

# Pharmacists' Job Satisfaction: Variation by Practice Setting

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## ABSTRACT

**Objectives:** The purpose of this study was to determine the level of job satisfaction of pharmacists working in different settings and to measure the extent to which place of employment influenced levels of job satisfaction.

**Methods:** A Web-based survey questionnaire was administered to a nationwide sample of currently practicing pharmacists in the U.S.

**Results:** Most respondents were satisfied with their positions, with 68% "more" satisfied and 32% "less" satisfied. Pharmacists in independent and inpatient hospital pharmacies reported the highest rates of satisfaction (80% and 78%, respectively). Pharmacists in chain pharmacies reported much lower rates of satisfaction (53%) than those in all other settings ( $P < .05$ ) and were 66% less likely to be satisfied than those in independent pharmacies.

**Conclusion:** Overall, pharmacists were satisfied with their jobs, although those working in chain pharmacies reported significantly lower job satisfaction than their professional peers in other settings. Differences in job satisfaction were not explained by pharmacist demographics or other measured factors. Further research is needed to understand which aspects of jobs in different settings are more or less satisfying.

**Key words:** Pharmacists, practice setting, job satisfaction, Web-based survey

## INTRODUCTION

According to the Health Resources and Services Administration (HRSA), the 196,000 active pharmacists practicing in the year 2000 constituted the third largest health professional group in the U.S.<sup>1</sup> With the demand for pharmacists steadily rising over the last two decades, HRSA has projected that the total needed active workforce is expected to reach 224,500 pharmacists by the year 2010.<sup>1</sup>

Key factors contributing to the rising demand for pharmacists include the increased use of pharmaceuticals resulting from the aging of the population and the expansion of pharmacy practice and pharmacists' responsibilities, which range from counseling and educating patients to managing medications within all health care settings.<sup>1-3</sup> However, there is a persistent national discrepancy between the demand for and the supply of pharmacists.<sup>1,3,4</sup> A striking example of this imbalance has been the growing vacancy rate and the time required to fill vacant positions.<sup>1</sup> A complex set of factors contributing to this shortage has been identified, including:<sup>1,2,5</sup>

- a decline in pharmacy graduates and in the number of applications to pharmacy schools.
- an escalating number of women entering the profession (accounting for 46% of the active pharmacist workforce in 2000) who tend to choose part-time work.
- growing job opportunities for pharmacists in nontraditional settings, such as business, government, and wholesale trades.

The chronic shortage of pharmacists appears to be detrimental to the profession and has led to a consistent increase in the practice workload and to longer and less flexible working schedules.<sup>1</sup> The degree of pharmacists' contentment with their profession is of great concern. Many studies have found that pharmacists experience high levels of stress in their daily professional duties that diminishes their quality of life on the job and greatly increases the likelihood of errors in dispensing medications.<sup>6-10</sup> In a survey of licensed pharmacists, only 50% of respondents reported that they would choose their profession if they had to make the choice all over again.<sup>7</sup>

Not surprisingly, a high rate of job turnover exists among pharmacists (averaging 11% per year between 1983 and 1997), nearly twice the average turnover rate for the same period for all sectors of the national economy.<sup>9</sup> Pharmacists' level of satisfaction with their work activities has been found to be a prominent predictor of job turnover; that is, an increase in job satisfaction can reduce the likelihood of job turnover.<sup>7</sup>

Several factors, including pharmacists' perceived utilization of their skills and feelings about the types of activities performed at work,<sup>11,12</sup> along with the type of practice setting, affect levels of job satisfaction. In previous research, pharmacists working in chain stores reported lower levels of satisfaction than did their peers who were working in independent or hospital settings.<sup>6,8,10,13</sup> Unfortunately, studies to date have included samples consisting of members of a specific organization<sup>8</sup> or of pharmacists practicing in only one state<sup>10</sup> or were more than 10 years old.<sup>6,13</sup> Thus, earlier studies might not accurately reflect the levels of job satisfaction in the current pharmacist population.

## OBJECTIVES

The study was conducted to collect information about pharmacists' satisfaction in their practice settings from a nationally representative sample to determine to what degree their place of employment influenced their levels of satisfaction.

## METHODS

The methods used to conduct this study can be found in one of our other sources.<sup>14</sup> The current study employed a cross-sectional, Web-based survey design to elicit responses to a variety of questions. Thomas Jefferson University's institutional review board reviewed and approved the study protocol.

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## Participants

The study population included all pharmacists who were practicing in the U.S. in various settings, including chain and independent pharmacies, hospitals, home health care and long-term-care facilities, and mail-order pharmacies. A random sample of 5,000 individuals was drawn from a sampling frame of pharmacists who belonged to preselected professional organizations obtained from a specialized marketing service company. From this list, a smaller random sample of 2,000 pharmacists was identified.

## Survey Questionnaire

The project staff developed a survey instrument consisting of 31 questions on a variety of topics. Demographic questions addressed age, sex, location, and current primary type of employment. Respondents were asked to indicate the average number of hours worked per week, the average time spent in counseling patients, and the number of years in practice.

The question "How satisfied are you with your current job?" was asked in order to elicit information regarding job satisfaction. A five-point Likert scale was used to measure the responses, which ranged from 1 (extremely dissatisfied) to 5 (extremely satisfied).

## Data Collection and Analysis

The questionnaire was formatted for and posted on a Web-based survey portal ([www.surveymonkey.com](http://www.surveymonkey.com)). Before the survey was implemented with the random sample of pharmacists, it was pilot-tested with a convenience sample of 12 pharmacists, resulting in the need for minor modifications. To examine the convenience and reliability of the survey site, the project investigators accessed the survey through a variety of common Web portals.

After the pilot-testing was completed, the staff mailed a letter explaining the study and supplying the Internet address (needed to access the survey site) to 2,000 pharmacists in September 2001. For those who did not wish to or who could not complete the survey on-line, the name and phone number of a "contact person" were provided so that the respondents could request a written survey.

Pharmacists who did not receive the initial recruitment letter because of an incorrect address were replaced in the sample. Replacements for these sample members were randomly selected from the unused portion of the original sample of 5,000 names, and initial letters were mailed to the replacements.

A follow-up mailing, conducted two weeks after the initial mailing, was sent to the nonresponders. Enrollment in the survey was halted one month after the initial mailing.

As an incentive to participate, all respondents were entered in a prize drawing and had a 10% chance of winning a \$50 gift certificate. All participation was voluntary and confidential.

Responses were collected on the survey Web site, and for participants who completed the printed questionnaire, all responses were entered into the form on the Web site by a staff member. The complete data file was subsequently downloaded in the form of a Microsoft® Excel® spreadsheet. Descriptive statistics were calculated for all variables.

For purposes of the analyses, the five-point Likert scale,

used to capture levels of job satisfaction, was converted into a dummy variable, because the distribution of responses was fairly unequal. Response values of 1, 2, and 3 were grouped into a "less satisfied" category, and response values of 4 and 5 were grouped into a "more satisfied" category.

Because of the small number of responses within certain practice categories, the pharmacists' responses were aggregated for purposes of analysis into the following four practice settings:

- chain pharmacies
- independent pharmacies
- hospital inpatient pharmacies
- other (e.g., mail-order pharmacies, outpatient settings, long-term-care facilities, home health care facilities, and outpatient clinics)

The practice setting (chain, independent, hospital inpatient, or other) was the primary *independent* variable, and job satisfaction was the *dependent* variable. Age, sex, average hours worked per week, time spent counseling patients, and years in practice were also considered as predictors of job satisfaction on the basis of the literature review.

All of the independent variables were included in separate two-sided *chi-square* analyses to investigate their relationship to satisfaction. For these analyses, we converted the following independent variables into separate categories:

- age, three categories: 30 years or less, 31 to 50 years, and greater than 50 years
- years of practice, three categories: 10 years or less, 11 to 20 years, and greater than 20 years
- average hours worked per week, three categories: 36 hours or less, 37 to 44 hours, and more than 44 hours

Finally, to determine the association between the average time spent counseling patients and job satisfaction, we converted average time into a dichotomous variable: no time spent versus some time spent.

A number of multivariate logistic regression models were also constructed to investigate the relationships among variables and satisfaction levels. The dependent variable for all models was the dummy variable for satisfaction. The following independent variables were considered:

- practice setting
- age
- sex
- average hours worked per week
- time spent in counseling patients
- years in practice

All regression results were expressed as odds ratios (ORs), which measured the strength of association between the independent and dependent variables in the model.<sup>15</sup> A significance level of .05 was used for all statistical tests.

SAS statistical package software (SAS Institute, version 8.1, Cary, NC) was used to analyze the data.

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## RESULTS

### Participants

Of the 2,000 recruitment letters that were mailed, 102 letters were returned as undeliverable. Sixty-five additional initial letters were sent out to randomly selected replacements; however, because of the timing of the returned letters, not all undeliverable potential respondents could be replaced. In all, 1,963 pharmacists are believed to have received the initial survey letter. A total of 373 responses were received, resulting in a response rate of 19%.

Upon detailed examination of the responses, data from eight respondents that did not meet the inclusion criteria were excluded. Four respondents were retired, three were not practicing pharmacy, and one was employed in a non-pharmacy/health care setting. The final sample for analysis contained data from 365 participants.

As shown in Table 1, a slight majority of respondents were women (52%), and the mean age was 43 years. Overall, respondents had been practicing for 18 years, although the range was considerable (0–55 years) and the standard deviation was large (12).

Thirty-one percent of respondents worked in a chain community pharmacy; 23%, in an independent community pharmacy; and 25%, in an inpatient hospital pharmacy. Those in the "other" category worked in mail-order pharmacies (5%), hospital outpatient settings (3%), long-term-care facilities (2%), home health care facilities (2%), outpatient clinics (2%), and other settings (7%).

With regard to hours worked, 82% worked full-time (more than 36 hours per week). A similar percentage of respondents spent some time counseling patients.

Respondents were well distributed across the U.S., although most of them resided in the northeast and South.

### Factors Affecting Satisfaction

Overall, most respondents were satisfied with their positions; 68% were "more" satisfied, and 32% were "less" satisfied. Pharmacists in independent and inpatient hospital settings had the highest rates of satisfaction (80% and 78%, respectively) (Table 2). Pharmacists in chain pharmacies had much lower rates of satisfaction (53%) than those in any other settings ( $P < .05$ ). Women were more likely to be satisfied with their positions than men (73% vs. 62%) ( $P < .05$ ).

Finally, *chi-square* analyses revealed no significant differences in the proportion of pharmacists who were satisfied with their jobs according to age, spending any time counseling patients, and average hours worked per week. However, it is worth noting that pharmacists who were 50 years of age and older, who were in practice for 20 years and more, or who were working more than 44 hours per week tended to be more satisfied in their positions.

### Predictors of Satisfaction

A number of multivariate logistic regression models were constructed to investigate the relative impact of practice setting on pharmacists' satisfaction levels. We constructed several models controlling for age, sex, practice setting, years in practice, hours worked per week, and counseling patients. First, the variables of hours worked per week and practice setting were

Table 1 Respondent Demographics (n = 365)

Characteristic	No. (%)* of Respondents
Sex, male	174 (48)
Age (years)†	
≤30	60 (16)
31–40	123 (34)
41–50	93 (25)
51–60	51 (14)
≥61	38 (10)
Years in practice‡	
≤5	37 (10)
6–10	108 (30)
11–15	38 (10)
16–20	35 (10)
21–25	44 (12)
26–30	44 (12)
≥31	59 (16)
Practice setting	
Chain pharmacy	113 (31)
Independent pharmacy	83 (23)
Hospital inpatient pharmacy	92 (25)
Other	77 (21)
Average hours worked per week	
≤32 hours	62 (17)
33–36	5 (1)
37–40	83 (23)
41–44	111 (30)
≥45 hours	104 (28)
Average time per day spent counseling patients	
None	59 (16)
Less than 30 minutes	66 (18)
30 minutes to less than 1 hour	87 (24)
1 hour to less than 2 hours	80 (22)
2 hours or more	73 (20)
Region§	
Northeast	118 (32)
South	117 (32)
Midwest	79 (22)
West	51 (14)

\* Totals might not sum 100% because of rounding.

† Mean ± S.D., 43 ± 12 years.

‡ Mean ± S.D., 18 ± 12 years.

§ Source: Census Regions and Divisions of the United States.

Available at: [www.census.gov/geo/www/us\\_regdiv.pdf](http://www.census.gov/geo/www/us_regdiv.pdf).

added consecutively to the model. At this point in the analysis, both categories—chain and "other" practice settings—were significant. However, with the addition of any of the four remaining variables (sex, years in practice, age, or time spent counseling patients), the category of "other" lost its significance.

In the most comprehensive model (Table 3), the number of years in practice was included and age was left out, because the two variables were shown to be highly correlated in a separate analysis ( $r = 0.96$ ). Only one variable—working in a chain pharmacy—significantly affected levels of job satisfac-

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**Table 2 Factors Affecting Pharmacists' Reporting of Satisfaction with Current Job (n = 365)**

Factor	Less Satisfied: No. (%) Respondents	More Satisfied: No. (%) Respondents
Age		
≤30 years	22 (37)	38 (63)
31–50 years	73 (34)	143 (66)
>50 years	22 (25)	67 (75)
Sex*		
Female	51 (27)	140 (73)
Male	66 (38)	108 (62)
Practice setting*		
Chain pharmacy	53 (47)	60 (53)
Independent pharmacy	17 (20)	66 (80)
Inpatient hospital pharmacy	20 (22)	72 (78)
Other	27 (35)	50 (65)
Average hours worked per week		
≤36 hours	25 (37)	42 (63)
37–44	65 (34)	129 (66)
>44	27 (26)	77 (74)
Time spent counseling patients		
None	17 (29)	42 (71)
Some	100 (33)	206 (67)
Years in practice		
≤10 years	51 (35)	94 (65)
11–20 years	27 (37)	46 (63)
>20 years	39 (27)	108 (73)

\*Statistically significant at  $P < .05$  using a *chi-square* test.

tion ( $P < .01$ ). The OR of 0.338 indicates that after controlling for the other independent variables, pharmacists working in chain pharmacies were 66% less likely than pharmacists working in independent pharmacies (the reference group) to be satisfied. This variable's significance persisted throughout the more parsimonious models. It is interesting that the respondents' sex, which was thought of as a factor likely to affect levels of satisfaction, was not significant.

### DISCUSSION

The overall purpose of the study was to determine the level of current job satisfaction among pharmacists working in different settings. Several analytical strategies were used to examine the relationship between levels of job satisfaction and type of setting. Although our research updates the existing information regarding pharmacists' job satisfaction,<sup>6–8,10–13</sup> it does not offer definitive answers; in fact, it raises even more questions.

On an aggregate level, the study's results, in agreement with previous research,<sup>7,8</sup> showed that pharmacists were generally satisfied with their activities while on the job. This suggests that in this transition phase within the profession—with pharmacists being called upon to expand their practice and

assume a stronger role in ensuring the quality of care within the health care delivery system—most pharmacists adapted to the changes and appeared to be motivated to pursue their professional activities.

However, levels of job satisfaction varied greatly with regard to place of employment. Indeed, more than 75% of respondents working in independent and hospital settings were contented; conversely, only 50% of pharmacists practicing in chain settings reported contentment. Place of employment is, therefore, a factor that influences levels of job satisfaction. Practicing in chain settings was the only characteristic that appeared to be contributing to dissatisfaction among pharmacists.

Our results reinforced earlier findings that job satisfaction varied according to the work setting, particularly with chain pharmacies.<sup>6,8,10</sup> As suggested, differences in workplace activities might help to explain reported variations in job satisfaction within practice settings.<sup>8,10,11</sup> For example, pharmacists in community (chain and independent) pharmacies perceived that they were using their skills to a lesser extent than their peers employed in hospitals because they were less involved in nondistributive functions (e.g., direct patient care).<sup>16</sup>

However, differences in workplace activities might not be sufficient to explain why independent pharmacists appear to be much more satisfied than chain pharmacists. In fact, in an analysis of the 2000 National Pharmacist Workforce Survey, workload and professional responsibilities were found to be similar in community pharmacists regardless of pharmacy type (chain, supermarket, mass merchandiser, or independent).<sup>17</sup> Therefore, the deeper influences of level of job satisfaction are likely to be found elsewhere.

For pharmacists employed in different settings, McHugh found that the quality of work life was lower for those in chain settings.<sup>8</sup> Chain pharmacists reported a low perception of being rewarded for doing quality work and perceived that their workplace did not provide them with sufficient help to perform and improve their duties. They reported rarely meeting with coworkers to discuss patient care issues and did not have enough time to upgrade their clinical knowledge and practice.<sup>8</sup> More research is needed to investigate work-related factors that affect low levels of job satisfaction in chain settings, and, more important, to identify strategies to improve satisfaction and retention.

Our findings also shed light on the levels of job satisfaction among hospital pharmacists, although the nature of the relationship remains unclear. Hospital pharmacists in this study were among those most satisfied with their jobs; Bond et al. also found that they had the highest levels of satisfaction.<sup>10</sup> In McHugh's study, however, they reported the lowest levels of job satisfaction.<sup>8</sup> More studies are needed to address these discordant results.

Finally, our results suggest that levels of job satisfaction might not be related to certain demographic variables, such as sex. In fact, the initial significant difference in job satisfaction between the sexes, found via the *chi-square* analysis, disappeared when the regression analyses were performed after controlling for practice setting and other individual characteristics. This finding differs from McHugh's survey, in which women reported significantly higher levels of job satisfaction.<sup>8</sup>

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Table 3 Logistic Regression Results: Pharmacists' Satisfaction with Current Job

Independent Variable	Respondents (n = 365)	
	Odds Ratio	95% Confidence Interval
Male	0.818	0.480, 1.395
Practice setting (vs. independent pharmacy)		
Chain pharmacy	0.338*	0.169, 0.676
Inpatient hospital pharmacy	1.007	0.450, 2.254
Other	0.513	0.237, 1.112
Hours worked per week (vs. >44)		
≤36	0.624	0.301, 1.293
37-41	0.811	0.462, 1.422
Any time spent counseling patients (vs. No time spent counseling patients)	1.054	0.531, 2.094
Years in practice (each year increment)	1.009	0.986, 1.032

\*P < .01.

Additional research is needed to investigate sex-related job satisfaction within the pharmacy profession.

### LIMITATIONS OF THE STUDY

All data were self-reported and are therefore subject to bias. Because this study adopted a cross-sectional methodology, determining causality among variables should be undertaken with caution.<sup>18,19</sup> Levels of job satisfaction were assessed with only one item, which might have reduced the reliability and validity of study findings, and the relatively low response rate might limit the generalizability of the study's findings.

As reported in the literature, although Web-based surveys reduce costs and administration overhead, ensure participants' anonymity, and facilitate data collection, using this type of survey might have influenced the response rate because of technical incompatibilities and users' confidence with the Internet.<sup>20-22</sup>

The limited response rate makes our results susceptible to nonresponse error.<sup>23</sup> To examine nonresponse bias, the project staff compared the first 10% of respondents with the last 10% in age, sex, and place of employment. It is assumed that late responders might reflect the characteristics of the nonresponders.<sup>23,24</sup> The fact that there were no statistically significant differences between the early and the late respondents provides some reassurance about the generalizability of the study's findings to the overall pharmacist population in the U.S.

Because the sample of pharmacists consisted of members of preselected professional organizations, survey responses might be biased because of the status of the members. Caution should be used in generalizing study conclusions to pharmacists who do not belong to professional organizations.

Finally, demographic information was not collected on variables such as job position, educational attainment, and union status, which might affect levels of reported job satisfaction. Future studies should include all possible variables that affect job satisfaction.

### CONCLUSION

In general, pharmacists were satisfied with their jobs. Pharmacists working in chain pharmacies reported significantly

lower job satisfaction than their professional peers in other settings. Differences in job satisfaction were not explained by pharmacist demographics or other measured factors. Further research is needed to elucidate which aspects of pharmacist jobs in different settings are more or less satisfying so that appropriate strategies can be adopted to improve satisfaction and retention. A higher level of satisfaction within the pharmacy workforce is likely to improve efforts to recruit new workers to the field to meet current and anticipated demand for pharmacists.

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