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# Expected and Actual Job Satisfaction of Senior Pharmacy Students

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# EXPECTED AND ACTUAL JOB SATISFACTION OF SENIOR PHARMACY STUDENTS

by

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# VITA

Mary Eileen Dean is the daughter of John Henry O'Toole and Elizabeth Louise (Parker) O'Toole. She was born in Chicago, Illinois, on December 10, 1952. She and her husband, James Louis Holland, reside in Oak Park, Illinois.

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# INTRODUCTION

Understanding job satisfaction, or the way workers feel about the jobs they do, has generated considerable research in the past sixty years. Job satisfaction (or dissatisfaction) has been linked to many emotional and economic issues with substantial impact on the nation's industrial growth, output, and advancement. Researchers have linked job satisfaction to personal happiness, longevity, absenteeism, turnover, sabotage, theft, financial loss, and productivity. In fact, over 4,000 papers on some aspect of job satisfaction have been published (Oskamp, 1984).

The majority of these studies dealt with subjects employed in the machine or construction trades, or with clerks, sales personnel, or managers. Pharmacists have also been studied, but this facet of the job satisfaction literature has a more recent history, with some of the earliest work published in the 1960s. Generally, the job satisfaction literature on pharmacists seems inconclusive. For example, a review of the literature in 1984 (Barnett & Kimberlin) cited twenty articles published between 1965 and 1982. Four of these concluded pharmacists were satisfied with their jobs, seven concluded pharmacists were not satisfied, and nine offered no conclusion. Curtiss, Hammel and Johnson (1978), in their survey of pharmacists who had graduated from eight different schools of pharmacy, found pharmacists were "not as satisfied as the general population with their jobs" (p. 1517). More recently, a national poll of practicing pharmacists found less than half of all respondents (43%) "regularly look forward to going to work" and 32% would like be doing something different in five years (Epstein, 1988, p. 49).

Based on those findings, pharmacists do not appear satisfied with their work, but a careful interpretation of these findings is warranted. Although studies provided useful information on factors related to job satisfaction, those studies were not theory based. Additionally, some studies used measures and instruments unique to the researchers, without mention of pretesting procedures. And, although there is no single preferred measure of job satisfaction, different job satisfaction measures produce different results, making useful comparisons limited. Further complicating the job satisfaction issue is the lack of a universally accepted definition of what a pharmacist is and what a pharmacist does. Most would agree that one of the practicing pharmacist's jobs is providing the right drug to the right patient at the right time. A pharmacist's job, however, is in part determined by the work environment. Pharmacists are employed in community pharmacies, hospital pharmacies, nursing homes, drug wholesale companies, manufacturing firms, home health care agencies, mail order pharmacies, and governmental regulatory agencies. Depending upon the environment, a pharmacist may see hundreds of patients and prescriptions a day, or may never see a patient. The majority of pharmacists, however, are employed in either a community or hospital pharmacy; in Illinois, 87.7% of all pharmacists who responded to a survey practiced in one of these settings (Schwartz & Pilkington, 1987).

Community pharmacies are generally divided in two types: independents and chains. The major difference is in terms of ownership. Chain pharmacies are owned and operated by a major corporation, while independent pharmacies are owned and operated by individuals. Regardless of type of ownership, the job responsibilities of the community pharmacist

include filling and dispensing prescriptions, screening prescriptions for drug interactions and contraindications, alerting physicians to potential problems, providing patients with information on their prescriptions, and recommending nonprescription products. The pharmacist in this type of practice often works alone or with the assistance of a technician. Direct access to the physician is limited, as is access to the patient's medical history. The community pharmacist may also be responsible for nonpharmacy activities such as pricing, purchasing, inventory maintenance and control, sales promotion and advertising.

In contrast, the hospital pharmacist is rarely engaged in retail type activities, and rarely has direct patient contact. The pharmacist prepares medications, but these are then sent to a floor or station in the hospital, where nurses administer the drugs directly to the patient. These pharmacists are also responsible for the preparation and distribution of parenteral drugs (intravenous, intramuscular, or subcutaneous) and have direct access to the patient's chart and medical record. The nature of this type of practice is more acute, and the pharmacist has a closer working relationship with other health care professionals.

Considering these environmental differences, as well as differences in job responsibilities and research methodologies, it is not surprising that job satisfaction findings have been inconclusive. The literature does suggest, however, certain characteristics of the work itself may be responsible for the feelings pharmacists have about their work.

Community Pharmacists

Knapp, Knapp and Evanson (1965), in their study of community pharmacy managers, suggested that role conflict produces anxiety which, in turn, results in job dissatisfaction. Their subjects perceived the pharmacist's ideal role as primarily professional, whereas the actual role fulfilled was business oriented. Their subjects also believed the lay public (patients) desired a combination of these two roles. The authors concluded their results supported the presence of role conflict, resulting in job dissatisfaction. However, the subjects were not specifically asked to rate their level of job satisfaction.

Belasco and Arbeit (1969) surveyed community pharmacists to determine their perceptions of actual and ideal roles. Respondents reported more of their time should be spent in professional activities (e.g., dispensing and advising) and less time should be spent in tasks such as selling non-health related products. The authors suggested these differences between actual and ideal activities have a negative impact on job satisfaction; however, specific job satisfaction items were not included in the survey. Using a similar framework, Linn and Davis (1971) asked pharmacists to rank a set of work activities along two dimensions: the actual time spent performing each activity versus the preferred amount of time spent. Respondents preferred spending time in professional tasks such as advising patients, yet felt they did not spend sufficient time in those activities. The authors suggested this discrepancy could lead to job dissatisfaction, yet that type of assessment was omitted from the

survey.

A 1978 survey of staff pharmacists and pharmacy supervisors in 14 different ambulatory care clinics[1] (Donehew & Hammerness, 1978) reached a more definitive conclusion. Using Herzberg's theory of motivation, levels of job dissatisfaction (based on extrinsic factors) and job satisfaction (based on intrinsic factors) were assessed. The researchers found staff and supervisory personnel in all clinics were "not dissatisfied" with the extrinsic factors such as company policy, supervision, and working conditions. However, respondents were "not satisfied" with the intrinsic job factors (the work itself, for example). The authors concluded job attitudes must be a result of the work itself; technological advances have made prescription filling routine, providing neither stimulation nor motivation. Routine, nonjudgemental tasks (e.g., counting tablets and typing labels) should be performed by nonpharmacist technicians, freeing the pharmacist to concentrate on the professional aspects of their job. A pharmacist would therefore be more challenged and consequently satisfied.

Similar results were found in a 1978 survey by Curtiss, Hammel and Johnson. They assessed pharmacist job satisfaction in four work environments: independent, chain, hospital, and apothecary[2] pharmacies. Using the Minnesota Satisfaction Questionnaire, the researchers found

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[1]Ambulatory care clinics are those pharmacy operations dealing exclusively in prescriptions and health related items. These pharmacies are often located in physician's office buildings.

[2]The apothecary setting was not defined by researchers; however, based on a commonly accepted definition, an apothecary setting is either independently owned or franchised, with an emphasis on prescription services.

apothecary pharmacists significantly more satisfied with their job than were pharmacists in the other three settings, but on a five point scale (1=not satisfied, 5=extremely satisfied), average responses were not greater than 3.77 (attitude towards company aims and plans). Two factors were found most related to job satisfaction: ability utilization and work challenge. Job dissatisfaction was found most related to "opportunity for advancement." Although apothecary pharmacists were more satisfied than their peers in other environments, their job attitudes were relatively neutral. The researchers also found the general population felt a greater sense of accomplishment in their work than did their pharmacist subjects: approximately one-third of their subjects "seldom experienced a sense of accomplishment from work."

Similar results were reported by Carroll, Gagnon and Schulz (1982). Their study of employee pharmacists in community and hospital settings found chain pharmacists dissatisfied with their jobs, and significantly less satisfied with their work than were pharmacists in either independent or hospital settings. According to the researchers, those chain pharmacists who were satisfied had more flexible schedules and more control over their schedules and the policies of their workplace, spent more time in management tasks and less time in routine prescription filling, and had better benefits. The researchers further concluded this picture of the satisfied chain pharmacist is characteristic of a manager, and that management opportunities be made available to all chain pharmacists in an effort to increase their level of job satisfaction. A news item in Drug Topics (October, 1985) highlighted a similar problem found in chain pharmacy settings. Chain pharmacists, as a group, were

reported as the most dissatisfied with their jobs. They also expected to leave their present employer within the next three years. Lack of decision making authority and responsibility, and too great of an emphasis on filling a large volume of prescriptions were cited as major causes of dissatisfaction. The article encouraged employers to give their pharmacists "the opportunity to make the decisions they were trained to make" (p. 64). The implications of these findings, particularly the news item, is that community pharmacists are spending too much time doing work which could be done by technicians. The use of properly trained technicians would provide the community pharmacist with a greater opportunity to perform more challenging and fulfilling tasks.

Work challenge seems to play a key role in the pharmacy literature. A manager's job is more challenging and satisfying; not because it is management, but because it involves skills and abilities different from those needed to fill prescriptions. Involvement in jobs which require a number of different skills and abilities should also result in positive job attitudes.

Environment also seems to play a role in job satisfaction. Some environments may allow pharmacists to expand their jobs and take on additional responsibilities, allowing the use and development of a variety of skills and knowledge.

Hospital Pharmacists

Johnson, Hammel and Heinen (1977) surveyed hospital pharmacists practicing in Minnesota. Eighteen facet-free questions[3] were used. These covered absenteeism, tardiness, satisfaction with life, and recommendations to younger persons about pharmacy as a profession. In addition, 13 facet specific job satisfaction items from the Minnesota Job Satisfaction Questionnaire were used. These included ability usage, advancement, work challenge, company aims and plans, company policies, staffing, compensation-amount, compensation-comparison, compensation practices, feedback, supervision-competence, supervision-human relations, and general satisfaction.

In general, the researchers found hospital pharmacists in Minnesota were not satisfied with their jobs. Analysis of responses to facet-free measures found 30% would strongly recommend pharmacy to younger persons seeking career advice, 53% had doubts about recommending pharmacy as a career, and 17% would strongly advise against pharmacy as a career. In addition, 39% felt their job was "very much like the job wanted," 51% felt their job was "somewhat like the job wanted," and 10% felt their job was "not very much like the job wanted." Responses to general job satisfaction questions were, on the average, 2.5 on a five point scale (1=not satisfied, 5=extremely satisfied). Respondents were also less satisfied with their jobs than were other workers in the same geographic area. Responses to the facet-specific items never reached 3.0 (satisfied)

[3]Facet-free questions do not refer to specific job characteristics. Those questions utilized by the researcher were selected from the University of Michigan Survey of Working Conditions published by the U.S. Dept. of Labor, Employment Standards Administration, 1974.

on a five point scale; the highest mean, 2.9, was in response to satisfaction with "compensation compared to that of others." Work challenge and ability utilization were similarly less than satisfactory, with mean responses of 2.68 and 2.58,respectively. When data was analyzed in terms of the respondent's job description, significant differences in job satisfaction levels were found. Clinical pharmacists (minimal involvement in drug distribution) were more satisfied on 9 out of 13 facets. Staff pharmacists (extensive drug distribution responsibilities) reported the lowest levels of satisfaction on seven out of 13 facets. Mean responses of supervisory and managerial pharmacists fell between these two extremes. Using factor analysis, the researchers condensed 13 factors down to five factors:[4] four measured specific satisfactions, and one measured overall satisfaction. This analysis found clinical pharmacists more satisfied on all five factors, and significantly more satisfied on all but economic rewards.

Quandt, McKercher and Miller (1982) examined the relationship between job characteristics and job satisfaction using the Michigan Organization Assessment Questionnaire. Using factor analysis, Quandt et al. classified hospital pharmacists into four groups based on characteristics of the work done: clinical, outpatient, generalist, or inpatient. Clinical is characterized as minimal in drug distribution, inpatient as extensive in drug distribution, and outpatient and generalist pharmacists fell between the two extremes. The researchers found clinical pharmacists reported more favorable attitudes than did the other groups

[4]Factors: economic rewards, professional usage and development, relationship with management, institutional policies, and general satisfaction.

of pharmacists on 12 out of 14 job dimensions. Their attitudes were significantly higher on four of these: impact of their work, freedom and control over work, and contact with others. Clinical pharmacists were also significantly more positive toward the meaning of their work, the challenge, and the overall task quality of their work. In contrast, inpatient pharmacists had the lowest attitudes on nine out of 14 job dimensions, and the least amount of satisfaction with impact of their work, freedom and control over work, and contact with others. Finally, clinical pharmacists were significantly more satisfied with their jobs than were inpatient pharmacists, with mean scores of 5.71 and 4.61, respectively.

Similar findings were noted by Noel, Hammel and Bootman (1982) in their survey of hospital pharmacists and pharmacy students in Arizona. Facet-free and facet-specific items were selected from the University of Michigan Survey of Working Conditions and The Minnesota Job Satisfaction Questionnaire. Pharmacists reported higher mean scores on all 13 facet specific measures, of which 10 were significantly higher. However, these higher scores did not represent high levels of job satisfaction. A mean score above 3 on a five point scale (1=not satisfied, 3=satisfied, 5=extremely satisfied) was reported on only two facets: ability utilization (3.01) and general satisfaction (3.09). This data was further divided into five groups, according to the pharmacist's job title: director, associate or assistant director, supervisor, research or clinical, and staff. Clinical and research pharmacists reported the highest mean scores on all 13 facets, followed by directors, associate and assistant directors, and staff pharmacists, who reported the lowest mean

scores. Clinical and research pharmacists were the only group to report mean scores greater than or equal to 4; these were ability utilization (4.00), work challenge (4.22), and general satisfaction (4.38). These three facets were rated significantly lower by staff pharmacists, with mean scores of 2.74, 2.58, and 2.88, respectively.

Each of these three different job satisfaction studies found higher levels of job satisfaction in those hospital pharmacists minimally involved in routine drug distribution. In the two studies which used the Minnesota Job Satisfaction Questionnaire, both groups of researchers found nondistributive, or clinical pharmacists significantly more satisfied than other classes of pharmacists with the same two job facets: ability usage and work challenge. Similarly, staff pharmacists in those two studies reported the lowest levels of satisfaction on those two facets.

The results of previous research on job satisfaction in both environments suggests the underlying nature of the work is related to job satisfaction; job satisfaction occurs when the work is challenging and allows for the use of abilities and skills. A theoretical link between the nature of the work and job satisfaction has been developed by Hackman and Oldham in their theory of work motivation (1976).

According to this theory, positive personal and work outcomes (job satisfaction, work effectiveness, and work motivation) occur when an individual experiences three psychological states: 1) meaningfulness of the work, 2) responsibility for the outcomes of work, and 3) knowledge of the actual results of work. These three states are fostered by characteristics of the work itself. Five characteristics have been

identified: skill variety, task identity, task significance, autonomy, and feedback from the job.

Skill variety is the degree to which a job requires a variety of different activities and involves using a number of different skills and talents. Task identity is the degree to which a job requires completion of a whole, identifiable piece of work. Task significance is the degree to which a job has a substantial impact on the lives of others. These three characteristics contribute to the psychological state "meaningfulness of work." The fourth characteristic, autonomy, is the degree to which the job allows the individual discretion in completing the work. If a job is considered high in autonomy, the worker is likely to experience the psychological state "responsibility for the outcomes of work." Feedback from the job itself, the fifth characteristic, is the degree to which doing the work informs the individual of his or her performance, and contributes to the psychological state "knowledge of the actual results of work (refer to Figure 1 on the following page).

FIGURE 1

THE COMPLETE JOB CHARACTERISTICS MODEL

| CORE JOB CHARACTERISTIC | CRITICAL PSYCHOLOGICAL STATES | OUTCOMES |
|---|---|---|
| Skill Variety<br>Task Identity<br>Task Significance | Experienced Meaningfulness of the Work | High internal work motivation |
| Autonomy | Experienced Responsibility for outcomes of the work | High growth satisfaction |
| Feedback from job | Knowledge of the of the actual results of the work activities | High work effectiveness |

These five characteristics are combined into one index, the Motivating Potential Score, MPS, which is the potential of any job to create positive personal and work outcomes, such as satisfaction and internal work motivation (refer to Figure 2 below).

FIGURE 2

THE MOTIVATING POTENTIAL SCORE (MPS)

$$MPS = \frac{\text{Skill variety} + \text{Task identity} + \text{Task significance}}{3} \times \text{Autonomy} \times \text{Job feedback}$$

Internal Work Motivation is a measure of "the degree to which the employee is self motivated to perform effectively on the job; i.e., experiences positive internal feelings when working effectively, and negative internal feelings when working poorly" (Hackman & Oldham, 1974, p.6). General Satisfaction is an overall measure of the degree to which the employee is satisfied and happy with the job.

The Job Diagnostic Survey (JDS) developed by Hackman and Oldham (1974), taps each major variable in their work motivation theory. The instrument provides scores for each job characteristic, and the MPS of any job. The job itself, however, does not cause the worker to be satisfied. A motivating job merely creates conditions such that if the jobholder performs well, he or she is likely to be satisfied. Accordingly, some people are more likely to be satisfied by high MPS jobs than are others. This likeliness is determined by three factors, or moderators: 1) knowledge and skill, 2) growth need strength (GNS), and 3) context satisfactions. The role of knowledge and skill in this model is clear: an individual can not feel satisfied with any job if (s)he can not perform the job. GNS refers to an individual's need for personal accomplishment and satisfaction from a job. Individuals with high GNS need jobs which are challenging (i.e., have a high MPS), and they respond positively to that challenge. Context satisfactions are variables such as pay, job security, co-workers, and supervisors. If these are unsatisfactory, the motivating property of the work becomes overshadowed.

Using the JDS, it should be possible to determine if a pharmacist's job has the characteristics necessary for satisfaction. Given the findings of the job satisfaction research in pharmacy, the nature of a

pharmacist's work seems responsible for dissatisfaction, particularly among those pharmacists whose job extensively involves routine drug distribution. Although dispensing prescriptions may have high task significance and task identity, dispensing does not usually require a variety of skills or talents. Additionally, the pharmacist may not have high degrees of autonomy or feedback. Often, the pharmacist is following a series of instructions, rules, and regulations, leaving little or no room for independent thought or discretion in doing the work. The pharmacist may know the prescription was filled correctly, but the dispensing process itself provides little feedback on the success or failure of the drug therapy.

In addition to the job characteristics, the Growth Need Strength (GNS) moderator may explain some of the findings in the job satisfaction literature. As professionals, pharmacists probably have a relatively high GNS, similar to the published norm for professionals, 5.6 (range is 1 to 7). Accordingly, pharmacists enter practice expecting (in fact, needing) jobs with high MPS characteristics. Yet, in those studies which reported sample characteristics, 88% of the pharmacists surveyed were classified as staff pharmacists, with jobs often characterized as routine and unchallenging. It is difficult to imagine that the majority of pharmacists entered the profession knowing, in advance, their work would be dull. Smith, Branecker, and Pence (1985) studied work expectations. Their survey of pharmacy students and pharmacists found significantly more students than pharmacists responded yes to the question "would you choose pharmacy again?"

Because of the global nature of that question, that difference is difficult to interpret. Pharmacy students may, or may not be, involved in the same types of jobs, tasks, and responsibilities as are pharmacists. Alternatively, students may be doing the same things, yet what they do is still new and challenging. Perhaps the difference noted between pharmacists and students is due to expectations. Students may have inappropriate expectations of their future job as pharmacist, and these expectations remain untested.

Student expectations were also studied by Wolfgang and Hageboeck (1986). Senior pharmacy students were surveyed before and after their required externship. The students were asked to quantify the amount of exposure they expected to have in a skill area (e.g., filling prescriptions), and also to quantify the importance of that skill area to them. Generally, students indicated the externship experience had met their expectations, and the skills learned were a valuable part of their education. However, they expected more involvement in skills other than prescription processing (talking to patients, working with physicians) but agreed that filling prescriptions was important.

Considering these findings, the work pharmacists do may not be suitable, or motivating, for individuals with a high GNS. The educational system which trains pharmacists may have some responsibility here, potentially misrepresenting the current job responsibilities. Although professional education must prepare graduates for competence over a 35 to 40 year employment history, disillusioned pharmacists add nothing to the strength and development of the profession.

The purpose of this study was to assess pharmacy students' attitudes toward their job before and after a practical experience course, externship. Students were surveyed before and after the ten week course, using the JDS. Although externship is not a job, it is an accurate representation of the work done by most pharmacists.

The JDS will provide specific information on the characteristics of the work done by students during externship, potentially explaining some of the previous research findings. Based on those findings, pre-externship ratings of job characteristics for students in both community and hospital pharmacies should be comparable to the published norms for professionals. After the externship, however, ratings of the job's characteristics are expected to decrease, particularly for those students in community pharmacies where their work will be heavily focused on prescriptions and drug distribution.

## METHOD

### Subjects

Thirty-eight senior pharmacy students who were scheduled for a ten week practical experience course, externship, in the spring quarter of 1986 were studied. This sample consisted of 14 male and 24 female students, from 22 to 31 years old (average age = 22.2 years). Twenty-one students were placed in hospital pharmacies. Nineteen of these students had previous work experience: twelve in a community pharmacy, five in a hospital pharmacy, and two in both environments. Seventeen students were placed in independent community pharmacies; eight had previous hospital experience, and seven had experience in both community and hospital environments. Four subjects had no pharmacy work experience prior to the externship.

### Design and Materials

The research design was a two-by-two factorial design. The between factor was externship environment with two levels: community or hospital. The within factor was time of testing, with two levels: pre-externship and post externship. The short form of the Job Diagnostic Survey (JDS) was used. This instrument is a reliable, valid, and theory based measure of the characteristics of satisfying jobs. Additionally, published norms are available, allowing for comparisons with other professional groups. The short form of the JDS can be completed in approximately ten minutes. This instrument provides scales to measure the five core job dimensions, the ancillary dimensions (feedback from agents and dealing with others), the MPS and GNS, as well as two affective reactions to the job: internal

work motivation and general satisfaction.[5] Separate scales also provide satisfaction with five contextual factors: job security, pay, peers and co-workers (social), supervision, and opportunity for personal growth (please refer to Appendix A for the complete instrument).

Procedure

The JDS was administered twice: before the externship began and again when students completed the course. The pre-externship survey was administered during the course orientation held at the College of Pharmacy. The post-externship survey was administered during the final debriefing and examination held at the College.

The researcher, also the course coordinator, administered the surveys on both occasions. Students may have felt uncomfortable and unwilling to candidly respond to some items, fearful of any effect their responses might have on their final grade in the course. Confidentiality was assured, and students were told their responses would not be read nor analyzed until all grades had been entered, and they had graduated. Individual questionnaires were identifiable only by the respondent's social security number. After the second administration, that identification was removed, and each pair of questionnaires was assigned a consecutive arabic number.

Instructions for completion of the JDS were slightly modified to suit the needs of this study. For each section, and for the overall questionnaire instructions, one additional phrase (or sentence) was added,

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[5]The JDS does not assess the knowledge and skills variable, since it is dependent on the particular job of interest. The authors suggest that some type of systematic data be used to address this issue.

generally of the form: "Respond as if your Externship was your JOB and not a course" (for the specific modifications, please refer to the complete instrument in Appendix A). The researcher was present during both administrations, and was available to answer any questions about the survey, the instructions, or the intent of the research.

## RESULTS

Responses to both the pre and post externship administrations of the JDS short form were analyzed using analysis of variance (ANOVA); sixteen ANOVAs were performed. When appropriate, a simple main effects analysis was performed.

### Published Norms

No significant differences in scores were found between this sample and the normative data for professionals across both times of testing (refer to Appendix B, pages 51 and 52).

### Core Job Dimensions

The JDS measures five core job dimensions. ANOVAs revealed significant differences in two: Skill Variety and Autonomy. Analysis of Skill Variety resulted in a significant environment-by-time interaction, $F\ (1,36) = 6.26$, $p = .017$. Although both groups had similar pre-externship scores, $t\ (36) = .176$, $p = .86$, post externship scores decreased in community subjects and increased in hospital subjects, $t\ (36) = -1.79$, $p = .08$ (refer to Table 1 below). Simple main effects analysis found a significant effect for time in the hospital environment, $F\ (1,36) = 9.09$, $p = .005$. The effect of time in the community setting was not significant, $F\ (1,36) = 1.8$, $p = .19$.

TABLE 1

MEAN AND STANDARD DEVIATION SUMMARY TABLE
FOR SKILL VARIETY

| | Pre-Externship | | Post Externship | |
|---|---|---|---|---|
| | M | SD | M | SD |
| Community | 4.92 | .70 | 4.63 | 1.01 |
| Hospital | 4.97 | .99 | 5.22 | 1.01 |

A significant main effect for time of testing was found for Autonomy, $F(1,36) = 5.95$, $p = .02$. Both groups rated that dimension significantly higher on the post externship survey than on the pre-externship survey (refer to Table 2, below).

TABLE 2

MEAN AND STANDARD DEVIATION
SUMMARY TABLE FOR
AUTONOMY

| | Pre-Externship | | Post Externship | |
|---|---|---|---|---|
| | M | SD | M | SD |
| Community | 4.23 | 1.08 | 4.92 | 1.53 |
| Hospital | 4.73 | .73 | 5.14 | .92 |

Analysis of Task Identity, Task Significance and Feedback from the Job found no significant differences (refer to Appendix B, pages 54 - 57).

Ancillary Dimensions

Analysis of Dealing with Others resulted in a significant main effect for time of testing $F(1,36) = 6.92$, $p = .01$ (refer to Table 3, below). Subjects in both environments rated this ancillary dimension significantly higher at the post test.

TABLE 3

MEAN AND STANDARD DEVIATION
SUMMARY TABLE FOR
DEALING WITH OTHERS

| | Pre-Externship | | Post Externship | |
|---|---|---|---|---|
| | M | SD | M | SD |
| Community | 5.14 | .64 | 5.29 | .76 |
| Hospital | 5.17 | .71 | 5.86 | .85 |

Analysis of Feedback from Agents resulted in no significant differences (refer to Appendix B, page 59).

Motivating Potential Score

Analysis of the MPS found a significant main effect for time of testing, $F(1,36) = 10.2$, $p = .003$. Both groups had a significantly higher MPS after the externship (refer to Table 4 below).

TABLE 4

MEAN AND STANDARD DEVIATION
SUMMARY TABLE FOR
MOTIVATING POTENTIAL SCORE

| | Pre-Externship | | Post Externship | |
|---|---|---|---|---|
| | M | SD | M | SD |
| Community | 100.57 | 44.07 | 139.62 | 65.79 |
| Hospital | 122.78 | 40.87 | 164.15 | 69.58 |

Affective Variables

Analysis of the two affective variables found a significant main effect for time of testing for Internal Work Motivation; $F(1,36) = 124.68$, $p = .001$. Both groups experienced significantly more internal motivation then they expected (refer to Table 5 below).

TABLE 5

MEAN AND STANDARD DEVIATION
SUMMARY TABLE FOR
INTERNAL WORK MOTIVATION

| | Pre-Externship | | Post-Externship | |
|---|---|---|---|---|
| | M | SD | M | SD |
| Community | 4.76 | .49 | 6.01 | .61 |
| Hospital | 5.19 | 1.18 | 6.12 | .88 |

No significant differences were found for General Satisfaction (refer to Appendix B, page 61).

Context Satisfactions

Analysis of the five context satisfactions found a significant environment-by-time interaction for Pay; $F(1,36) = 9.38$, $p = .004$. Mean scores for subjects in community pharmacy were not significantly different over time, $t(32) = -.176$, $p = .86$, but mean scores for subjects in hospital pharmacy significantly decreased over time, $t(40) = 2.39$, $p = .02$ (refer to Table 6, below). Simple effects analysis revealed a significant effect for time in the hospital environment, $F(1,36) = 37.34$, $p = .01$. The effect of time in the community setting was not significant, $F(1,36) = .9$, $p = .34$.

TABLE 6

MEAN AND STANDARD DEVIATION
SUMMARY TABLE FOR
PAY

| | Pre-Externship | | Post-Externship | |
|---|---|---|---|---|
| | M | SD | M | SD |
| Community | 4.82 | 1.45 | 4.91 | 1.47 |
| Hospital | 4.95 | 1.36 | 3.83 | 1.66 |

Analysis of the remaining context satisfactions found no significant differences (refer to Appendix B, pages 64 - 67).

Growth Need Strength

Analysis of variance found a significant main effect for environment; $F(1,36) = 9.33$, $p = .004$; subjects in a hospital externship had significantly higher mean scores in both administrations than did subjects in a community externship (refer to Table 7, below).

TABLE 7

MEAN AND STANDARD DEVIATION
SUMMARY TABLE FOR
INDIVIDUAL GROWTH NEED STRENGTH

| | Pre-Externship | | Post Externship | |
|---|---|---|---|---|
| | M | SD | M | SD |
| Community | 5.65 | 1.11 | 5.76 | 1.08 |
| Hospital | 6.28 | 1.02 | 6.64 | .43 |

# DISCUSSION

The purpose of this study was two fold: 1) to investigate how pharmacy students felt about the work they expect to do while on externship, and 2) to assess those feelings again after the externship. The literature suggests that pharmacists are not satisfied with their work, particularly if it is routine. Consequently, it was expected that students would mirror those feelings, starting out with relatively positive feelings prior to externship, and ending with neutral or negative feelings after that work experience, particularly in terms of skill variety, autonomy, and feedback. It was expected that some environmental differences would be found. With few exceptions, the data did not support those expectations. Students began their externship with relatively positive expectations, which, for most aspects, did not significantly decrease over time.

Previous findings (Curtiss, Hammell & Johnson, 1978, for example) have cited skill variety as a cause of pharmacists' job feelings. One would expect, therefore, that after the externship, students would also characterize the practice of pharmacy as low in this dimension. The data does not wholly support that expectation. Pre-externship scores for skill variety were comparable to the published norm for professionals. Additionally, both groups of students described their work similiarly, as having "moderate amounts of variety." The average response to the statement "the job is quite simple and repetitive" was "slightly inaccurate." After the externship, skill variety scores did change, but not in the expected direction. Post externship scores decreased for

students in community pharmacy and increased for students in hospital pharmacy. This interaction suggests the work of hospital pharmacists does have more variety. Although this may be true, and is consistent with previous research findings, this change in skill variety could be a result of students' previous work experience, and by the relatively short ten week period of study. Approximately 52% of the students placed in hospital pharmacies for their externship had not previously worked in that environment. The nature of the skills performed in a hospital setting requires the preparation and distribution of oral and parenteral medications. Students must learn all of the aseptic techniques, quality assurance procedures, and hospital specific systems for the distribution of parenteral products. These procedures are quite different from those used in the distribution of oral medications. Ten weeks may be barely enough time to master the skills needed for that distribution system. With additional time and experience, those skills may also become routine and unchallenging.

The results of the Autonomy analysis were also not expected. Due to the highly regulated nature of pharmacy, low autonomy levels were anticipated on both pre and post externship surveys. The data did not support this expectation. Pre-externship scores for autonomy were comparable to the professional norm, and not indicative of a rigidly controlled job. After the externship, both groups of students experienced significantly more autonomy than expected. This greater degree of autonomy may be a result of the learning experience, which exposed students to a degree of discretion they did not know existed in the practice of pharmacy or had not experienced in their previous employment.

Over a longer period of time, that same degree of autonomy may no longer be sufficient, accounting for some of the research which found pharmacists dissatisfied with their levels of decision making and responsibility.

The effect of the required didactic coursework must also be considered here. Students are required to complete a two course sequence in pharmacy law which may provide students with an inappropriate sense of rigid black and white decision making. As students progress through an externship, they are exposed to "grey" areas of professional practice, and may learn that more discretion exists in pharmacy practice than they were taught.

The educational system may also be giving students a biased perspective on the impact others have on a pharmacist's ability to perform. This suggestion is based on the higher post-externship score for "Dealing with Others." Apparently, externship gave students the opportunity to realize they are part of a larger team, and pharmacists can not function effectively unless other team members perform their jobs well.

Based on the analysis of the five core and two ancillary dimensions, pharmacy students who completed a ten week externship characterized their work in moderately positive terms. Contrary to the study hypothesis, students' expectations were met by the actual experience, and major environmental differences were not noted. No one single job dimension stands out as a negative influence on job satisfaction or work motivation. Although the sample size was small, and

students rather than pharmacists were studied, the data suggest that pharmacy has the characteristics of a satisfying job.

The characteristics of satisfying jobs are quantified with the MPS. The pre-externship MPS for both groups of students was comparable to the professional norm, and the post externship MPS was significantly higher in both groups. This significant pre-to-post externship difference is not surprising, because the value of the MPS is directly related to the job dimensions; one of which, Autonomy, increased over time. The MPS results suggest that students had appropriate expectations of their work, and the work they did for ten weeks had the characteristics of satisfying and motivating jobs.

The outcomes, or affective responses, to jobs with those characteristics are Satisfaction and Internal Work Motivation. This study anticipated lower levels of satisfaction and work motivation after the ten week experience, because previous research suggested the work done by pharmacists was neither satisfying nor motivating. However, pharmacy students had levels of satisfaction comparable to the professional norm, and these levels did not change over time. In addition, the levels of internal work motivation found in this study did not support the original hypothesis. Pre-externship scores were comparable to the professional norm, and post externship scores were significantly higher for both groups. It seems students became more motivated as they learned about their work, perhaps realizing they could have a positive impact on health care when they performed well.

Analysis of the five context satisfactions found, with the exception of pay, satisfaction with these job related factors. If externship had

been their job, students felt secure, they liked their co-workers, they were fairly treated, and they experienced a sense of accomplishment. Students in a hospital based externship, however, were significantly less satisfied with the pay than were their peers in community pharmacy. This relative dissatisfaction does not seem to have a major effect on their feelings towards the work itself, but it may impact the future work force. Students may select their first job on the basis of a higher salary to pay back loans used to finance their education.

The final variable of interest, Growth Need Strength (GNS) moderates the relationship between job satisfaction and job characteristics. It was expected that pharmacy students would have a GNS comparable to the professional norm, and the GNS would remain relatively stable over time. Analysis found the student GNS comparable to the professional norm, but students in hospital pharmacy externships had significantly higher GNS scores than did students in community pharmacies at both times of testing. This difference is most likely due to the non-random nature of the sample; students chose the setting for their externship. Students who elected hospital pharmacies for the externship may, in fact, have a higher GNS than students who selected community pharmacies. Perhaps higher GNS students elected hospital externships because they heard (or learned) that work in that setting was more challenging. The environmental difference noted in skill variety does support that suggestion. However, no additional significant differences were found in the job characteristics between the two environments, nor were significant environmental differences found in the affective responses. It seems that students self-selected into either community or hospital settings based on some

prior knowledge and set of expectations. Both groups of students had similiar expectations, which were comparable to the professional norm, and most of these expectations did not significantly change over time.

However, students, not practicing pharmacists, were studied. The students' work lasted only ten weeks, and the purpose of the work was learning. At this stage of their professional career, students may not be as critical of their chosen field as are practicing pharmacists. This may explain the differences between pharmacists' and students'levels of job satisfaction. The effect of years of doing the same job with the same type of tasks may have considerable impact on the levels of satisfaction reported in the literature. Similar to other health professions, pharmacy is a terminal career; i.e., the job responsibilities do not expand as the professional develops and matures. As evidenced by students' high GNS, pharmacists need the type of work which continues to provide challenge and opportunity for growth. If the job can not expand, the pharmacist must either seek a different job in the same profession, or change professions entirely. Hackman and Oldham suggest "with time, those who were initially challenged and stimulated may find the job provides insufficient opportunities for continued growth" (1980, p. 148). Those employees will seek more challenging work in other environments or organizations, resulting in a loss of human resources. Since the majority of today's practicing pharmacists are employees, employers should provide some upward mobility if they wish to retain their valuable human resources. This mobility can range from a promotion (manager or supervisor) to a short term special assignment, such as pharmacy newsletters or drug-use audits, geared to the employee's skills and interests.

Schools and colleges of pharmacy need to provide career counselling and development programs for their students and graduates, with emphasis on alternative types of practice (e.g., consulting) and the opportunities provided by additional education.

Pharmacists should also increase their use of technicians, who can perform the routine, nonjudgmental dispensing tasks; allowing more time to pursue those aspects of practice most fulfilling to that individual.

## SUMMARY

Senior pharmacy students were surveyed before and after a practical experience course. The short form of the Job Diagnostic Survey (JDS) was used. Students found the job satisfying, and characterized the work in ways that were similar to published normative data for professionals. Based on these finding, pharmacy seems to have the characteristics of satisfying, motivating, jobs. However, previous research found low levels of job satisfaction in pharmacists. These low levels are potentially a result of the static nature of a pharmacist's work, since students beginning their career found the job satisfying.

Further research using the JDS should assess pharmacists early in their career, and again three to five years later, to determine if the static nature of the work is responsible for dissatisfaction. Research should also examine the GNS differences between pharmacists employed in the two major practice environments; this might be useful in career counseling.

Schools and colleges of pharmacy should provide career counseling and development programs for their students and graduates, and employees are encouraged to provide upward mobility to their pharmacists. Pharmacists should effectively utilize technicians, and concentrate their work activities on those areas which are most rewarding.

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# APPENDIX A

PRE-EXTERNSHIP INSTRUCTIONS FOR THE

JOB DIAGNOSTIC SURVEY

This questionnaire was originally developed by Richard Hackman and Greg Oldham as part of a Yale University study of jobs and how people react to them.

In this study, I am interested in your perceptions of the work and jobs of pharmacists. Results of this study will form the basis for my Master's thesis in Applied Social Psychology at Loyola University of Chicago and will also help explain what it is about the work of pharmacists that is satisfying.

Each of you will begin your Externship in a few weeks. I would like you to imagine that your Externship is not a required course, but a JOB you will begin. In other words, I am interested in how you think you will feel about your Externship if it were your job.

I will also ask you to complete this questionnaire at the end of your Externship to determine if your feelings have changed.

Your responses to this questionnaire will be kept in strict confidence. Your responses will be identified only by your social security number, and that is necessary to measure any changes over time.

On the following pages, you will find several different kinds of questions about "your job." Specific instructions are given at the start of each section. Please read them carefully. It should take no more than 10 minutes to complete the entire questionnaire. Please move through it quickly. There are no "trick" questions. Again, your individual answers will be kept completely confidential. Please answer each item honestly and as frankly as possible. For more information about this questionnaire, its use, or the results, please feel free to contact me at any time.

PRE-EXTERNSHIP EXAMPLE

SECTION ONE

This part of the questionnaire asks you to describe what you think your job will be like. Your job, in this case, is your externship.

A sample question is given below

A. To what extent does your job require you to work with mechanical equipment?

1--------2--------3--------4--------5--------6--------7

| | | |
|---|---|---|
| Very little; the job requires almost no contact with mechanical equipment | Moderately | Very much, the job requires constant work with mechanical equipment |

You are to circle the number which is the most accurate description of what you think your job will be like. Remember, your job is your externship.

If, for example, you think your job as represented by your externship would require little work with mechanical equipment, your might circle the number 2 as shown in the example above.

If you do not understand these instructions, please ask for assistance. If you do understand them, turn the page and begin.

REMEMBER, YOUR JOB IS REPRESENTED BY THE EXTERNSHIP YOU WILL BEGIN

## POST EXTERNSHIP INSTRUCTIONS

Approximately 4 months ago, you completed this survey, which measured what you though your externship would be like if it were your job. Now that you have completed your externship, I ask that you complete this survey again.

As before, imagine that your externship is NOT a required course, but a job you held for the past ten weeks. In other words, I am interested in your feelings about the "job" you held.

Your responses to this questionnaire will be kept in strict confidence. Your responses will be identified only by your social security number, and that is necessary to measure changes that may have occurred.

On the following pages, you will find several different kinds of questions about your "job." Specific instructions are given at the start of each section. Please read them carefully. It should take no more than 10 minutes to complete the entire questionnaire.

> The questions are designed to obtain your perceptions of your "job" and your reactions to it.

There are no "trick" questions. Again, your individual answers will be kept completely confidential. Please answer each item as honestly and frankly as possible.

Thank you for your cooperation.

# THE JOB DIAGNOSTIC SURVEY - SHORT FORM

1. To what extent does your job require you to work closely with other people (either clients, patients, or people in related jobs in the organization)?

1--------2--------3--------4--------5--------6--------7

| | | |
|---|---|---|
| Very little; dealing with other people is not at all necessary in doing the job | Moderately | Very much, dealing with other people is an absolutely essential and crucial part of doing the job |

2. How much autonomy is there in your job? That is, to what extent does your job permit you to decide on your own how to go about doing the work?

1--------2--------3--------4--------5--------6--------7

| | | |
|---|---|---|
| Very little; the job gives me almost no personal "say" about how and when the work is done | Moderate autonomy many things are standardized and not under my control, but I can make some decisions about the work | Very much, the job gives me almost complete responsibility for deciding how and when the work is done |

3. To what extent does your job involve doing a whole and identifiable piece of work? That is, is the job a complete piece of work that has an obvious beginning and end? Or is it only a small part of the overall piece of work, which is finished by other people?

1--------2--------3--------4--------5--------6--------7

| | | |
|---|---|---|
| My job is only a small part of the overall piece of work; the results of my activities cannot be seen in the final product or service | My job is a moderate-sized "chunk" of the overall piece of work; my own contribution can be seen in the final outcome | My job involves doing the whole piece of work, from start to finish; the results of my activities are easily seen in the final product or service |

4. How much variety is there in your job? That is, to what extent does the job require you to do many different things at work, using a variety of your skills and talents?

1--------2--------3--------4--------5--------6--------7

| | | |
|---|---|---|
| Very little; the job requires me to do the same routine things over and over again | Moderate variety | Very much, the job requires me to do many different things, using a number of different skills and talents |

5. In general, how significant or important is your job? That is, are the results of your work likely to significantly affect the lives or well-being of other people?

1--------2--------3--------4--------5--------6--------7

| | | |
|---|---|---|
| Not very significant the outcomes of my work are not likely to have important effects on other people | Moderately significant | Highly significant; the outcomes of my work can affect other people in very important ways |

6. To what extent do managers or co-workers let you know how well you are doing on your job?

1--------2--------3--------4--------5--------6--------7

| | | |
|---|---|---|
| Very little; people almost never let me know how well I am doing | Moderately, sometimes people may give me "feedback;" other times they may not | Very much, managers or co-workers provide me with almost constant "feedback" about how well I am doing. |

7. To what extent does doing the job itself provide you with information about your work performance? That is, does the actual work itself provide clues about how well you are doing--aside from "feedback" provided by co-workers or supervisors?

1--------2--------3--------4--------5--------6--------7

| | | |
|---|---|---|
| Very little; the job itself is set up so I could work forever without finding out how well I am doing | Moderately; sometimes doing the job provides "feedback", sometimes it doesn't | Very much; the job is set up so that I get almost constant "feedback" about how well I am doing |

## SECTION TWO

Listed below are a number of statements which could be used to describe a job. Respond to the following statements as if your externship was your JOB and not a course.

You are to indicate whether each statement is an accurate or an inaccurate description of what you think this job will be like.

Write a number in the blank beside each statement, based on the following scale:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Very Inaccurate | Mostly Inaccurate | Slightly Inaccurate | Uncertain | Slightly Accurate | Mostly Accurate | Very Accurate |

_____1. The job requires me to use a number of complex or high level skills.

_____2. The job requires a lot of cooperative work with other people.

_____3. The job is arranged so that I do not have the chance to do an entire piece of work from beginning to end.

_____4. Just doing the work required by the job provides many chances for me to figure out how well I am doing.

_____5. The job is quite simple and repetitive.

_____6. The job can be done adequately by a person working alone without talking or checking with other people.

_____7. The supervisors and co-workers on this job almost never give me any "feedback" about how well I am doing in my work.

_____8. This job is one where a lot of other people can be affected by how well the work gets done.

_____9. The job denies me any chance to use my personal initiative or judgement in carrying out work.

_____10. Supervisors often let me know how well they think I am performing the job.

_____11. The job provides me the chance to completely finish the pieces of work I begin.

_____12. The job itself provides very few clues about whether or not I am performing well.

_____13. The job gives me considerable opportunity for independence and freedom in how I do the work.

_____14. The job itself is <u>not</u> very significant or important in the broader scheme of things.

## SECTION THREE

Now, please indicate how you personally feel about your job. Respond to the following statements as if your externship was your JOB and not a course.

Each of the following statements is something a person might say about his or her job. Indicate your own, personal <u>feelings</u> about what you expect this job to be like by marking how much you agree with each of the statements.

Write a number in the blank for each statement, based on the scale:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Disagree Strongly | Disagree | Disagree Slightly | Neutral | Agree | Agree Slightly | Agree Strongly |

_____1. My opinion of myself goes up when I do this job well.

_____2. Generally speaking, I am very satisfied with this job.

_____3. I feel a great sense of personal satisfaction when I do this job well.

_____4. I frequently think of quitting this job.

_____5. I feel bad and unhappy when I discover that I have performed poorly on this job.

_____6. I am generally satisfied with the kind of work I do in this job.

_____7. My own feelings generally are <u>not</u> affected much one way or the other by how well I do this job.

## SECTION FOUR

Now, please indicate how satisfied you think you will be with each aspect of this job. Remember, your externship is a JOB and not a course; in other words, how satisfied do you think you will be if your externship was your job?

Once again, write the appropriate number in the blank beside each statement.

How satisfied are you with this aspect of your job?

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Extremely Dissatisfied | Dissatisfied | Slightly Dissatisfied | Neutral | Slightly Satisfied | Satisfied | Extremely Satisfied |

_____1. The amount of job security I have.

_____2. The amount of pay and fringe benefits I receive.

_____3. The amount of personal growth and development I get in doing my job.

_____4. The people I talk to and work with on my job.

_____5. The degree of respect and fair treatment I get from doing my job.

_____6. The feeling of worthwhile accomplishment I get from doing my job.

_____7. The chance to get to know other people while on the job.

_____8. The amount of support and guidance I receive from my supervisor.

_____9. The degree to which I am fairly paid for what I contribute to the organization.

_____10. The amount of independent thought and action I can exercise in my job.

_____11. How secure things look for me in the future in the organization.

_____12. The chance to help other people while at work.

_____13. The amount of challenge in my job.

_____14. The overall quality of the supervision I receive in my work.

## SECTION FIVE

Listed below are a number of characteristics which could be present on any job. People differ about how much they would like to have each present in their own jobs. I am interested in learning how much you personally would like to have each one present in your job.

Using the scale below, please indicate the degree to which you would like to have each characteristic present in your job as a PHARMACIST, not as a technician, student, or apprentice.

Note: The numbers on this scale are different from those used in previous scales.

| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|
| Would like having this only a moderate amount or less | | | Would like having this very much | | | Would like having this extremely much |

_____1. High respect and fair treatment from my supervisor.

_____2. Stimulating and challenging work.

_____3. Chances to exercise independent thought and action in my job.

_____4. Great job security.

_____5. Very friendly co-workers.

_____6. Opportunities to learn new things at work.

_____7. High salary and good fringe benefits.

_____8. Opportunities to be creative and imaginative in my work.

_____9. Quick promotions.

_____10. Opportunities for personal growth and development in my job.

_____11. A sense of worthwhile accomplishment in my work.

# SCORING KEY

I. Job Dimensions

A. Skill Variety

Average of: Section One #4
Section Two #1
#5 (reverse scored)

B. Task Identity

Average of: Section One #3
Section Two #11
#3 (reverse scored)

C. Task Significance

Average of: Section One #5
Section Two #8
#14 (reverse scored)

D. Autonomy

Average of: Section One #2
Section Two #13
#9 (reverse scored)

E. Feedback from the Job Itself

Average of: Section One #7
Section Two #4
#12 (reverse scored)

F. Feedback from Agents

Average of: Section One #6
Section Two #10
#7 (reverse scored)

G. Dealing with Others

Average of: Section One #1
Section Two #2
#6 (reverse scored)

II. Affective Dimensions

A. General Satisfaction

Average of: Section Three #2
#6
#4 (reverse scored)

B. Internal Work Motivation

Average of: Section Three #1
#3
#5
#7 (reverse scored)

III. Context Satisfactions

A. Pay: Average of Section Four, #2 and #9

B. Security: Average of Section Four, #1 and #11

C. Social: Average of Section Four, #4, #7, and #12

D. Supervisory: Average of Section Four, #5, #8, and #14

E. Growth: Average of Section Four, #3, #6, #10, and #13.

IV. Individual Growth Need Strength

Average of: Section Five #2
#3
#6
#8
#10
#11
(three subtrated from each response before adding)

V. Motivating Potential Score

$$MPS = \frac{\text{Skill Variety} + \text{Task Identity} + \text{Task Significance}}{} \times \text{Autonomy} \times \text{Feedback from the Job}$$

# APPENDIX B

MEAN AND STANDARD DEVIATION

SUMMARY TABLE FOR

ALL JDS VARIABLES AND THE

PUBLISHED PROFESSIONAL NORM

PRE-EXTERNSHIP

| | Community (n=17) | | Hospital (n=21) | | Norm | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | M | SD |
| Skill Variety | 4.92 | .70 | 4.97 | .99 | 5.4 | 1.0 |
| Task Identity | 5.08 | 1.01 | 4.56 | .94 | 5.1 | 1.2 |
| Task Significance | 5.82 | 1.06 | 6.32 | .70 | 5.6 | .95 |
| Autonomy | 4.23 | 1.08 | 4.73 | .73 | 5.4 | 1.0 |
| Feedback from Job | 4.53 | 1.05 | 4.98 | .89 | 5.1 | 1.1 |
| Feedback from Agents | 4.74 | .87 | 5.19 | 1.18 | 4.2 | 1.4 |
| Dealing with Others | 5.14 | .62 | 5.17 | .71 | 5.8 | .96 |
| MPS | 100.57 | 44.07 | 122.78 | 40.87 | 154 | 55 |
| General Satisfaction | 5.31 | 1.09 | 5.54 | .69 | 4.9 | .99 |
| Internal Work Motivation | 4.76 | .49 | 5.19 | 1.18 | 5.8 | .65 |
| Pay | 4.82 | 1.45 | 4.95 | 1.36 | 4.4 | 1.5 |
| Security | 5.56 | 1.12 | 5.31 | .87 | 5.0 | 1.2 |
| Social | 5.78 | .71 | 5.76 | .61 | 5.5 | .85 |
| Supervisory | 5.31 | .74 | 5.46 | .75 | 4.9 | 1.3 |
| Growth | 5.21 | .84 | 5.45 | .74 | 5.1 | 1.1 |
| GNS | 5.65 | 1.11 | 6.28 | 1.02 | 5.6 | .57 |

MEAN AND STANDARD DEVIATION

SUMMARY TABLE FOR

FOR ALL JDS VARIABLES

AND THE PUBLISHED PROFESSIONAL NORM

POST EXTERNSHIP

| | Community (n=17) | | Hospital (n=21) | | Norm | |
|---|---|---|---|---|---|---|
| | M | SD | M | SD | M | SD |
| Skill Variety | 4.63 | 1.01 | 5.22 | 1.01 | 5.4 | 1.0 |
| Task Identity | 5.41 | 1.26 | 5.09 | 1.5 | 5.1 | 1.2 |
| Task Significance | 6.09 | .74 | 6.3 | 1.27 | 5.6 | .95 |
| Autonomy | 4.92 | 1.53 | 5.14 | .92 | 5.4 | 1.0 |
| Feedback from Job | 4.9 | 1.27 | 5.22 | 1.26 | 5.1 | 1.1 |
| Feedback from Agents | 5.49 | 1.12 | 5.00 | 1.73 | 4.2 | 1.4 |
| Dealing with Others | 5.29 | .76 | 5.86 | .85 | 5.8 | .96 |
| MPS | 139.62 | 65.75 | 164.15 | 69.58 | 154 | 55 |
| General Satisfaction | 5.45 | 1.35 | 5.27 | 1.61 | 4.9 | .99 |
| Internal Work Motivation | 6.01 | .61 | 6.12 | .88 | 5.8 | .65 |
| Pay | 4.91 | 1.47 | 3.83 | 1.66 | 4.4 | 1.5 |
| Security | 5.33 | 1.14 | 5.02 | 1.36 | 5.0 | 1.2 |
| Social | 5.74 | .76 | 6.05 | .94 | 5.5 | .85 |
| Supervisory | 5.74 | 1.32 | 5.27 | 1.52 | 4.9 | 1.3 |
| Growth | 5.29 | 1.08 | 5.21 | 1.18 | 5.1 | 1.1 |
| GNS | 5.76 | 1.08 | 6.64 | .43 | 5.6 | .57 |

ANOVA SUMMARY TABLE FOR

SKILL VARIETY

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | 1.34 | 1 | 1.34 | 1.16 | .29 |
| error | 41.64 | 36 | 1.16 | | |
| Within Subjects | | | | | |
| time | .04 | 1 | .04 | .1 | .754 |
| envir. by time | 2.74 | 1 | 2.74 | 6.26 | .016 |
| error | 15.79 | 36 | .44 | | |

ANOVA SUMMARY TABLE FOR

TASK IDENTITY

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | 3.24 | 1 | 3.24 | 2.06 | .16 |
| error | 56.54 | 36 | 1.57 | | |
| Within Subjects | | | | | |
| time | 3.51 | 1 | 3.51 | 2.67 | .11 |
| envir. by time | .18 | 1 | .18 | .14 | .71 |
| error | 47.39 | 36 | 1.32 | | |

ANOVA SUMMARY TABLE FOR

TASK SIGNIFICANCE

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | 1.89 | 1 | 1.89 | 1.97 | .17 |
| error | 34.72 | 36 | .96 | | |
| Within Subjects | | | | | |
| time | .46 | 1 | .46 | .5 | .47 |
| envir. by time | .47 | 1 | .47 | .54 | .47 |
| error | 30.95 | 36 | .86 | | |

ANOVA SUMMARY TABLE FOR

AUTONOMY

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | 2.42 | 1 | 2.42 | 1.77 | .19 |
| error | 49.38 | 36 | 1.37 | | |
| Within Subjects | | | | | |
| time | 5.68 | 1 | 5.68 | 5.95 | .02 |
| envir. by time | .35 | 1 | .35 | .37 | .55 |
| error | 34.32 | 36 | .95 | | |

ANOVA SUMMARY TABLE FOR

FEEDBACK FROM THE JOB

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | 2.81 | 1 | 2.81 | 1.99 | .17 |
| error | 50.97 | 36 | 1.42 | | |
| Within Subjects | | | | | |
| time | 1.75 | 1 | 1.75 | 1.56 | .22 |
| envir. by time | .09 | 1 | .09 | .08 | .78 |
| error | 40.42 | 36 | 1.12 | | |

ANOVA SUMMARY TABLE FOR

DEALING WITH OTHERS

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | 1.38 | 1 | 1.38 | 2.84 | .09 |
| error | 17.45 | 36 | .48 | | |
| Within Subjects | | | | | |
| time | 3.78 | 1 | 3.78 | 6.92 | .01 |
| envir. by time | 1.03 | 1 | 1.03 | 1.88 | .18 |
| error | 19.65 | 36 | .55 | | |

ANOVA SUMMARY TABLE FOR

FEEDBACK FROM AGENTS

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | .01 | 1 | .01 | .004 | .95 |
| error | 70.17 | 36 | 1.95 | | |
| Within Subjects | | | | | |
| time | 1.44 | 1 | 1.44 | 1.05 | .31 |
| envir. by time | 4.12 | 1 | 4.12 | 2.99 | .08 |
| error | 49.59 | 36 | 1.38 | | |

ANOVA SUMMARY TABLE FOR

MOTIVATING POTENTIAL SCORE

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | 10,259.77 | 1 | 10,259.77 | 2.99 | .08 |
| error | 123,393.72 | 36 | 3,427.60 | | |
| Within Subjects | | | | | |
| time | 30,380.98 | 1 | 30,380.98 | 10.2 | .003 |
| envir. by time | 25.25 | 1 | 25.25 | .01 | .92 |
| error | 107,187.28 | 36 | 2,977.42 | | |

ANOVA SUMMARY TABLE FOR

GENERAL SATISFACTION

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | .008 | 1 | .008 | .005 | .94 |
| error | 56.83 | 36 | 1.58 | | |
| Within Subjects | | | | | |
| time | .08 | 1 | .08 | .06 | .81 |
| envir. by time | .78 | 1 | .78 | .54 | .47 |
| error | 52.35 | 36 | 1.45 | | |

ANOVA SUMMARY TABLE FOR

INTERNAL WORK MOTIVATION

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | .02 | 1 | .02 | .03 | .86 |
| error | 21.46 | 36 | .59 | | |
| Within Subjects | | | | | |
| time | 32.81 | 1 | 32.81 | 124.68 | .001 |
| envir. by time | .09 | 1 | .09 | .345 | .56 |
| error | 9.47 | 36 | .26 | | |

ANOVA SUMMARY TABLE FOR

PAY

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | 4.24 | 1 | 4.24 | 1.14 | .29 |
| error | 133.92 | 36 | 3.72 | | |
| Within Subjects | | | | | |
| time | 4.99 | 1 | 4.99 | 6.84 | .01 |
| envir. by time | 6.85 | 1 | 6.85 | 9.38 | .004 |
| error | 26.29 | 36 | .73 | | |

ANOVA SUMMARY TABLE FOR

SECURITY

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | 1.13 | 1 | 1.13 | .67 | .42 |
| error | 60.32 | 36 | 1.68 | | |
| Within Subjects | | | | | |
| time | 1.58 | 1 | 1.58 | 1.82 | .19 |
| envir. by time | 0 | | | | |
| error | 31.16 | 36 | .87 | | |

ANOVA SUMMARY TABLE FOR

SOCIAL

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | .37 | 1 | .37 | .51 | .48 |
| error | 26.48 | 36 | .74 | | |
| Within Subjects | | | | | |
| time | .29 | 1 | .29 | .66 | .42 |
| envir. by time | .5 | 1 | .5 | 1.15 | .29 |
| error | 15.69 | 36 | .44 | | |

ANOVA SUMMARY TABLE FOR

SUPERVISORY

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | .34 | 1 | .34 | .25 | .62 |
| error | 47.98 | 36 | 1.33 | | |
| Within Subjects | | | | | |
| time | .15 | 1 | .15 | .12 | .73 |
| envir. by time | 1.49 | 1 | 1.49 | 1.18 | .29 |
| error | 45.77 | 36 | 1.27 | | |

ANOVA SUMMARY TABLE FOR

GROWTH

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | .55 | 1 | .55 | .43 | .52 |
| error | 44.56 | 36 | 1.24 | | |
| Within Subjects | | | | | |
| time | .11 | 1 | .11 | .18 | .67 |
| envir. by time | .11 | 1 | .11 | .18 | .67 |
| error | 22.15 | 36 | .62 | | |

ANOVA SUMMARY TABLE FOR

INDIVIDUAL GROWTH NEED STRENGTH

| SOURCE | S.S. | D.F. | M.S. | F | P |
|---|---|---|---|---|---|
| Between Subjects | | | | | |
| environment | 10.79 | 1 | 10.79 | 9.33 | .004 |
| error | 41.66 | 36 | 1.16 | | |
| Within Subjects | | | | | |
| time | 1.05 | 1 | 1.05 | 1.80 | .19 |
| envir. by time | .28 | 1 | .28 | .48 | .49 |
| error | 20.99 | 36 | .58 | | |

Approval Sheet

The thesis submitted by Mary Eileen Dean has been read and approved by the following committee:

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The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts, Applied Social Psychology.

11/24/89
Date

R Scott Tindale
Director's Signature