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## Student pharmacists' and recent graduates' perception of and interest in independent pharmacy ownership

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### Abstract

**Objectives:** To assess student pharmacists' and recent graduates' interest in independent community pharmacy ownership and compare perceptions of pharmacy ownership among students and recent graduates. **Methods:** An anonymous online survey was administered to student pharmacists currently licensed as interns and pharmacists licensed by examination from January 2010 to October 2012 within the state of Ohio. **Results:** 355 surveys were completed during the study period, with 200 (56.3%) completed by student pharmacists. Student pharmacists were significantly more interested in pharmacy ownership ( $p < 0.001$ ) and had significantly higher self-reported likelihood of ownership ( $p = 0.03$ ) compared to recent graduates. Top ranked advantages to ownership for both groups included professional autonomy, development of innovative services, and amount of time spent in patient care activities. The majority of respondents had been exposed to pharmacy ownership within a course, student organization, or experiential rotation, but felt they needed more training in financial, legal, and regulatory issues. **Conclusion:** Many student pharmacists and recent graduates are interested in pharmacy ownership. However, the majority of respondents feel it is unlikely they will own a pharmacy in the future. Resources need to be expanded for those interested in this career path.

### Article relevance and contribution to literature

Current literature has looked at pharmacists' interest and perceptions of pharmacy ownership, but no study has been done that compares student pharmacists' and recent graduates' interest and perceptions. These two groups encompass the transition from student to practitioner. As independent pharmacy owners retire, new practitioners need to be well prepared to fill these practice roles within rural and urban communities. In order to fully prepare them, we must first understand their current perceptions of ownership and the areas in which they feel they need additional training. This data can be used by the profession to address perceived knowledge gaps.

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### Introduction

As of 2012, there are 23,029 independently owned pharmacies in the United States, including single-store operation, regional chain, franchise, compounding, long-term care, specialty, and supermarket pharmacies.<sup>1</sup> These pharmacies often lead the way in innovative patient care services and business models within the profession. Combined, they employ over 250,000 individuals and represent 38% of all community pharmacies in the country. The majority of independent owners are over the age of 50 and approaching retirement. Fifty-three percent of independent pharmacies are in rural areas, with populations less than 20,000, sometimes serving as that area's only provider of pharmacy services. A rural policy brief in 2008 found that between May 2006 and April 2008, there was a 6.8% overall decline in rural independents.<sup>2</sup> One hundred and fifty eight communities went from having one independent pharmacy to having no pharmacy services within the area. Within the state of Ohio, the number of independent pharmacies has dropped 17% in just the last five years.<sup>1,3</sup> As independent pharmacy owners reach retirement age and rural communities continue to lose access to medications, it is essential that new practitioners be well prepared to pursue pharmacy ownership. Therefore, in order to fully prepare the new

generation of pharmacists, there must be a full understanding of their current interest and perceptions regarding the profession of independent ownership, as well as personality traits that make them more inclined towards ownership.

### Objectives

The objectives of this study were to (1) assess student pharmacists' and recent graduates' interest in independent community pharmacy ownership and (2) compare perceptions of pharmacy ownership among students and recent graduates.

### Methods

This study was approved by The Ohio State University Institutional Review Board. Email addresses for student pharmacists currently licensed as interns, and pharmacists licensed by examination from January 2010 to October 2012, were obtained from the Ohio State Board of Pharmacy (OSBP). As OSBP did not have email addresses for every intern and pharmacist who met these criteria, a convenience sample was used and a self-administered email survey was sent to 1864 participants within the state of Ohio: 813 student pharmacists (of a possible 2654) and 1,051 pharmacists (of a possible 1662). The software program, Qualtrics®, was utilized to develop and deliver the survey. Participants were given one month to complete the survey, and weekly reminder emails were sent. All responses were anonymous. Current pharmacy owners were excluded from the study by self-identification. After completion of the survey, respondents were given the opportunity to enter a raffle, via a separate survey link, as an incentive for their participation.

The survey consisted of three sections (see attached): items regarding interest in and perception of ownership, items regarding personality traits of participants, and demographics. Items regarding interest in and perception of pharmacy ownership included level of interest, likelihood of future ownership, previous experiences, perceptions of various statements regarding pharmacy ownership, and desired areas of further education. Questions assessing personality traits of participants were obtained, with permission from the authors, from the Pharmacy Student Entrepreneurial Orientation Scale (PSEO), a multidimensional scale for assessing entrepreneurial proclivity within pharmacy students.<sup>4</sup> This scale is scored on a Likert scale from 1 to 6 (strongly disagree to strongly agree) with a higher score indicating higher proclivity towards entrepreneurship. Demographic information collected included age, gender, race, graduation date, title, current practice site, managerial status, and work environment.

Univariable descriptive statistics were generated for all survey items. Continuous responses were expressed using the mean, standard deviation, and median. Categorical responses were expressed using frequencies and percentages. Interest and likelihood of ownership were ranked on a six-point Likert scale and then later dichotomized (i.e., at least some interest vs. no interest, at least some likelihood vs. no likelihood). Relationships between two categorical variables were assessed through the use of two-way contingency tables and/or Chi-squared tests. Similarly, relationships between a categorical and a continuous variable were assessed through descriptive statistics and/or t-tests. All assumptions were checked for every test that was executed. Statistics were performed using SAS 9.2, SAS Inc., Cary, NC.

### Results

A total of 355 participants fully completed the survey, of which 200 (56.3%) were student pharmacists and 155 (43.7%) were recent graduates. This yielded an overall response rate of roughly 19% (24.6% of students, 14.7% of pharmacists). Approximately two-thirds of the respondents were female ( $n = 233$ , 65.6%). The majority were 20 to 29 years of age (92.7%). Forty-six percent of participants worked within a chain community pharmacy and 25.4% worked in a hospital or health-system. A small group of respondents (9.6%) worked within an independently owned community pharmacy.

Significant differences were observed between students and pharmacists in both interest in ( $p < 0.001$ ) and likelihood of ownership ( $p = 0.03$ ). A greater percentage of students expressed interest in pharmacy ownership than pharmacists (54% and 36%, respectively). Similarly, a greater percentage of students reported at least some likelihood of pharmacy ownership (27%) compared to pharmacists (17%). Although a number of student pharmacists expressed some level of interest, there was a considerable gap between those who were interested in ownership (54%) and those who stated it was likely they would own (27%). This same gap was seen between interest and likelihood within the recent graduates (Figure 1).

When considering interest in ownership and work environment, the majority of student pharmacists and recent graduates working in an independent community pharmacy reported some interest in future ownership (76.9 and 62.5%, respectively). Approximately 60.4% of students and 46% of pharmacists working in chain community settings reported interest in owning. Within the hospital/health-system setting, 22.2% of students and 31.5% of recent graduates expressed interest in future pharmacy ownership.

Overall, most of the participants had been exposed to pharmacy ownership within a course, student organization, or experiential rotation (62.0%, 50.7%, and 49.9% respectively). Only nine percent of all respondents reported never being exposed to pharmacy ownership. Despite this exposure level, the majority of participants felt that they needed additional training in financial planning (81.1%), third party contracting/reimbursement (53.5%), and legal/regulatory policies (52.1%). In addition, 43.4% felt they needed training in business plan development (Table 1).

When asked to select their top three perceived advantages to ownership, respondents selected professional autonomy (90.1%), ability to develop niche practices and innovative services (72.7%), and the amount of daily time involved in patient care activities (51.6%). Top ranked disadvantages included financial risk with the possibility of financial gain (95.5%), work-life balance (76.6%), and managerial aspects of ownership (59.2%).

The average score on the Pharmacy Student Entrepreneurial Orientation Scale (PSEO) was 4.93 (scale from 1 to 6) for all respondents. Those who expressed at least some interest in pharmacy ownership had significantly higher overall scores than those who did not (5.01 and 4.86, respectively;  $p = 0.016$ ).

### Discussion

In the existing literature, pharmacists have been found to have a favorable attitude towards independent ownership, but low interest in pursuing it.<sup>5</sup> Middle-aged pharmacists in this same study had the most positive attitudes towards ownership, while early-stage practitioners had the least. Furthermore, the study found that 40% of responders indicated a need for additional training prior to attempting ownership. An additional study that set out to assess student pharmacists' perception of rural practice found that only 26.6% of students surveyed had given serious consideration to pharmacy ownership.<sup>6</sup> For both student pharmacists and recent graduates, we saw a similar gap between interest in pharmacy ownership and self-reported likelihood of owning a pharmacy in the future. Student interest was much higher than previously seen in reported literature. A greater proportion of students expressed interest in the career path and reported themselves as likely to own in the future compared to recent graduates. This may be because they are at the phase in their professional development in which they are still exploring various career options and are open to new possibilities. A recent graduate may be just settling into his/her first job and the thought of taking on ownership may feel more overwhelming. Further research may be needed to better understand the reasons behind the difference in

interest between the two groups, as well as whether those perceptions change as they progress further into their careers.

Not surprisingly, those respondents who currently practice in an independent pharmacy setting showed higher rates of interest than students and pharmacists working in other settings. The majority of those working in chain community pharmacies also showed interest in ownership. Interestingly, over twenty-seven percent of respondents (students and pharmacists) currently working in a hospital/health-system pharmacy showed interest in ownership. Such a large display of interest across these core pharmacy work environments may imply that we should be exposing all pharmacists and students to training and educational opportunities regarding ownership.

Although the vast majority of student pharmacists and recent graduates have been exposed to pharmacy ownership in the past, it is clear that most feel unprepared to handle the financial, legal, and regulatory responsibilities of ownership without additional training. Further research is needed to investigate what type of financial training is provided within the PharmD curriculum and whether it should be expanded. These training gaps can also be addressed through enhanced experiential rotations with existing owners that would target business practices and ownership career pathways, as well as elective courses that could expose students to similar topics. For practitioners, continuing education programs and activities could focus on financial skills and preparedness for pharmacy ownership. Lastly, colleges of pharmacy and pharmacy associations could collaborate to develop mentorship programs that would encourage connections with current owners and interested students and practitioners.

Our results also showed that those who were interested in pharmacy ownership scored significantly higher on the PSEO items. However, we noticed that most student pharmacists and recent graduates scored relatively high. This may mean that most pharmacists have a proclivity towards entrepreneurship, and would therefore benefit from entrepreneurial training that could then be applied to their personal areas of practice.

### Limitations

The reader should approach this study with the understanding of several limitations. First, our convenience sample consisted of student pharmacists and recent graduates within Ohio and, therefore, our findings may not be generalizable to other states. The sample size is small which also limits generalizability. Participation was optional and bias may have occurred, with those having higher interest in pharmacy ownership being innately more likely to complete the emailed survey. Recall bias may have

occurred, especially for recent graduates reporting activities during their time as PharmD students. Finally, by utilizing only select items from the PSEO, the reliability and validity of these questions used within our survey are unknown. The fact that most respondents trended high on the scale may mean that a different measure is needed to delineate entrepreneurial proclivity.

### Conclusion

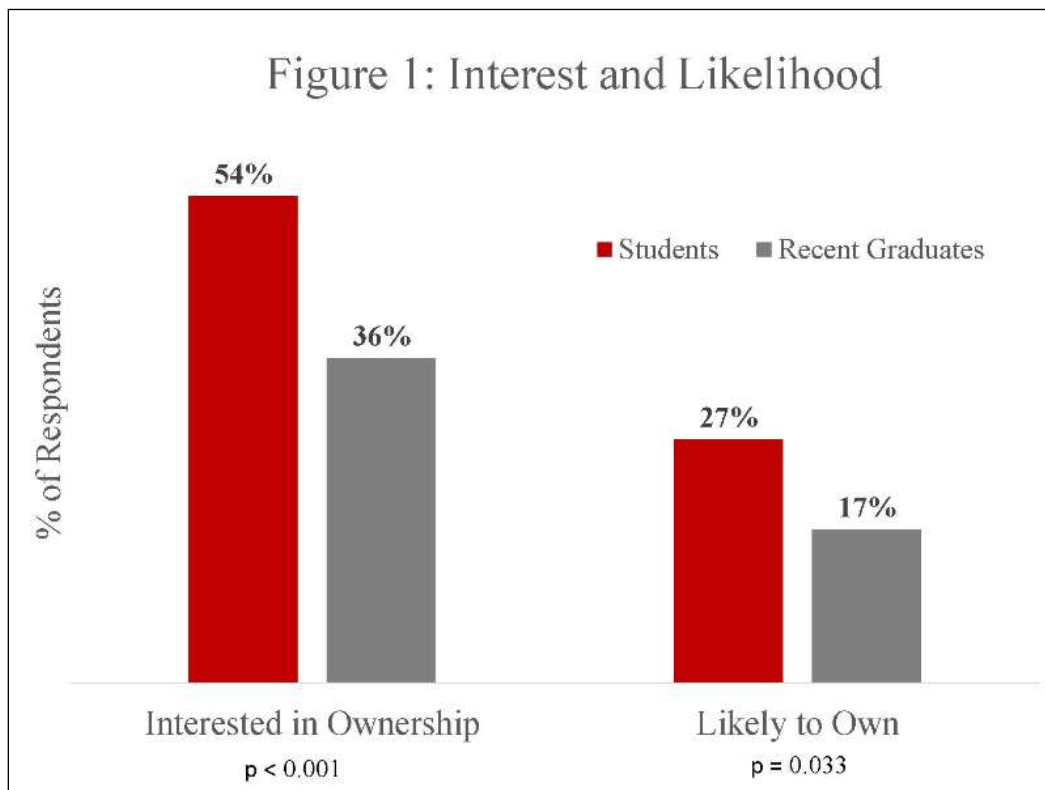
As independent pharmacy owners reach retirement age and rural communities continue to lose access to medications, it is essential that younger pharmacy practitioners be well prepared to pursue pharmacy ownership. Our study shows that many student pharmacists and new graduates are interested in pharmacy ownership; however, they do not feel that it is a likely career path. Student pharmacists may be more receptive to additional training than recent graduates, as they are still exploring career options. Our study identifies that resources and training for those interested in ownership should be focused on financial, legal, and regulatory issues. These topics, along with continued exposure to ownership opportunities and pathways, could be incorporated into current pharmacy curricula and continuing education programs. Through these measures, we may be able to close the gap between interest and likelihood of future ownership, and positively impact patients and the pharmacy profession.

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Type of Exposure	No. respondents (%) <sup>a</sup>
Financial planning (e.g., analyzing a balance sheet and income statement)	288 (81)
Third party contracting/reimbursement	190 (54)
Legal and regulatory policies	185 (52)
Business plan development	154 (43)
Marketing	82 (23)
Inventory management	78 (22)
Managerial skills	65 (18)
Development of niche services or innovative patient care services	18 (5)

<sup>a</sup>Sum of percentages do not equal 100% as participants were asked to select their top three responses.



## Student Pharmacists' and Recent Graduates' Perception of and Interest in Independent Pharmacy Ownership Survey Questions

## - Exclusion Question

## 1. Do you currently own a pharmacy?

- Yes  
 No

*Note: if the participant answered yes to this question they were directed to the end of the survey.*

## - Interest/Perception Questions

2. What is your level of interest in *independent pharmacy ownership*?

Very Uninterested	Uninterested	Somewhat Uninterested	Somewhat Interested	Interested	Very Interested

3. What do you feel is the likelihood of you *owning a pharmacy* in the future?

Very Unlikely	Unlikely	Somewhat Unlikely	Somewhat Likely	Likely	Very Likely

4. Where was/is *pharmacy ownership* discussed in your coursework, rotations, practice site, or social interactions? Please select all that apply.

- A required course  
 An elective course  
 Student organizations  
 Work experience  
 Experiential rotations  
 Relationship with a current owner  
 Mentor (other than an owner) who is passionate about independent pharmacy  
 Attending a business plan competition  
 Participating in a business plan competition  
 Attending a national pharmacy association meeting  
 Attending a state pharmacy association meeting  
 Previous business or entrepreneurial training (i.e. MBA, business classes outside of pharmacy school)  
 It was not discussed

5. Please rank the following statements about pharmacy owners *in comparison to pharmacists in other practice settings*:**Pharmacy owners have difficulty with work-life balance.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**Pharmacy owners are at more financial risk.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**Pharmacy owners spend less time with patients.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**Pharmacy owners require a larger set of managerial skills.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**Pharmacy owners have a higher annual salary.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**Pharmacy owners have more time to develop and implement new patient care services.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**Pharmacy owners have more control over the type of patient care they provide.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**Pharmacy owners have more control over the path of their career.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**6. Of the following, please select the TOP THREE statements that most ENCOURAGE you to one day own a pharmacy.**

- Work–life balance
- Income Level
- Financial risk with the possibility of financial gain
- Amount of daily time involved in patient care activities
- Professional Autonomy (ability to choose how you practice)
- Ability to develop niche practices and innovative services
- Managerial aspects of ownership

**7. Of the following, please select the TOP THREE statements that most DISCOURAGE you from one day owning a pharmacy.**

- Work–life balance
- Income level
- Financial risk with the possibility of financial gain
- Amount of daily time involved in patient care activities
- Professional Autonomy (you have to make the final decision on how you practice)
- Inability to develop niche practices and innovative services
- Managerial aspects of ownership

**8. Of the following, please select the TOP THREE areas of education you would need prior to owning a pharmacy.**

- Financial planning (e.g. analyzing a balance sheet, income statement)
- Inventory management
- Development of niche services or innovative patient care services
- How to create a business plan
- Marketing
- 3<sup>rd</sup> party contracting and reimbursement
- Managerial skills
- Legal and regulatory policies



9. Are there any areas of education, other than those mentioned above, that you feel are necessary to prepare you for pharmacy ownership? (free text)

- Personality Questions

10. The following statements reflect individual characteristics. Please rate the degree to which each statement relates to you. Please be honest.

**Planning for future opportunities upon graduation has been, is, or will be an important part of my college career.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**Knowing conditions are changing in pharmacy, I intend to actively seek out new opportunities for myself.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**I consider myself as having high motivation toward work.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**I like the idea of having challenges in my practice as a pharmacist.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**I believe that making a contribution to society is important.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**I will be good at empathizing with my patients by being responsive to their problems.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**I want to be known as an innovator among my colleagues.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**I believe I will one day be capable of designing a new patient care service.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**As a pharmacist, I want to be encouraged to develop new ideas in the work place.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**I want to work where new ideas that I suggest will be acted upon by decision makers.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**Successful pharmacists are likely to have taken some chances along the way.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

**I believe that to be a successful pharmacist, I will have to take some chances with my career.**

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree

- **Demographic Questions**

**11. What is your gender?**

- Male  
 Female

**12. Please select your race:**

- American Indian or Alaska Native  
 Asian  
 African American  
 Native Hawaiian or Other Pacific Islander  
 Hispanic  
 White

**13. What is your age?**

- <20  
 20-29  
 30-39  
 40-49  
 50-59  
 >59

**14. What is your year of graduation from pharmacy school?**

- Prior to 2010  
 2010  
 2011  
 2012  
 2013  
 2014  
 2015  
 2016  
 2017  
 2018  
 After 2018

**15. What is your current title?**

- Student  
 Pharmacist

**16. What is your primary pharmacy practice site as a student intern or pharmacist?**

- Chain community pharmacy  
 Independent community pharmacy  
 Hospital or health-systems pharmacy  
 Managed care  
 Academia  
 Ambulatory care  
 Industry  
 Long term care  
 Not currently working  
 Other  
Please Specify

17. Do you currently hold a management position?

- Yes
- No

18. I work:

- Full time
- Part time

19. What is your work environment?

- Rural
- Urban
- Suburban

20. **If you are interested in the incentive drawing, please enter your email address below. This email will not be tied to your individual survey responses. (free text)**

*Note: this question was provided in a separate survey link so that it was not tied to the other responses.*