

## RESEARCH ARTICLES

### Job Turnover Intentions Among Pharmacy Faculty

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**Objectives.** To determine the primary reasons why pharmacy faculty intend to remain or leave their current institution and why they left their most recent academic institution, and the relative contribution of various organizational and individual characteristics toward explaining variance in turnover intentions.

**Methods.** A survey instrument was e-mailed to pharmacy faculty members asking respondents to indicate up to 5 reasons for their intentions and up to 5 reasons why they left a previous institution. The survey also elicited perceptions on quality of work life in addition to demographic and institutional data, upon which turnover intentions were regressed using a forward-conditional procedure. Organizational commitment as a moderator of turnover intentions was regressed over the remaining variables not acting directly on employer intentions.

**Results.** Just over 1 in 5 respondents indicated intentions to leave their current academic institution. Excessive workload, seeking a new challenge, poor salary, and poor relationships with college or school administrators were frequently cited as reasons for leaving. Turnover intentions are influenced directly by department chair support and organizational commitment, which moderates various support and satisfaction variables.

**Conclusions.** Pharmacy faculty members' decision to remain or leave an institution is dependent upon developing a sense of commitment toward the institution. Commitment is facilitated by support from the institution and department chair, in addition to a sense of satisfaction with the teaching environment.

**Keywords:** faculty, job turnover intentions, employment, institutional support

## INTRODUCTION

The workforce shortage that pervades pharmacy practice seemingly has begun to impact the supply of pharmacy faculty members.<sup>1</sup> The founding of new schools of pharmacy and increasing enrollments in existing schools have resulted in the creation of many new faculty positions, while the extra year required to complete the PharmD, combined with lucrative salaries for new practitioners, limits the attractiveness of postgraduate education and a career in academia. Unfilled positions result in existing faculty assuming greater responsibility for teaching and service, which might in turn comprise research productivity.<sup>2</sup>

Faculty turnover has been examined in a number of disciplines, albeit relatively little in pharmacy. Johnsrud

found that that lack of time to keep up with one's discipline and perceived lack of institutional support are responsible for decrements in organizational commitment among faculty members, which in turn has implications for turnover intentions.<sup>3</sup> Additional studies by Johnsrud and colleagues<sup>4,5</sup> examining the impact of morale and anomie on turnover suggested the critical importance of organizational and departmental climate fostered by administrators. This corroborates observations by Smart,<sup>6</sup> who observed greater contributions by organizational characteristics, such as work environment and resultant job satisfaction, than individual faculty situational characteristics, such as tenure status and age, on faculty turnover intentions.<sup>6</sup> However, there is evidence to support higher turnover intentions among women and minority faculty members, who often experience marginalization and insensitivity en route to more frequent denial of promotion and tenure.<sup>7-10</sup> Other quality of work life variables, such as stress, have demonstrated inconsistent effects, primarily because they may be more related to satisfaction and productivity, and less so to turnover intentions directly, as many faculty realize that the stress of changing jobs and resultant challenges in the new position may be even more problematic.<sup>11</sup>

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A faculty member's prognosis for success has been demonstrated to rely considerably on the intradisciplinary consensus (level of agreement on teaching, research, and organizational policies and procedures) among colleagues.<sup>12</sup> Faculty members in low consensus disciplines face additional hurdles to productivity that stem from gaps in communication, higher manuscript rejection rates, fewer resources, less popular teaching strategies, and conflict in determining standards for good scholarship.<sup>12</sup> Faculty in low consensus disciplines secure less funding, have lower salaries, and have greater difficulty becoming acclimated to the teacher/scholar role than do their colleagues in high consensus disciplines.<sup>12</sup> This has been demonstrated to manifest into greater stress and greater turnover intentions.<sup>13</sup>

In spite of its critical importance, little has been done to examine turnover intentions among pharmacy faculty members. Overall life satisfaction<sup>14</sup> and job satisfaction<sup>2</sup> among pharmacy faculty members have been observed to be tenuous and complex phenomena, possibly contributing to turnover intentions; however, satisfaction, or lack thereof, does not necessarily lead to turnover intentions or behavior. Carter et al<sup>15</sup> employed a retrospective examination of American Association of Colleges of Pharmacy (AACCP) published rosters between 1996 and 2001 to identify differences in actual faculty turnover rates by gender and discipline. While useful, such retrospective data analyses say relatively little about attitudinal and organizational influences on turnover intentions and may not be as instructive for administrators in establishing policies or programs whose aim is to improve faculty retention.

The objectives of this study were to: (1) identify primary reasons why pharmacy faculty members intend to remain or leave their current institution, (2) identify primary reasons why pharmacy faculty members left their most recent academic institution, and (3) determine the relative contribution of various organizational and individual characteristics toward explaining variance in turnover intentions.

## **METHODS**

A self-administered, anonymous survey instrument was constructed. Variables purported to be associated with faculty turnover intentions were identified from the pharmacy and education literature in searches of International Pharmaceutical Abstracts, ERIC, PsycINFO, Social Sciences Index, CINAHL (nursing faculty literature), and Medline (medical faculty literature). Future employment intentions were measured using a single-item question requesting that respondents indicate whether they intended to stay at their current institution, leave their current institution, or leave academia alto-

gether within the next 2 years. The predictive validity of similar single-item measures for turnover intentions has been established.<sup>4</sup> Respondents also were asked to indicate up to 5 reasons for their decision to remain or leave.<sup>16,17</sup> The lists of 20 and 23 putative reasons, respectively, were developed from a review of literature on faculty quality of work life issues, and the input of several faculty members from various pharmacy disciplines. The 23 putative reasons to leave covered a broad range of issues, such as failure to achieve tenure/promotion, excessive workload, relationships with colleagues, relationships with administrators, lack of a graduate program, family responsibilities, and retirement. The 20 putative reasons to remain largely mirrored the reasons to leave. Additionally, respondents leaving a previous academic position at a different institution were asked to indicate up to 5 reasons why they left that job from a similarly constructed list of 19 putative reasons.

Organizational commitment was measured using a 14-item, 5-point scale of agreement adapted from Porter et al.<sup>18</sup> The investigators examined the contribution of 6 unique variables representative of academic work satisfaction.<sup>19</sup> Previous research evidenced the satisfaction of pharmacy faculty members to be comprised of 6 domains, each measured using various items on 6-point, Likert-type scales of agreement: satisfaction with resources for scholarship (6 items), satisfaction with institutional support and reward (5 items), satisfaction with requirements for promotion and tenure (3 items), satisfaction with the availability of a graduate program (3 items), satisfaction with collegiality (3 items), and satisfaction with the teaching environment (4 items). Similarly, 3 unique domains of intradisciplinary consensus were examined. These included consensus on teaching (5 items), consensus on graduate programming (4 items), and consensus on organizational policies and procedures (5 items) scored on 5-point scales eliciting perceptions of disagreement/agreement among department faculty members at the respondent's institution.<sup>20</sup>

A measure of institutional support was modified from one previously reported by Eisenberger et al<sup>21</sup> and was comprised of 14 items on a 6-point scale of agreement. The items were modified by changing the word "institution" to "college/university" and expanding certain items, such as one describing perceived value of contributions, overall, into unique items measuring perceived value of teaching, research, and service contributions. Other items elicited such perceptions as whether the college/university appreciates extra efforts, considers my goals and values, disregards my personal interests, and provides me with appropriate resource support for my endeavors. Department/division chair support and dean support were

each measured on global, 1-item assessments on 4-point scales (far less than adequate, less than adequate, adequate, or exemplary).

Job stress was measured using a 9-item, 6-point Likert-type scale. Six of the items were adapted from a faculty stress index reported by Gmelch,<sup>22</sup> and 3 other items assessed stress emanating from fulfilling teaching, research, and service role functions. Effectiveness in performing various roles has been demonstrated to affect various quality of work life attitudes.<sup>23</sup> As such, research productivity and teaching effectiveness were examined. Research productivity was measured by eliciting the number of scholarly papers published during the previous 3 years, which has been shown to be highly correlated with other measures of productivity (eg, grants, patents, scholarly texts, conference presentations).<sup>24,25</sup> Teaching effectiveness is more difficult to quantify and was measured through self-evaluation by respondents, who were asked to indicate effectiveness in 7 aspects of their teaching (eg, student evaluations, quality of student work/output, rigor of courses) on a 7-point scale ranging from 1 = much lower than my colleagues, to 4 = approximately equal to my colleagues, to 7 = much higher than my colleagues. The internal consistency of all multi-item measures was found to be very good, with Cronbach's alpha values exceeding 0.80 for all measures except teaching effectiveness (0.72). The construct validity of these measures also has been established.<sup>20</sup>

Information requested on the survey instrument about respondents and their institution included gender, ethnic/racial background, academic rank, type of appointment (calendar or academic year), salary (categorical), type of institution (private or public), and discipline.

The American Association of Colleges of Pharmacy Roster of Faculty and Professional Staff was used to identify the target population: 4,228 faculty members with valid e-mail addresses.<sup>26</sup> Faculty members from each discipline, including biological and library sciences were included in the survey. In an effort to strengthen the rate of survey return, a prenotification e-mail was sent during the last week of August 2005.<sup>27</sup> One week later, an e-mail with a brief cover letter and a link to access the survey on SurveyMonkey, a web-based survey hosting service, was sent. Reminder e-mails to nonresponders with a link to access the survey were sent approximately 3 and 6 weeks later. Study procedures received exempt status from the University's Institutional Review Board.

Data were imported from SurveyMonkey into a spreadsheet and then into SPSS 13.0 (SPSS, Inc, Chicago, Ill) for analysis. Descriptive statistics for the reasons to stay with the current institution, leave the current institution for another job, and reasons for leaving the previous

academic institution were tabulated. Turnover intentions, coded as "0 = intention to leave" or "1 = intention to remain" were regressed over the independent variables in a forward, conditional ( $p$  value [F test] for entry = 0.05;  $p$  value [F test] for removal = 0.10) regression analysis procedure due to the potential for collinearity among the independent variables.<sup>28</sup> Respondents indicating intentions to leave academia were coded with a 0, along with those indicating intentions to leave for another academic institution.

## RESULTS

One hundred fifty-four e-mails were returned as undeliverable. Responses were acquired from 885 persons (22.7% response rate). Respondents providing demographic information were primarily male, white, and from public institutions, with a mean age of 43 years (Table 1). Respondents were distributed fairly well in accordance to expectations regarding rank, gender, and race/ethnicity<sup>29</sup>; however, the disproportionately large number of respondents from the social and administrative sciences may have been due to their familiarity with the investigators. Slightly less than a third of respondents held any formal administrative positions. Deans ( $n = 5$ ) were excluded from further analysis.

One hundred seventy-six (20.7%) of the 848 respondents providing information on future employment (turnover) intentions indicated a preference to leave their current institution within the next 2 years, while the remaining 672 (79.2%) indicated intentions to remain. Over 60% of those expressing their intention to leave ("leavers") planned to seek employment at another college or school of pharmacy, while the remainder sought to leave academia altogether. Frequencies of primary reasons to remain among the "stayers" are listed in Table 2. The most frequently cited reason for staying was autonomy in the work, followed by geographic location, fringe benefits, and relationships with department colleagues. Job security and the employing institution's reputation were also important factors.

The most frequently cited reasons for leaving (current institution and academia altogether) were excessive workload and desire for a change, followed by poor salary, relationships with school or college administration, lack of research support, high stress, and geographic location (Table 3). Table 4 lists the most frequently cited reasons among respondents who left their previous academic institution. These included seeking a new challenge (desiring a change), geographic location, poor salary, unsolicited job offer, position not meeting expectations, lack of collegiality, and lack of research support.

Table 1. Demographics Characteristics of the Respondent Population (n = 885)

Variable	No. (%)
Gender	
Male	363 (54.8)
Female	299 (45.2)
Ethnicity	
White/Caucasian	584 (83.4)
Asian	32 (4.7)
Hispanic	19 (2.9)
African-American	15 (2.2)
Other	12 (1.8)
Academic Rank	
Instructor/Lecturer	11 (1.6)
Assistant Professor	262 (39.3)
Associate Professor	220 (33.0)
Professor	174 (26.1)
Administrative Position	
No administrative position	459 (69.0)
Director of office or program (part-time)	63 (9.5)
Director of office or program (full time)	50 (7.5)
Assistant or Associate Dean	55 (8.3)
Chair	33 (5.0)
Dean	5 (0.8)
Discipline	
Medicinal Chemistry	55 (8.6)
Pharmaceutics	50 (7.8)
Pharmacology/Toxicology	57 (8.8)
Pharmacy Practice	360 (56.7)
Social and Administrative Sciences	122 (18.1)
Other (includes biological, library, and other disciplines)	23 (3.4)
Type of Institution	
Public	571 (69.3)
Private	201 (30.7)
Appointment Length	
Academic (9 month)	98 (15.0)
Calendar (12 month)	507 (85.0)
Salary	
<\$65,000	40 (6.0)
\$65,000-\$75,000	128 (19.2)
\$75,000-\$85,000	165 (24.7)
\$85,000-\$95,000	131 (19.6)
>\$95,000	168 (25.1)
Future Employment Intentions <sup>†</sup>	
Stay at my current institution	672 (79.2)
Leave my current institution	108 (12.7)
Leave academia, altogether	68 (8.0)
Employment History	
First job in academia	547 (65.0)
Not first job in academia	294 (35.0)

\*Reported numbers do not add up to 885 due to missing data

<sup>†</sup>Intentions over the next 2 years

The only variables contributing directly to turnover intentions in the logistic regression model were organizational commitment and department chair support (Table 5). The strong relationship between organizational commitment and employment intentions coupled with high correlations between organizational commitment and many of the remaining variables suggests that organizational commitment may act as a mediating variable. Thus, organizational commitment was regressed over the remaining variables in a forward-conditional linear regression procedure (Table 6). Significant in the model were institutional support, satisfaction with teaching environment, dean support, satisfaction with resources for scholarship, intradisciplinary consensus on teaching issues, and membership in the pharmacy practice discipline. A number of variables were not significant in the model, including other satisfaction and intradisciplinary consensus constructs, research and teaching self-efficacies, research productivity, stress, support, and respondents' personal characteristics.

## DISCUSSION

This study is among the few to examine the issue of turnover among pharmacy faculty members. Carter et al's examination of actual turnover behavior by discipline observed greater turnover among pharmacy practice faculty members and among females.<sup>15</sup> Reasons for turnover were proffered, such as work-home conflict, stress, discrimination, and burnout; however, sources for actual turnover or turnover intentions had yet to be investigated.

AACP acknowledged in 2002 that 23% of vacant positions were due to faculty moving to another academic institution and that 51% of vacant positions were due to an insufficient number of applicants in the pool.<sup>1</sup> Recognizing the critical importance of adequate pharmacy academician manpower, the AACP Council of Deans and Council of Faculties (COD-COF) appointed a committee to proffer strategies aimed at recruiting and retaining faculty members.<sup>30</sup> While it might be argued that many of the issues discussed in the final report are aimed at recruitment, the retention strategies suggested appear on the mark, at least with respect to the results of this study.

Autonomy was the reason respondents cited most frequently for remaining with their current institution. The autonomy to achieve self-directed goals as a teacher-scholar has long been one of the more appealing aspects of an academic career. While employment at another academic institution would likely afford similar levels of autonomy, the academician may be wary of the unknown. It is important to note the importance of autonomy, especially in light of perceived trends in the

Table 2. Reasons Most Frequently Selected by Faculty Members for Remaining With Their Current Institution

Factor	Rank <sup>†</sup>	Frequency*
Freedom in work (autonomy)	1	478
Geographic location	2	351
Good fringe benefits	3	307
Relationship with department colleagues	4	293
Family responsibilities	5	251
Job security	6	197
Relationship with school/college administration	7	187
Good reputation of institution	8	182
Will likely be tenured and/or promoted	9	155
Good salary	10	125
Appropriate (desired) workload	10	127
Presence of a graduate program in my discipline	11	101
Quality of entry-level degree program students	12	93
Type of institution (private/public)	13	88
Relationship with university administration	14	64
Research support	15	56
Low stress level	16	44
Teaching support	17	43
Administration's expectations of faculty	18	41
Absence of a graduate program in my discipline	19	0
Other		84

\*n = 176. Respondents were asked to select as many as 5 unique reasons

<sup>†</sup>Ranked by frequency of response, excluding "other" category

"corporatization" of education and academic culture.<sup>31</sup> The fringe benefits accompanying academic work, including vacation time, favorable retirement investment plans, discounted or free education for family members, and the ability to pursue additional income are attractive to many in the profession. Many respondents also cited job security, family responsibilities, and geographic location as important factors.

Among factors related specifically to the current work environment, relationships with department colleagues were a very important factor. This corroborates evidence of the importance that faculty members have colleagues with whom they can collaborate in teaching and research and with whom they might be friends.<sup>32-34</sup>

Table 3. Most Frequently Selected Reasons to Leave Current Institution

Factor	Rank <sup>†</sup>	Frequency*
Seeking new challenge/desire for change	1	72
Excessive workload	1	72
Poor salary	3	70
Relationship with school/college administration	4	56
Lack of research support	5	54
Geographic location	6	37
High stress level	6	37
Chance to work for an institution with a better reputation	8	35
Administration's expectations of faculty	8	35
Relationship with university administration	9	28
Lack of teaching support	9	28
Seeking an alternative career path	9	28
Poor fringe benefits	12	27
Family responsibilities	13	26
Type of institution (private/public)	14	10
Relationship with department colleagues	14	23
Quality of entry-level degree program students	14	23
Retirement	14	23
Presence of a graduate program in my discipline	15	4
Absence of a graduate program in my discipline	17	16
May fail to achieve tenure and/or promotion	18	13
Poor intellectual challenge	19	12
Other		18

\*n = 176. Respondents were asked to select as many as 5 unique reasons

<sup>†</sup>Ranked by frequency of response, excluding "other" category

Many faculty members come from diverse geographical regions to land at a particular academic setting and may turn first to department colleagues as a potential source of friendships.<sup>23</sup>

A review of the most frequently selected reasons for leavers to seek employment elsewhere and reasons that current faculty members left a previous academic institution would lend at least some support to Lee et al's contention that people follow "scripts," or preexisting plans of action and change employers when it becomes apparent that their needs may remain unfulfilled.<sup>35</sup> Desire

Table 4. Most Frequently Selected Reasons to Leave the Previous Academic Institution

	Rank <sup>†</sup>	Frequency*
Sought new challenge/desired a change	1	123
Geographic location	2	86
Unsolicited job offer prompted departure	3	52
Position did not meet expectations	4	49
Inadequate salary	5	44
Lack of collegiality	6	36
Lack of research support	6	36
Excessive teaching workload	8	33
Change in school/college administration	9	32
High stress level	10	30
Found it difficult to agree with institution's values/mission	11	29
Desired greater autonomy	12	20
Spousal job transfer	13	14
Absence of a graduate program at previous institution	14	13
Change in marital status	15	11
Poor fringe benefits	16	9
Lack of teaching support	16	9
Failed to achieve tenure and/or promotion	18	8
Presence of a graduate program at current institution	19	1
Other		40

\*n = 294. Respondents were asked to select as many as 5 unique reasons

<sup>†</sup>Ranked by frequency of response, excluding "other" category

for change was very prominent in both categories, as was the opportunity to work at an institution with a better reputation, among those who left a prior academic institution. Further evidencing the utility of Lee et al's "unfolding model" was the relatively large number of respondents indicating that they left the previous academic institution due to an unsolicited job offer, which may be referred to as one of several potential "shocks" that might occur during the course of a career.<sup>35</sup> These phenomena would seem to behoove school and college administrators to become more proactive in career planning for faculty members and identify persons with the talents and/or goals to ascend into administrative positions, ideas which were proffered by the AACP COD-COF Faculty Recruitment and Retention Committee.<sup>30</sup> Among the respondents, excessive workload and poor

salary also appeared problematic. Faculty members may view excessive workload within the context of low salary, particularly in light of the opportunity for higher salaries outside of academia. The extent and implications of salary compression in pharmacy academia may merit particular study.

A review of the most frequently cited reasons for stayers' and leavers' intentions reinforces studies in other populations that the reasons for wanting to remain with an employing institution do not necessarily mirror the reasons for others wanting to leave.<sup>24,25</sup> While this study examined turnover intentions, rather than satisfaction, the results provide at least some support for Herzberg's motivator-hygiene factors that individuals experience within organizations,<sup>36,37</sup> which implicate "motivators" or "satisfiers" that sustain at least some modicum of content and fulfillment, and "dissatisfiers" that may be more responsible for turnover behavior than are the lack of satisfiers, per se. For example, adequate salary is only a mild satisfier; however, perceived inadequate salary is a dissatisfier that results in persons seeking out alternative employment options, as evidenced for its frequent citation among respondents in this study. The AACP COD-COF report was perhaps mindful of this when they recommended that colleges and schools of pharmacy be more creative in administering merit increases and allowing income from grant activities and consulting.<sup>29</sup>

The regression analysis procedures revealed the importance of department chair support on faculty respondents' intentions to remain with their current institution. While this is not the first study to demonstrate the implications of chair support,<sup>38</sup> it is interesting to note that the effect of other variables on turnover were moderated by organizational commitment. Thus, a faculty member might remain with an institution with adequate support from the chair, even without necessarily having formed substantial commitment to the institution, and vice versa.

Commitment to the employing institution appears to act as precursor to turnover intentions, and as such, moderates the effects of other organizational and support variables. The variable explaining the most variation in organizational commitment was institutional support. Research in other professions has confirmed this sort of reciprocal relationship, wherein employees develop a sense of commitment to an organization only after it is perceived that the organization has made a commitment to them.<sup>21</sup> In academia, this may go beyond the granting of tenure and promotion, but also through mentoring, career planning, sabbatical leave, support for faculty development and travel, and inclusion into planning and policy development.

Table 5. Forward Conditional Logistic Regression of Intention to Remain With the Current Institution\*<sup>†‡</sup>

Study Variable	Beta (SE)	Wald Statistic	p	95% CI <sup>§</sup>
Organizational commitment	1.23 (0.18)	48.29	<0.001	2.44 – 4.92
Department chair support	0.44 (0.16)	7.66	0.006	1.14 – 2.12

\*n = 396, due to missing responses

<sup>†</sup>Dependent variable coded as 1 = intend to remain; 2 = intend to leave. Independent variables included attitudinal and institutional characteristics. Only the 2 variables making statistically significant contributions are shown

<sup>‡</sup>Nagelkerke R<sup>2</sup> = 0.34

<sup>§</sup>95% confidence interval, odds ratio

Teaching issues played a very important role in the formation of organizational commitment. Rosser<sup>39</sup> also found considerable evidence for satisfaction with teaching in explaining academician quality of work life. Teaching takes up a considerable amount of time, usually more so than the faculty member believes it would, and consequently, relationships and fruits borne through teaching contribute to beliefs about the quality of work life at an institution.<sup>40</sup> Intradisciplinary consensus on teaching suggests that department/discipline colleagues agree on standards for excellence in teaching, appropriate content, effective strategies for transmitting knowledge, and the quantity of work given to students in the department's course offerings. Intradisciplinary consensus on teaching has been implicated in new faculty members' ability to adjust to their academic environment and assimilate into their teaching roles.<sup>13</sup> It would not be difficult to imagine the uneasiness experienced by a faculty member whose idea about the level of rigor in

courses differs substantially from department colleagues. Wolfgang et al<sup>41</sup> demonstrated that faculty members prefer that more weight be given to teaching in promotion and tenure decisions; however, they also believe that better methods should be employed to discern good teaching.

A lack of research support may jeopardize faculty members' productivity and impact their careers, as well as create frustration that they are unable to contribute to science and practice as much as they would like to and have to work that much harder to stay afloat. Dean support also was observed to be important in the formation of organizational commitment, which is not surprising given a dean's place in the academic institution as someone overseeing the chairs while also acting as an advocate for and liaison between pharmacy faculty and university administration.

The fact that pharmacy practice faculty members indicated greater levels of organizational commitment is surprising, given Carter et al's<sup>15</sup> findings that turnover was higher among pharmacy practice faculty members. This may be accounted for by differences in turnover intentions and actual turnover, most notably unsolicited job offers or other means of "shock"<sup>35</sup> that may be experienced more commonly among pharmacy practice faculty members, a greater number of pharmacy practice faculty members assuming more traditional teacher-scholar roles since Carter et al's<sup>15</sup> study, and a maturation of pharmacy practice as a science and discipline. Given the critical need for pharmacy practice faculty members in the years to come, further study examining their job attitudes and turnover behavior is warranted.

Variables not significant in the regression analyses include self-efficacy, stress, gender, academic rank, type of institution, and certain satisfaction constructs. While the correlations between commitment and these variables were in the expected direction, they failed to account for enough of the variation in commitment to be included in the regression model. Indeed, while satisfaction and stress are important quality of work life variables, evidence suggests that they play a relatively small role in turnover intentions and actual turnover rates.<sup>35</sup>

Table 6. Forward Conditional Linear Regression of Organizational Commitment\*<sup>†‡</sup>

Study Variable	Std. Beta	R <sup>2</sup> Change	Sig. F Change
Institutional support	0.46	0.54	<0.001
Satisfaction with teaching environment	0.16	0.04	<0.001
Dean support	0.14	0.02	<0.001
Pharmacy practice faculty	0.15	0.02	<0.001
Satisfaction with resources for scholarship	0.10	0.02	<0.001
Intradisciplinary consensus on teaching issues	0.10	0.01	0.002

\*n = 395, due to missing data

<sup>†</sup>adjusted R<sup>2</sup> = 0.63

<sup>‡</sup>Variables not significant in the equation include other satisfaction constructs (institutional rewards, requirements for tenure and promotion, graduate program, collegiality), research self-efficacy, research productivity, other intradisciplinary consensus constructs (policies and procedures, graduate programming), stress, department chair support, other disciplines (in addition to pharmacy practice), academic rank, salary, gender, age, and type of institution

The current study relied on self-report to gather future employment intentions, which accounts only partially for actual turnover behavior; that is, some faculty indicating intentions to remain may actually leave and vice versa. The results are limited to the population of respondents, especially given the survey's relatively low rate of return. The rate of return may have been a reflection of faculty members' busy schedules and the response burden associated with a relatively lengthy questionnaire. Response rates to survey instrument delivered by e-mail and US mail are similar. E-mail survey response rates may be enhanced by using a mailed prenotification postcard; however, the cost-effectiveness of this added step is inconclusive.<sup>42,43</sup>

The primary concern in regard to low response rates is the potential for nonresponse bias, which can be problematic for any survey, particularly those with response rates below 50%-60%; however, differences in response rates of 20% to 30% or even 40% would not appear to necessarily ameliorate such biases.<sup>27</sup> Social and administrative science faculty members were overrepresented among the respondents to this survey, while basic science faculty members were underrepresented. While job turnover intentions among faculty members did not differ by discipline, the resultant model may have been impacted by the unique experiences of social and administrative science and pharmacy practice faculty members or others with particularly strong feelings about their work environment or who are less skeptical of this type of research. As previously mentioned, the demographic composition of the respondents, other than discipline, was typical of what might be expected, given the demographic composition of US pharmacy faculty members.<sup>29</sup>

The construct validity and reliability of the single-item measures used in this study cannot be discerned. The choice of stepwise regression procedures was due to existing collinearity and a preference to identify variables most likely responsible for turnover intentions, all else equal. Kerlinger and Lee argue in favor of the use of parametric statistics on ordinal data gathered from multivariate survey research.<sup>44</sup> Ordinary least-squares regression procedures were conducted on the same data and produced very similar results, with the exception that respondents from private institutions reported less organizational commitment than those from public institutions.

## CONCLUSIONS

The possibility of impending shortages and the changing culture of academia necessitate an examination of turnover intentions among pharmacy academicians. It is critical that recruitment efforts be supplemented with strategies to keep existing faculty in academia and that

colleges and schools of pharmacy discourage productive teacher-scholars from accepting jobs with other institutions. Autonomy, fringe benefits, and location were frequently cited by faculty respondents intending to remain with their current institution. Unmet expectations and unsolicited job offers result in turnover intentions and actual turnover behavior. A model of faculty turnover intentions describes the direct effects of department chair and organizational commitment, which is formed through support, intradisciplinary consensus, and teaching environment. College and school of pharmacy administrators and senior faculty might consider these results when considering policies that may impact organizational climate and faculty morale.

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