by the lack of upward mobility in my organization.	17.3	18.4	24.5	24.5	15.3	100.0

Key: SD = Strongly Disagree, TD = Tend to Disagree, NAD = Neither Agree nor Disagree, TA = Tend to Agree, SA = Strongly Agree

Table 32.--Percentage response for job satisfaction (Co-Workers).

	Percentage Response					
	SD	TD	NAD	TA	SA	Total
My co-workers:						
1. are stimulating and creative.	6.3	18.8	31.3	39.6	4.2	100.0
2. are concerned with the health and well-being of their patients/customers.	1.0	9.4	14.6	59.4	17.6	100.0
3. are concerned more with their compensation than with their profession.	7.3	39.6	22.9	26.0	6.2	100.0
4. have a negative feeling about the organization in general.	7.3	28.1	31.3	27.1	6.3	100.0
5. feel that they have good relationships with others in the health professions.	6.1	13.3	27.6	49.0	4.1	100.0

Key: SD = Strongly Disagree, TD = Tend to Disagree, NAD = Neither Agree nor Disagree, TA = Tend to Agree, SA = Strongly Agree

responses disclosed that they thought their co-workers were creative (43.8%) and that they were concerned with the health and well-being of their patients/customers (77%). About half (46.9%) of the graduates disagreed that their co-workers were more concerned with their own compensation than with their profession, and 53.1% agreed that their co-workers had good relationships with other health professionals.

Overall Job and Career Satisfaction. The graduates showed mixed reactions to the statements in this section. Slightly less than half (46.1%) felt overly trained and underutilized in their profession, and a similar number (47%) said that "knowing what they know now, they would again chose pharmacy as a profession" (Table 33). Graduates were more positive about encouraging their daughters (49%) than their sons (29.5%) to pursue an education in pharmacy. Fifty percent of the respondents would continue to practice their profession even if they had enough assets to live comfortably for the rest of their lives.

Life Satisfaction. The graduates responded that they were really quite satisfied in every area of LS except the amount of leisure time available (Table 34). They gave negative responses to the amount of leisure time available (46.9%) but positive responses to all other statements in this section. Graduates gave positive responses to life in general (91.7%), family life (88.6%), quality of leisure time (66.3%), town where they live (76.5%), geographic area where they live (75.6%), climate where they live (65.3%), and their social life (63.2%).

Table 33.--Percentage response for job satisfaction (Overall Job and Career Satisfaction).

	Percentage Response					
	SD	TD	NAD	TA	SA	Total
Overall job and career satisfaction:						
1. I feel overly trained and underutilized in my profession.	3.1	23.5	19.4	30.8	14.3	100.0
2. Knowing what I know now, I would again choose pharmacy as a profession.	11.2	19.4	22.4	33.7	13.3	100.0
3. If I had a son, I would encourage him to receive an education in pharmacy.	15.3	27.6	27.6	22.4	7.1	100.0
4. If I had a daughter, I would encourage her to receive an education in pharmacy.	10.2	19.4	21.4	32.7	16.3	100.0
5. If I had enough assets to live comfortably the rest of my life, I would continue to practice pharmacy.	17.3	19.4	13.3	35.7	14.3	100.0

Key: SD = Strongly Disagree, TD = Tend to Disagree, NAD = Neither Agree nor Disagree, TA = Tend to Agree, SA = Strongly Agree

Table 34.--Percentage response for life satisfaction.

	Percentage Response					
	SD	TD	NAD	TA	SA	Total
Overall, how satisfied are you with:						
1. life in general.	0.0	2.0	8.2	56.3	35.4	100.0
2. your family life.	1.0	4.2	6.3	44.8	43.8	100.0
3. the quality of your leisure time.	0.0	15.3	18.3	40.8	25.5	100.0
4. the amount of leisure time available.	6.1	41.8	16.3	32.7	3.1	100.0
5. the town where you life.	2.0	6.1	15.3	54.1	22.4	100.0
6. the geographic area where you live.	1.0	4.1	16.3	49.0	29.6	100.0
7. the climate where you live.	3.1	8.2	23.4	43.9	21.4	100.0
8. your social life.	5.1	13.3	18.4	45.9	17.3	100.0

Key: SD = Strongly Disagree, TD = Tend to Disagree, NAD = Neither Agree nor Disagree, TA = Tend to Agree, SA = Strongly Agree

Summary

The results of the statistical analysis for each of the three hypotheses were presented in this chapter. Multivariate analysis of variance, univariate analysis of variance, t-tests, cross-tabulation, and frequency response techniques were employed to analyze the data collected for the study.

The three hypotheses were tested using five-item categories representing 30 statements relating to job satisfaction and another category of eight statements pertaining to life satisfaction.

No significant difference was found between the three graduating grade point average groups and job or life satisfaction (Hypothesis 1).

Similarly, no statistical difference was found between males and females and job or life satisfaction (Hypothesis 2).

Statistical significance was found in 3 of the 38 statements concerning place of employment (hospital or retail pharmacy) and job or life satisfaction (see Tables 21 and 24) (Hypothesis 3).

All three null hypotheses were not rejected.

Graduates' frequency response clusters illustrated that most graduates' responses were above the mid-range mean of 3.00 regarding job satisfaction; graduates were even more positive in their perceptions of life satisfaction.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS, AND REFLECTIONS

Summary

This study was designed to collect and examine data on B.S. Pharmacy degree graduates of the five-year program at the Ferris State University School of Pharmacy. The principal question to be answered was whether or not those graduates with the higher graduating grade point averages also attained higher levels of job and life satisfaction than those with lower graduating grade point averages. Admissions committees have traditionally chosen those who may be admitted to their program based on the applicant's performance in the pre-pharmacy curriculum. The rationale for the practice is that the professional years of the program are rigorous; thus it is of prime importance to try to choose those applicants who demonstrate the capability of satisfactorily completing the curriculum. If job satisfaction and, perhaps more important, life satisfaction are logical and reasonable goals of all people, are pharmacy admission committees selecting the right persons to participate in their courses of study?

The initial study question and review of the literature led to two other areas of inquiry: (a) the possible difference in job and life satisfaction between male and female graduates and (b) the

possible difference in job and life satisfaction based on place of employment. Studies such as this generate information that should prove useful in subsequent studies. It would not be difficult for others to duplicate this study with other populations, in other geographic areas, and with other professions.

The three hypotheses examined in this study, stated in the null form, are:

> Hypothesis 1: There is no relationship among graduating grade point average, job satisfaction, and life satisfaction for graduates of the School of Pharmacy at Ferris State University during the academic year 1982/83.
>
> Hypothesis 2: There is no difference between female and male graduates from the Ferris State University School of Pharmacy in their attainment of job and life satisfaction.
>
> Hypothesis 3: There is no difference between Ferris State University School of Pharmacy graduates who are employed in hospitals and those who are employed in retail (chain, independent) pharmacies in their attainment of job and life satisfaction.

Literature

A search of the literature was conducted to discover writings related to the three hypotheses tested in this study. Eleven studies were found that dealt with pharmacists' job satisfaction. Most of these studies explored the job satisfaction of pharmacy graduates as it related to place of employment or nature of tasks performed. The implication in these studies was that pharmacists are overly trained for the tasks they perform and are therefore less satisfied with their positions than they ought to be.

The increasing number of females entering what had previously been an almost entirely male profession prompted studies comparing

the career satisfaction of male and female pharmacists. The four studies reviewed found no significant difference in job satisfaction between males and females.

Two areas considered important to this study were not found in the literature. No previous studies were found that dealt with the relationship of graduating grade point averages with either job or life satisfaction of pharmacists. Likewise, no literature was found that dealt with the life satisfaction of employees in any of the health professions. The Phelan and Phelan (1983) study provided the basic statements for the life satisfaction segment of the survey instrument.

Methodology

The population for this study included all graduates of the School of Pharmacy from September 1, 1982, through August 31, 1983. There were 112 graduates during this period, 66 males and 46 females. Fifty-five males and 43 females responded to the survey instrument, a response rate of 87.5%.

For the statistical analysis of Hypothesis 1, the graduates were divided into three numerically equal groups. The demographic portion of the survey instrument was used to identify graduates as males or females for Hypothesis 2, and as hospital or retail pharmacists for Hypothesis 3. Of the 98 respondents, 66 were employed in retail pharmacy and 29 in hospital pharmacy. Seven graduates were employed in occupations unrelated to pharmacy. No respondents were unemployed.

Each of the three null hypotheses was subjected to the same statistical analysis. For each hypothesis, the six sections on job satisfaction and the section on life satisfaction were examined using MANOVA, specifically Wilks' lambda, to test for significance in any segment of the survey at $p = .05$. Where significance was found in any segment, the segment was subjected to further analysis, ANOVA, to determine in which statement of the segment the significance occurred. Cross-tabulation permitted a further analysis of the data in each segment where significance occurred. Seven tables were developed for each hypothesis with Wilks' lambda, F-value, and p-value computed for each segment, and means, standard deviation, F-values, and p-values computed for each statement in each segment. Finally, frequency responses and corresponding percentages were analyzed in seven tables, six on job satisfaction and one on life satisfaction.

Results

The first research question was concerned with whether or not graduates with the higher graduating grade point averages attained more job and life satisfaction than those with lower averages. No statistical significance was found in any of the job satisfaction or life satisfaction segments; therefore, the null hypothesis was not rejected. Graduates generally had positive feelings about all aspects of job satisfaction, with means mostly above 3.00 on a five-point scale. Those in the lower grade point average group were somewhat more negative about their supervision (Table 3) and

promotion (Table 5) than were those in the higher grade point average groups. Phelan and Phelan (1983) reported that better grades were associated with more job and life satisfaction. In this study, there was no discernible difference between the three graduating grade point average groups in their attainment of job or life satisfaction.

The second question focused on whether or not male or female graduates attained more job and life satisfaction. Again, no statistical significance was found in any of the job satisfaction or life satisfaction sections. Hypothesis 2, stated in the null form, was therefore not rejected. The results of this study indicate that no difference existed in males' or females' perceptions of job and life satisfaction and are in agreement with the findings of Curtiss (1980) and Shoaf and Gagnon (1980).

The third research question was concerned with whether the graduates' place of employment had a bearing on the attainment of job and life satisfaction. Statistical significance occurred in 3 of the 30 statements in the job satisfaction sections. Hospital pharmacists differed significantly on two of the statements in the Promotion section (Table 23). Hospital pharmacists were "more willing to assume the responsibility necessary for promotion" than were retail pharmacists and felt more "frustrated by the lack of upward mobility" than did retail pharmacists. Hospital pharmacists may see themselves confined to a single institution with only one or two progressions possible from the bottom to the top of the

hierarchy. Retail pharmacists, working in the pharmacy sections of the multimerchandise-type chain stores, could be more aware of the progressions available to them from staff pharmacist to assistant manager, to manager. Retail pharmacists are aware of other, perhaps larger, units where they could be managers and also see the possibility of moving up to administrative positions. The chain pharmacy operation simply has a much larger scope of activity than does a single hospital unit. The other statistically significant statement surfaced in the Co-worker segment (Table 24). Hospital pharmacists felt more strongly that their co-workers "had a negative feeling about the organization in general" than did the retail pharmacists. Since only 3 of the 30 statements in job satisfaction sections showed significance, and no significance was found in the life satisfaction section, Null Hypothesis 3 was also not rejected.

Although no statistical significance was attached to the frequency responses (Tables 28 through 34), some of the most interesting observations can be made from these responses. Ferris State graduates were more job satisfied than the 741 pharmacists surveyed by Hammel et al. (1979). In their survey, 57% said they "would have second thoughts about going into pharmacy again." In this study, only 30.6% had similar feelings (Table 33, Item 4). Rauch (1981) found that pharmacists providing patient counseling were more satisfied with their jobs than were pharmacists not providing this service. Similar results were found in this study (Table 28), where 61.3% of Ferris State graduates Tend to Agree or Strongly Agree that they "feel a sense of accomplishment at the end

of the day." A similar percentage, 60.2%, reported that they "perform many consulting duties." These findings were similar to those reported by Robers (1983).

In the Everyday Work segment (Table 28), 86.8% thought they "were contributing to the health and well-being of their patients/customers." Whereas only 42.8% thought their compensation was about right in relation to their education, 60.2% thought they were fairly compensated compared to others with similar tasks. Less than 30% thought they would be more fairly compensated with union representation. Only 37.1% thought promotions were based on ability, and 55.6% felt there was not a good chance for promotion in their organization. This negative percentage and the 40% who felt frustrated by perceived lack of "upward mobility" in their organization was largely caused by the negative responses of hospital pharmacists.

The results of this study illustrate that this group of pharmacy graduates were quite satisfied with their "life in general." When the percentages of those who responded "Tend to be Satisfied" and those who responded "Very Satisfied" are added together, a very high percentage (91.7%) results (Table 34).

Conclusions and Recommendations

In this study, all three null hypotheses were not rejected. There was no statistical difference in the attainment of job or life satisfaction based on academic performance, gender, or place of employment for Ferris pharmacy graduates.

Although it seemed in the beginning that this study was exhaustive, on reflection many questions have been left unanswered and numerous avenues of study left undone. If this study were to be replicated with a larger population, the data could be subdivided to a greater degree and would perhaps be more meaningful. The following areas of inquiry could provide interesting or useful information:

1. Ferris State offers only a B.S. degree. Would the results be different with graduates of institutions that award graduate degrees?

2. Would results be significantly different if the population were from a different geographic area?

3. Both male and female graduates would encourage their daughters, more than their sons, to enter the field of pharmacy. What will the numbers of male and female pharmacists be like in another five years? Will the number of female pharmacists continue to rise at an even faster pace?

4. No salary data were asked for in this study. Does compensation have an effect on graduates' perceptions of job and life satisfaction?

5. What changes in pharmacists' perceptions might take place if this same group were to be studied in another five years?

6. Very little support was shown for unionizing pharmacists. Will this conservative viewpoint continue?

7. What kinds of results could be expected if this study were conducted with other health professionals?

Reflections

The principal question this researcher wanted answered had to do with the job and life satisfaction of the three graduating grade point average groups. All three groups were equally satisfied with their jobs and with their lives. Ferris State admits students into the pharmacy program with a minimum entering grade point average of 2.00 and will graduate 90% of those who are admitted. Other pharmacy schools have minimum entering grade point averages of 2.25, 2.50, and higher. Based on this study, it could be concluded that many applicants who could succeed in pharmacy school and have meaningful careers in pharmacy are never admitted into the programs. Pharmacy schools and colleges that have classroom space available ought to reexamine the criteria used by their admissions committees to see if more students who are capable of completing the course of study could be admitted into their programs.

APPENDICES

APPENDIX A

COVER LETTER

Date

Name
Street Address
City, State, Zip

Dear _____:

Graduates from the School of Pharmacy, Ferris State University fall 1982, winter 1983, spring 1983, and summer 1983 have been selected for a survey to study the job satisfaction and life satisfaction of our graduates.

While this survey is of special interest to me (it is part of my Ph.D. program at Michigan State University), the hope is that the results may lead to some curricular changes and possibly changes in the admission criteria.

Completion of this survey should take no more than 20 minutes of your time. Please note that there are NO essay questions and, perhaps better than that, NO multiple/multiples.

The identification number in the lower right corner is used to insure the confidentiality of your responses and is there only to assist in subsequent mailings, if necessary. Be assured that only group data will be reported.

Please find some time, just a few minutes, to complete this survey and return it promptly in the postage-paid envelope provided.

Thank you!

Sincerely,

James B. Turner
Assistant Dean

APPENDIX B

FOLLOW-UP LETTER TO NONRESPONDENTS

Date

Name
Street Address
City, State, Zip

Dear _____:

Two weeks ago you were sent a survey questionnaire which was sent to all graduates of the School of Pharmacy, Ferris State University fall 1982, winter 1983, spring 1983, and summer 1983.

The survey, while part of my Ph.D. program at Michigan State University, is mainly intended to allow the collection of data on the job satisfaction and life satisfaction of our graduates.

To date, your response has not been received. If your response and this letter have crossed in the mail, please accept my appreciation for your cooperation.

Since there were only 112 graduates during the period being studied, your response is critical. Each response provides unique insight and contributes to the validity of the study.

You are reminded that your response is **confidential** and that the number in the lower right corner is used solely to permit me to identify those graduates who have not responded. Remember that only group data will be reported.

Please reply!

Thank you for your cooperation.

Sincerely,

James B. Turner
Assistant Dean

APPENDIX C

THE SURVEY INSTRUMENT

SURVEY INSTRUMENT

Personal Demographics

Please place an X on the line that applies to your answer.

Sex
____ 1. Male
____ 2. Female

Postgraduate Education

Have you continued your formal education since receiving your B.S. degree from Ferris State? **(Do not include continuing education.)**

____ 1. Yes
____ 2. No

If yes, what degree are you pursuing?

____ 1. Pharm.D.
____ 2. M.B.A.
____ 3. Other (please specify) _____

If yes, what degree have you completed?

____ 1. Pharm.D.
____ 2. M.B.A.
____ 3. Other (please specify) _____

What college(s) or university(ies) have you attended since graduation?

_____
_____
_____

Employment Demographics

Place an X in the space provided that best describes your major place of employment and your position.

Hospital Pharmacy
____ 1. Director
____ 2. Assistant Director
____ 3. Clinical Pharmacist
____ 4. Staff Pharmacist

Independent Pharmacy
____ 1. Owner
____ 2. Manager
____ 3. Staff Pharmacist

Small Chain Pharmacy (2-9 pharmacies)
____ 1. Owner
____ 2. Manager
____ 3. Assistant Manager
____ 4. Staff Pharmacist

Large Chain Pharmacy (10 or more pharmacies)
____ 1. Owner
____ 2. Manager
____ 3. Assistant Manager
____ 4. Staff Pharmacist

Pharmaceutical Sales Representative
____ 1. District Manager
____ 2. Sales Representative

Other Employment (please describe briefly)

_____
_____

Employed Full or Part Time

____ 1. Full time
____ 2. 35-40 hours/week
____ 3. 41-45 hours/week
____ 4. over 45 hours/week

____ 5. Part time
____ 6. Up to 15 hours/week
____ 7. 16-25 hours/week
____ 8. 26-34 hours/week

Unemployed
____ 9. Seeking employment
____10. Not seeking employment

APPENDIX D

THE JOB AND LIFE SATISFACTION SURVEYS

JOB SATISFACTION SURVEY

The following statements are intended to measure your degree of satisfaction with your present position in the following areas: your everyday work, supervision, compensation, promotability, and co-workers.

Please circle the number that corresponds **most closely** with your feelings about each statement, using the scale below.

Strongly Disagree	Tend to Disagree	Neither Agree nor Disagree	Tend to Agree	Strongly Agree
1	2	3	4	5

In my everyday work, I

1. find that my duties are challenging.

   1 2 3 4 5

2. feel a sense of accomplishment at the end of the day.

   1 2 3 4 5

3. feel that I am overly trained for the duties that I perform.

   1 2 3 4 5

4. perform many consulting duties.

   1 2 3 4 5

5. am contributing to the health and well-being of my patients/ customers.

   1 2 3 4 5

My supervisor

1. applies policies and practices uniformly.

   1 2 3 4 5

2. gives sufficient feedback on how well I am performing.

   1 2 3 4 5

3. allows me to be creative.

1 2 3 4 5

4. is concerned about my well-being.

1 2 3 4 5

5. is concerned more with the amount of work that I complete rather than whether or not I enjoy my work.

1 2 3 4 5

Compensation

1. My compensation is about right in relation to my education.

1 2 3 4 5

2. My compensation is fair compared with others in the organization performing similar functions.

1 2 3 4 5

3. My fringe benefits are fair and equitable.

1 2 3 4 5

4. My compensation has increased steadily in relationship to my duties.

1 2 3 4 5

5. If I belonged to a union I would be more fairly compensated.

1 2 3 4 5

Promotion

1. There is a good chance for promotion in my organization.

1 2 3 4 5

2. In my organization promotions are based on ability.

1 2 3 4 5

3. There are uniform standards for promotion in my organization.

1 2 3 4 5

4. I am not willing to assume the responsibility necessary for promotion in my organization.

   1 2 3 4 5

5. I feel frustrated by the lack of upward mobility in this profession.

   1 2 3 4 5

My co-workers

1. are stimulating and creative.

   1 2 3 4 5

2. are concerned with the health and well-being of their patients/customers.

   1 2 3 4 5

3. are more concerned with their compensation than with their profession.

   1 2 3 4 5

4. have a negative feeling about the organization in general.

   1 2 3 4 5

5. feel that they have a good relationship with others in the health-related professions.

   1 2 3 4 5

Overall Job and Career Satisfaction

1. I feel that I am overly trained and underutilized in my profession.

   1 2 3 4 5

2. Knowing what I know now, I would again choose pharmacy as a career.

   1 2 3 4 5

3. If I had a son, I would encourage him to receive an education in pharmacy.

   1 2 3 4 5

4. If I had a daughter, I would encourage her to receive an education in pharmacy.

   1 2 3 4 5

5. If I had enough assets to live comfortably for the rest of my life, I would continue to practice my profession.

   1 2 3 4 5

LIFE SATISFACTION SURVEY

The following statements are intended to elicit feelings about your general life satisfaction. Please think these statements over carefully and give your response.

Overall, how satisfied are you with:

1. life in general?

   1 2 3 4 5

2. your family life?

   1 2 3 4 5

3. the quality of your leisure time activities?

   1 2 3 4 5

4. the amount of time available for your leisure activities?

   1 2 3 4 5

5. the town in which you live?

   1 2 3 4 5

6. the geographic area in which you live?

   1 2 3 4 5

7. the climate where you live?

   1 2 3 4 5

8. your social life?

   1 2 3 4 5

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