

**EXAMINING THE ATTITUDES AND INTERESTS OF PHARMACISTS REGARDING
PHARMACY OWNERSHIP**

FINAL REPORT

submitted by

Carolyn Brown, R.Ph., Ph.D.
Associate Professor

Roxanne Cantu, Pharm.D.
Research Assistant

Zachary Corbell, Pharm.D
Research Assistant

Kristy Roberts
Student Assistant

**University of Texas
Pharmacy Administration Division
College of Pharmacy
Austin, TX 78712-1074**

May 2005

TABLE OF CONTENTS

Abstract.....	3
Executive Summary.....	7
Study Objectives.....	14
Methodology.....	15
Results.....	20
Section I. Response Rate, Demographics, and Practice Setting Characteristics.....	21
Section II. Pharmacists' Attitudes Toward Independent Pharmacy Ownership.....	26
Section III. Pharmacists' Interest in Independent Pharmacy Ownership.....	34
Section IV. Attitudes and Interest of Pharmacists Based on Career Stage.....	39
Section V. Study Objectives.....	42
Recommendations.....	48
Discussion and Conclusions.....	51
References	54
Appendix A	55

ABSTRACT

Objectives

The purpose of the study was to examine the beliefs, attitudes and interests among pharmacists in different career stages with respect to pharmacy ownership, and to use this information to make targeted recommendations that address their primary issues and needs regarding pharmacy ownership.

Methods

A survey was mailed to a random sample of 500 pharmacists licensed and residing in Texas. The three-section survey collected information on pharmacists' attitudes toward ownership, their interest in ownership, and their demographic and practice setting characteristics. Correlations, t-tests, analysis of variance, and multiple regression techniques were used to analyze the data and statistical significance was set *a priori* at $p < 0.05$.

Results

A total of 180 completed surveys was analyzed, yielding a usable response rate of 36.0 percent. Most (83.4%) respondents worked full time and practiced in community chain pharmacies (36.9%). Most (41.1%) were classified as late career stage (age >50). Many respondents (44.9%) indicated that they engage in pharmaceutical care practices and they commonly (31.4%) held advanced training certifications.

Pharmacists reported an overall favorable attitude towards pharmacy ownership (Mean=18.6±28, range= -63.0 to 90.0). Beliefs that ownership would increase business autonomy, professional autonomy, and the ability to establish patient loyalty made the largest positive contributions to overall attitude. Pharmacists' attitudes toward ownership differed by career stage ($F=3.12$, $df=2$, $p=0.047$), with mid career (age 36-49) and early career (age ≤35) stage pharmacists reporting the most and least favorable attitudes, respectively. In addition,

salient beliefs about financial risk ($F=3.01$, $df=2$, $p=0.05$), time commitment ($F=3.47$, $df=2$, $p=0.03$), competitive markets ($F=4.01$, $df=2$, $p=0.02$), and business/managerial skills ($F=3.20$, $df=2$, $p=0.04$) were all significantly influenced by career stage classification.

Several demographic and setting characteristics were significantly related to pharmacists' attitudes toward independent pharmacy ownership. Age ($r=0.18$, $p=0.02$) and years licensed ($r=0.16$, $p=0.04$) were positively related to attitude. Community independent pharmacists reported the most favorable attitude (mean=44.2, $SD=21.2$) when compared to all other sites. Pharmacists who were male (mean=23.9, $SD=31.4$), had advanced training (mean=27.6, $SD=28.8$), or were members of NCPA (mean=50.0, $SD=28.5$) or PCCA (mean=44.4, $SD=31.2$) had a more favorable attitude when compared to their respective counterparts.

Controlling for all significant variables from the bivariate analyses of attitude, the multivariate model revealed that interest in pursuing independent pharmacy ownership and advanced training were significant predictors of attitude towards independent pharmacy ownership ($F=4.03$, $df=11$, $p < 0.0001$). Pharmacists who were more interested in pursuing independent pharmacy ownership and had advanced training had a more favorable attitude towards independent pharmacy ownership. Note that career stages did not influence overall attitude towards independent pharmacy when other variables were taken into account.

Pharmacists reported a low interest in pursuing independent pharmacy ownership (mean=-2.2, $SD=1.6$, range= -3.0 to +3.0). Beliefs about financial rewards ($r=0.26$, $p<0.001$) and business/managerial skills ($r=0.25$, $p<0.001$) showed the highest correlation with pharmacists' interests in pursuing ownership. Pharmacists' attitudes were positively related to their interest in pursuing ownership ($r=0.29$, $p<0.001$). Interest in pursuing ownership did not differ by career stage.

Several characteristics were significantly related to interest in pursuing independent pharmacy ownership. Community independent pharmacists were most likely (mean=-1.1, SD=2.5) to pursue ownership when compared to all other sites. Pharmacists who practiced in rural settings (mean=-1.4, SD=2.3), who offered compounding services (mean=-1.5, SD=2.2), and who reported the ability to obtain financial resources were more likely to pursue ownership than their respective counterparts.

Controlling for all significant variables from the bivariate analyses of interest, the multivariate model revealed that attitude, geographic location of practice site, the ability to obtain financial resources, and involvement in compounding activities were significant predictors of interest in independent pharmacy ownership ($F=4.10$, $df=10$, $p < 0.0001$). Pharmacists who had a more favorable attitude, practiced in rural locations, could obtain financial resources, and involved with compounding activities were more interested in pursuing independent pharmacy ownership.

The two most commonly cited resources that pharmacists considered helpful in pursuing ownership was a financial advisor (70.5%) and a mentor or apprenticeship (44.3%).

Conclusions

Overall, pharmacists had favorable attitudes toward independent pharmacy ownership, but a low interest in pursuing ownership. More favorable attitudes were associated with a greater interest in ownership. Beliefs regarding financial risk, time commitment, and tax liabilities were the primary drivers of attitudes. Pharmacists' attitudes varied by career stage, with mid career pharmacists reporting the most favorable attitude toward ownership. The primary predictors of pharmacists' attitudes were interest in pursuing ownership and whether or not they had advanced training. Interest in pursuing ownership did not differ by career stage. The primary predictors of

interest in pursuing ownership were attitude, geographic location of practice site, the ability to obtain financial resources, and involvement in compounding activities.

EXECUTIVE SUMMARY

Overview

The purpose of the study was to examine the beliefs, attitudes and interests among pharmacists in different career stages with respect to pharmacy ownership, and to use this information to make targeted recommendations that address their primary issues and needs regarding pharmacy ownership. The study objectives were to:

- 1) To assess the attitudes towards pharmacy ownership of pharmacists in different career stages;
- 2) To identify which beliefs are the primary determinants of pharmacists' attitude toward pharmacy ownership in different career stages;
- 3) To determine the level of interest in pharmacy ownership among pharmacists in different career stages; and
- 4) To make recommendations on how to best target the needs of these different groups to prepare them for pharmacy ownership based on their attitudes, beliefs, and interests.

Design and Methodology

Instrument Development

A survey was developed to address the study objectives. The survey collected information on pharmacists' interest in ownership, their attitudes toward ownership, and their demographic and practice setting characteristics. See Appendix A for a copy of the survey instrument.

Pilot interviews were used to identify beliefs, both positive and negative, about pharmacy ownership. These beliefs served as the basis for the initial draft of the survey instrument. The survey was then pretested by an additional group of practicing community pharmacists for an

assessment of clarity and completeness. Modifications were made to the survey items according to the group's recommendations.

Study Sample and Data Collection Procedures

A random sample of 500 pharmacists was drawn from a list of pharmacists who are licensed and reside in the state of Texas. The Texas State Board of Pharmacy provides this list via the internet.

Each of the randomly selected pharmacists was sent a cover letter explaining the purpose of the project and a self-addressed, postage paid survey. Pharmacists were asked to return the completed survey in two weeks. Two weeks after the initial mailing, a reminder package was sent to the pharmacists. The survey was due two weeks after the second mailing. Surveys were collected over a six-week period. All responses were anonymous.

Data Analysis

Pharmacists' responses were analyzed both descriptively and inferentially. Correlation analysis, chi-square tests, t-tests, and analysis of variance (ANOVA) techniques were used to examine the associations between career stages, demographic and practice site characteristics and their interest in and attitudes toward pharmacy ownership. In addition, regression analyses were used to examine if career stages predicted interest and attitudes, after accounting for demographic, professional and practice site differences. The *a priori* level of significance for all statistical computations was $p < 0.05$. The data was analyzed using SAS / PC for Windows version 9.1 statistical package.

Results

Response Rate

A total of 500 pharmacists were mailed surveys and 17 surveys were returned as undeliverable. Of the 483 assumed delivered, 199 were returned, yielding an initial response rate of 41.2 percent. The final usable response rate after eliminating owners, retirees, and incomplete surveys was 36.0 percent (N = 180).

Demographics

Respondents were approximately evenly distributed between female (50.3%) and male (49.7%), with a mean age of 44.8 (SD=12.5) years. They had been licensed for an average of 19.1 (SD=13.0) years. Most (83.4%) respondents worked full time. The most commonly reported work site was community chain pharmacies (36.9%) and urban settings (57.8%). Staff pharmacists (41.5%) accounted for the largest percentage of the sample. The average number of prescriptions filled was 1668.4 (SD=6853.4) and was skewed by mail order facilities, therefore the median value of 225.0 is more representative. Most respondents (41.1%) were classified as late career stage (age \geq 50).

Many respondents (44.9%) indicated that they engage in pharmaceutical care practices that were defined in the survey instrument as engaging in the assessment and monitoring of drug therapy problems. The respondents also commonly (31.4%) held advanced training certifications and were most often (25.6%) members of the Texas Pharmacy Association (TPA).

Attitudes Toward Pharmacy Ownership

The mean overall attitude score was 18.6 (SD=28, range= -63.0 to 90.0), indicating an overall favorable attitude towards independent pharmacy ownership. The possible range for the overall attitude score was -90.0 to +90.0. The mean product of the belief and outcome evaluation scores for the beliefs that owning an independent pharmacy would increase business autonomy (mean=4.5, SD=3.7), increase professional autonomy (mean=4.2, SD=3.6), and

increase the ability to establish customer/patient loyalty (mean=4.3, SD=3.6) were all greater than four. These beliefs made the largest positive contribution to overall attitude. The largest negative contribution to overall attitude was made by the belief that owning an independent pharmacy would decrease power to negotiate contracts and price discounts in a competitive market (mean= -1.4, SD=4.5).

Several demographic and setting characteristics were significantly related to pharmacists' attitudes toward independent pharmacy ownership. Age ($r=0.18$, $p=0.02$) and years licensed ($r=0.16$, $p=0.04$) were positively related to attitude. Community independent pharmacists reported the most favorable attitude (mean=44.2, SD=21.2) when compared to all other sites. Pharmacists who were male (mean=23.9, SD=31.4), had advanced training (mean=27.6, SD=28.8), or were members of NCPA (mean=50.0, SD=28.5) or PCCA (mean=44.4, SD=31.2) had a more favorable attitude when compared to their respective counterparts.

Multivariate analyses indicated that interest in pursuing independent pharmacy ownership and advanced training were significant predictors of attitude towards independent pharmacy ownership ($F=4.03$, $df=11$, $p < 0.0001$). Pharmacists who were more interested in independent pharmacy ownership and had advanced training reported more favorable attitudes toward independent pharmacy ownership.

Interest in Independent Pharmacy Ownership

The mean interest in pursuing independent pharmacy ownership was -2.2 (SD=1.6, range= -3.0 to +3.0), indicating a low likelihood of pursuing independent pharmacy ownership. Salient belief measures for financial rewards ($r=0.23$, $p < 0.01$) and business/managerial skills ($r=0.23$, $p < 0.01$) showed the highest correlation with pharmacists' interest in pursuing independent pharmacy ownership. Beliefs concerning business autonomy, customer loyalty,

responsibility, tax liability and competitive market were not significantly correlated with pharmacists' interest in pursuing ownership.

Several characteristics were significantly related to interest in pursuing independent pharmacy ownership. Community independent pharmacists were most likely (mean=-1.1, SD=2.5) to pursue ownership when compared to all other sites. Pharmacists who practiced in rural settings (mean=-1.4, SD=2.3), who offered compounding services (mean=-1.5, SD=2.2), and who reported the ability to obtain financial resources were more likely to pursue ownership than their respective counterparts.

Multivariate analyses indicated that attitude, geographic location of practice site, the ability to obtain financial resources, and involvement in compounding activities were significant predictors of interest in independent pharmacy ownership ($F=4.10$, $df=10$, $p < 0.0001$).

Pharmacists who had a more favorable attitude, practiced in rural locations, could obtain financial resources, and involved with compounding activities were more interested in pursuing independent pharmacy ownership.

Attitudes and Interest of Pharmacists' Based on Career Stage

Pharmacists' attitudes toward independent pharmacy ownership differed by career stage ($F=3.12$, $df=2$, $p=0.047$). Mid career pharmacists had the most favorable attitude (mean=23.6, SD=27.3) followed by late career pharmacists (mean=20.8, SD=29.9). Early career pharmacists held the least favorable attitude with a mean of 11.05 (SD=24.7).

Pharmacists' attitudes about financial risk ($F=3.01$, $df=2$, $p=0.05$), time commitment ($F=3.47$, $df=2$, $p=0.03$), competitive markets ($F=4.01$, $df=2$, $p=0.02$), and business/managerial skills ($F=3.20$, $df=2$, $p=0.04$) were all significantly influenced by career stage classification. However, multivariate results indicated that career stage did not significantly influence attitude when other

variables (i.e., age, interest, pharmacy site, gender, and advanced training) were taken into account.

There were no significant differences in interest in pursuing independent pharmacy ownership on the basis of career stage ($F=0.13$, $df=2$, $p=0.88$). Based on the mean values for each of the defined career stages, pharmacists classified as early career stage were least likely to pursue independent pharmacy ownership (mean= -2.3, SD=1.6), followed by mid career stage (mean=-2.2, SD=1.4) and late career stage (mean= -2.1, SD=1.7).

Conclusions

Overall, the study showed that although pharmacists practicing in various practice settings held a positive attitude towards independent pharmacy ownership, they reported a low likelihood of pursuing ownership. Pharmacists' beliefs regarding financial risk, time commitment, and taxes served as the primary driving factors for overall attitudes toward ownership. This study showed statistically significant differences in both overall attitudes toward independent ownership and several salient beliefs about ownership based on pharmacists' career stage. However, when other important variables are taken into account, career stages do not significantly influence overall attitudes. Controlling for other important variables, differences in pharmacists' attitudes were significantly explained by their interest in pursuing ownership and whether or not they had advanced training. Interest in pursuing ownership was significantly explained by attitude, geographic location of practice site, ability to obtain financial resources, and involvement in compounding activities. Interest in pursuing ownership did not differ by career stage.

These findings suggests that methods of changing attitudes need to be varied and to target those beliefs that are driving pharmacists' attitudes depending on what stage of their pharmacy

career they are in. Salient beliefs regarding financial rewards and business/managerial skills were highly associated with interest and should be emphasized when stimulating interest in ownership. Specific recommendations are offered in the “Recommendations” section.

STUDY OBJECTIVES

The purpose of this study was to examine the attitudes, beliefs, and interests among pharmacists in different career stages with respect to pharmacy ownership, and to use this information to make targeted recommendations that address their primary issues and needs regarding pharmacy ownership. The study objectives were:

- 1) To assess the attitudes towards pharmacy ownership of pharmacists in different career stages;
- 2) To identify which beliefs are the primary determinants of pharmacists' attitude toward pharmacy ownership in different career stages;
- 3) To determine the level of interest in pharmacy ownership among pharmacists in different career stages; and
- 4) To make recommendations on how to best target the needs of these different groups to prepare them for pharmacy ownership based on their attitudes, beliefs, and interests.

METHODOLOGY

Instrument Development

Pilot Interviews. Utilizing the framework of marketing research on attitudes (Fishbein and Ajzen, 1980), pilot interviews were conducted in order to identify salient beliefs about pharmacy ownership among currently practicing pharmacists and pharmacy owners in different career stages. This belief-based approach to the attitude measurement was used to provide more insight as to why people hold particular attitudes.

Interviews were conducted with a cross-section of seven independent pharmacy owners and three community chain pharmacists to identify their beliefs, both positive and negative, about pharmacy ownership. The pharmacists interviewed represented various lengths of time in practice and/or ownership ranging from 1 to 35 years. Interviewees identified 13 salient beliefs regarding pharmacy ownership. These beliefs and sample comments are listed in Table 1 and served as the basis for the initial draft of the survey instrument.

The three-section survey was designed to collect information on pharmacists': 1) likelihood of independent pharmacy ownership; 2) attitudes and beliefs toward independent pharmacy; and 3) demographic, professional, and practice setting characteristics. Both closed- and open-ended response formats were employed. See Appendix A for a copy of the survey instrument. The following is a more detailed description of each of the survey sections.

Section I: Interest in Independent Pharmacy Ownership. This section of the survey was designed to assess pharmacists' interest in pursuing independent pharmacy ownership. Likelihood of pursuing pharmacy ownership was used to measure level of interest. Likelihood of pursuing ownership represents a stronger indicator of interest compared to a simple interest statement. This section consisted of one item requiring a response of "Very Unlikely" (-3) to "Very Likely" (+3).

Section II. Attitudes toward Independent Pharmacy Ownership. This section of the survey was designed to assess pharmacists' beliefs and attitudes about independent pharmacy

ownership. It measured pharmacists' perceived likelihood ["Very Unlikely" (-3) to "Very Likely" (+3)] and evaluation ["Very Bad" (-3) to "Very Good" (+3)] of 10 outcome beliefs of independent pharmacy ownership. These 10 outcome beliefs were identified in the pilot study (see Table 1).

Pharmacists were asked how likely each of the ten outcomes would be if they owned an independent pharmacy. The pharmacists were then asked to evaluate how good or bad each of the ten outcomes would be if the outcome occurred. The overall attitude toward pharmacy ownership was determined by multiplying each belief strength by its corresponding outcome evaluation and then summing the products for the total set of salient beliefs ($Att = \sum e_i b_i$). The sum of the mean products of the likelihood and evaluative scores determined the overall attitude score. The possible range for the overall attitude score was -90 to +90, with higher numbers indicating a more favorable attitude towards independent pharmacy ownership.

Section III. Demographics and Practice Setting Information. This section of the survey was designed to assess pharmacists' background and practice setting characteristics. Items included pharmacists' demographics, practice site characteristics, involvement in patient care services and membership in professional organizations. The primary independent variable of this study was *career stages*. The career stage of respondents (early, mid, or late) was assessed using age. Pharmacists 35 years of age and younger were categorized in the early career stage, those 36 to 49 years of age were categorized in the mid-career stage, and those 50 years or older were categorized in the late career stage. This age-based method of defining career stages has been employed in other studies.^{1,2}

Information about their ability to obtain the financial resources to own an independent pharmacy and their perceived resource needs for the pursuit of independent pharmacy ownership were also assessed.

Pretest. The initial draft of the survey instrument was assessed for content validity by a group of practicing pharmacists. These pharmacists were also asked if they held other salient beliefs regarding pharmacy ownership that were not represented in the survey. Two modifications were made to the survey instrument based on the pretest group's comments and recommendations. A question was added to determine if the respondent would be able to obtain the financial resources to buy out or start up an independent pharmacy. A second question was added to evaluate the type of assistance that would be considered most helpful in pursuing independent pharmacy ownership.

Study Sample and Data Collection Procedures

A random sample of 500 community pharmacists was drawn from a list of pharmacists who are licensed and reside in the state of Texas. Pharmacists who were listed as current owners, military, retirees, and had non-Texas residential addresses and inactive licensure status were excluded. The Texas State Board of Pharmacy provided this list via the internet. Approval from the University of Texas at Austin Institutional Review Board was obtained.

Each of the 500 randomly selected pharmacists was sent a cover letter explaining the purpose of the project and a self-addressed, postage-paid survey booklet on November 16, 2004. Pharmacists were asked to return the surveys by November 30, 2004. Two weeks after the initial mailing, a reminder package including a revised cover letter and an additional self-addressed, postage-paid survey booklet was sent to the pharmacists. Pharmacists were asked to return the surveys by December 14, 2004. Responses were collected over a six-week period. All responses were anonymous.

Data Analysis

Pharmacists' responses were analyzed both descriptively and inferentially. Correlation analysis, chi-square tests, t-tests, and analysis of variance (ANOVA) techniques were used to examine the associations between career stages, demographic and practice site characteristics and their interest in and attitudes toward pharmacy ownership. In addition, regression analyses were used to examine if career stages predicted interest and attitudes, after accounting for demographic, professional and practice site differences. The *a priori* level of significance for all statistical computations was $p < 0.05$. The data was analyzed using SAS / PC for Windows version 9.1 statistical package.

Table 1. Pilot Interviews of Pharmacists’ Salient Beliefs Regarding Pharmacy Ownership

Salient Beliefs	Examples of Comments from Pilot Interviews
<i>Business Autonomy</i>	<ul style="list-style-type: none"> • Opportunities to succeed are unlimited given your own drive and creativity • You have the liberty of offering specialty services • You don’t have to deal with corporate oversight • You are in control of everything (e.g., Staffing, hours of operation, design of your pharmacy)
<i>Professional Autonomy</i>	<ul style="list-style-type: none"> • You can practice pharmacy the way you would like to • The ability to push the boundaries of pharmacy without having to ask permission from corporate headquarters • The ability to create and implement new services
<i>Personal Autonomy</i>	<ul style="list-style-type: none"> • You can choose to establish specialty services that are of interest to you • Create your perfect pharmacy environment – fit the environment to your personality – “it’s mine” • Gratification , community stature, and sense of accomplishment
<i>Financial Rewards</i>	<ul style="list-style-type: none"> • Build equity and to some extent determine income by timing investments and expenses • Potential for unlimited income
<i>Financial Risks</i>	<ul style="list-style-type: none"> • Profit margin being lowered • Won’t always be able to give yourself a paycheck • Assume financial risk, income not guaranteed
<i>Patient Care Orientation</i>	<ul style="list-style-type: none"> • Meeting the needs of the community • Focus on patient counseling • More time with patients
<i>Customer Loyalty</i>	<ul style="list-style-type: none"> • Clientele/customers want to be there • Part of the community • Security of having the same patients for thirty years
<i>Responsibility</i>	<ul style="list-style-type: none"> • Responsible for managing an entire pharmacy, and everything that happens in it • You are always working at your business • Ultimate decision is yours – cannot “pass the buck”
<i>Time Commitment</i>	<ul style="list-style-type: none"> • Work longer hours and spend time on managerial tasks, especially in the early years • You cover when others don’t show up • Time requirements – must spend more time on the job because you must cover duties beyond the pharmacist role
<i>Tax Liability</i>	<ul style="list-style-type: none"> • Must pay 100% of social security and Medicare taxes • If single proprietorship or partnership, profit or loss is treated personal income (or loss) and taxed at higher levels • If corporation, profits are “double taxed”, salary and dividends are taxed as personal income although operation profits also taxed as income of corporation
<i>Financial Investment Planning</i>	<ul style="list-style-type: none"> • Need to develop long-term financial plans • Investment for the future – for your children or selling of the business • Failure to plan for continuation or sale of business after retirement
<i>Competitive Market</i>	<ul style="list-style-type: none"> • Decreased ability to negotiate with wholesalers/companies for price discounts • Decreased ability to negotiate with insurance companies for contracts • Getting squeezed by insurance companies lowering pharmacy reimbursement
<i>Lack of Business and/or Managerial Skills</i>	<ul style="list-style-type: none"> • Lots of things to learn that they don’t teach you in school • Pharmacy degree doesn’t cut it • Must definitely be able to “multi-task”

Section I.

Response Rate, Demographics, and Practice Setting Characteristics

RESULTS

Section I. Response Rate, Demographics and Practice Setting Characteristics

Response Rate

A total of 500 pharmacists were mailed surveys and 17 surveys were returned as undeliverable. Of the 483 assumed delivered, 199 were returned, yielding a response rate of 41.2 percent. Of the 199 returned surveys, two surveys were incomplete, seven surveys were returned from current pharmacy owners, and six surveys were returned from retirees. These surveys were not included in the preliminary data analysis. The initial usable response rate after eliminating owners, retirees, and incomplete surveys was 38.1 percent (N = 184). For the final data analysis, an additional four surveys were removed due to additional information indicating owner status. The final usable response rate was 36.0 percent (N = 180).

Demographics

Respondents' demographic information is listed in Table 2. Respondents were approximately evenly distributed between female (50.3%) and male (49.7%), with a mean age of 44.8 (SD=12.5) years. They had been licensed for an average of 19.1 (SD=13.0) years. Most (83.4%) respondents worked full time. The most commonly reported work site was community chain pharmacies (36.9%) and urban settings (57.8%). Staff pharmacists (41.5%) accounted for the largest percentage of the sample. The average number of prescriptions filled was 1668.4 (SD=6853.4) and was skewed by mail order facilities, therefore the median value of 225.0 is more representative. Most respondents (41.1%) were classified as late career stage (age \geq 50).

Respondents' activities and qualifications are listed in Table 3. Many respondents (44.9%) indicated that they engage in pharmaceutical care practices that were defined in the survey instrument as engaging in the assessment and monitoring of drug therapy problems. The respondents also commonly (31.4%) held advanced training certifications and were most often

(25.6%) members of the Texas Pharmacy Association (TPA). Few (5.1%) were members of the National Community Pharmacists Association (NCPA).

Table 2. Characteristics of Pharmacists

Characteristic	N	Frequency (%)	Mean ± SD
Age (years)	176		44.8 ± 12.5 (Range=24-82)
Years as a Licensed Pharmacist	176		19.1 ± 13.0 (Range=<1yr-55)
Gender	177		
Male		88 (49.7)	
Female		89 (50.3)	
Primary Practice Site	176		
Community Chain		65 (36.9)	
Institutional		40 (22.7)	
Community Independent		18 (10.2)	
Consultant/Long Term Care		10 (5.7)	
Community Clinic		5 (2.8)	
Other ^a		38 (21.6)	
Primary Practice Area	173		
Urban		100 (57.8)	
Rural		51 (29.5)	
Suburban		22 (12.7)	
Current Position (Title)	176		
Staff		73 (41.5)	
Manager/Assistant Manager		53 (30.1)	
Relief		12 (6.8)	
Clinical		12 (6.8)	
Other ^b		26 (14.8)	
Hours Worked	175		
Full-Time (≥ 32 hours/wk)		146 (83.4)	
Part-Time (< 32 hours/wk)		29 (16.6)	
Prescriptions per Week	148		1668.4 ± 6853.4 (Median = 225.0)
Career Stage	180		
Early (≤ 35 years of age)		55 (30.6)	
Mid (36-49 years of age)		51 (28.3)	
Late (≥ 50 years of age)		74 (41.1)	

^a Other pharmacy sites included: mail order, PBM/managed care, oncology, home infusion, and corporate.

^b Other positions/titles included: director and vice-president.

Table 3. Pharmacists' Activities and Qualifications

Activities	Frequency (%)^a
Patient Care Services	
Pharmaceutical care practice ^b	79 (44.9)
Disease state management ^c	51 (29.0)
Compounding services	45 (25.6)
Health promotion services ^d	34 (19.3)
Other ^e	23 (13.1)
Advanced Training Certifications	55 (31.4)
Current Pharmacy Organization Memberships	
TPA – Texas Pharmacy Association	45 (25.6)
APhA – American Pharmacists Association	32 (18.2)
ASHP – American Society of Health-System Pharmacists	29 (16.5)
TSHP – Texas Society of Health-System Pharmacists	22 (12.5)
ASCP – American Society of Consultant Pharmacists	10 (5.7)
NCPA – National Community Pharmacists Association	9 (5.1)
PCCA – Professional Compounding Centers of America	8 (4.6)
AMCP – Academy of Managed Care Pharmacy	0 (0.0)
Other ^f	30 (17.1)

^a Percentages sum to more than 100% due to multiple responses.

^b e.g., assessment and monitoring of drug therapy

^c e.g., diabetes, hypertension, osteoporosis

^d e.g., vaccinations, smoking cessation

^e Other services included: patient assistance programs, pharmacokinetic monitoring/dosing and renal dosing, pharmacoeconomics, pain management, prior authorization, telephonic medication counseling, cholesterol and blood glucose testing, computer/software maintenance, specialty pharmacy (injectables), orientation talks to residents on prescription writing, homeopathy/nutrition/natural medicine, poison prevention, INR monitoring.

^f Other organizations included: American College of Clinical Pharmacy (ACCP), Metroplex Society of Health-System Pharmacists (MSHP), American Association of Diabetes Educators, and West Texas Pharmacy Association.

Most (67.8%) pharmacists indicated that they could obtain the financial resources necessary to buy out or start up an independent pharmacy. Pharmacists were also asked to indicate which of the listed resources they would consider to be helpful in pursuing independent pharmacy ownership. The responses are listed below in Table 4. A financial advisor was the most commonly cited resource (N=124 respondents or 70.5%) that pharmacists considered helpful in pursuing independent pharmacy ownership.

Table 4. Helpful Resources for Pursuing Independent Pharmacy Ownership (N=176)

Resource	Frequency (%)^a
Financial Advisor	124 (70.5)
Mentor/Apprenticeship	78 (44.3)
Continuing Education or Postgraduate Programs	73 (41.5)
Certification Programs	72 (40.9)
Other ^b	17 (9.7)

^a Percentages sum to more than 100% because of multiple responses.

^b Examples of other helpful resources included financial backing, legal counsel, and language fluency.

Section II.

Pharmacists' Attitudes Toward Independent Pharmacy Ownership

Section II. Pharmacists' Attitudes Toward Independent Pharmacy Ownership

Attitudes Toward Independent Pharmacy Ownership

The mean overall attitude score was 18.6 (SD=28.0, range= -63.0 to 90.0), indicating an overall favorable attitude towards independent pharmacy ownership. The possible range for the overall attitude score was -90.0 to +90.0. The internal consistency estimate of the 10-item attitude measure was 0.81, indicating high reliability.

Table 5 lists the means of the likelihood and evaluative scores for each of the salient beliefs. All of the salient beliefs had positive likelihood values, which means that all of these were rated as at least “likely” to occur if they owned an independent pharmacy. On the other hand, three salient beliefs had negative evaluation values [increase financial risk (mean=-0.4, SD=2.1), increase tax liabilities (mean=-0.4, SD=2.0), and decrease the ability to compete (mean=-0.8, SD=1.7)], which means that these three outcomes were rated as at least “bad” if they occurred.

Table 6 shows the mean products of the likelihood and evaluative scores that were then summed to determine the overall attitude score. Pharmacists (N=180) were asked how likely each of the ten listed outcomes would be if they owned an independent pharmacy. They were then asked to evaluate how good or bad each of the ten outcomes would be if the outcome occurred.

The mean product of the belief and outcome evaluation scores for the beliefs that owning an independent pharmacy would increase business autonomy (mean=4.5, SD=3.7), increase professional autonomy (mean=4.2, SD=3.6), and increase the ability to establish customer/patient loyalty (mean=4.3, SD=3.6) were all greater than four. These beliefs made the largest positive contribution to overall attitude. The most negative mean product of the belief and outcome evaluation scores was the belief than owning an independent pharmacy would

decrease power to negotiate contracts and price discounts in a competitive market (mean= -1.4, SD=4.5).

Salient belief measures showed significant correlations to attitude (See Table 7). Time commitment ($r=0.83$, $p<0.0001$), tax liability ($r=0.75$, $p<0.0001$), and financial risk ($r=0.68$, $p<0.0001$) were most highly correlated with overall attitude scores. However, other salient beliefs were highly correlated with overall attitude as well.

Table 5. Means and Standard Deviations of the Belief and Outcome Evaluation Scores

Item	Salient Belief	N	Mean Likelihood (SD)^a	Mean Evaluation (SD)^b
(a.)	Owning an independent pharmacy will increase my business autonomy (e.g., control of staffing and hours of operation)	180	2.0 (1.3)	1.8 (1.3)
(b.)	Owning an independent pharmacy will increase my professional autonomy (e.g., implementation of patient care services, such as compounding and disease state management)	180	1.8 (1.4)	1.9 (1.1)
(c.)	Owning an independent pharmacy will be financially rewarding (e.g., income and investments)	180	0.3 (1.7)	0.8 (1.8)
(d.)	Owning an independent pharmacy will increase my financial risk as a pharmacist	180	1.8 (1.5)	-0.4 (2.1)
(e.)	Owning an independent pharmacy will increase my ability to establish customer/patient loyalty	180	1.7 (1.4)	1.8 (1.3)
(f.)	Owning an independent pharmacy will increase my sense of professional responsibility as a pharmacist	180	1.1 (1.8)	1.5 (1.4)
(g.)	Owning an independent pharmacy will require an increased time commitment to fulfill duties as a pharmacy owner	180	2.6 (0.7)	0.1 (2.3)
(h.)	Owning an independent pharmacy will increase my tax liability	180	1.8 (1.3)	-0.4 (2.0)
(i.)	Owning an independent pharmacy will decrease power to negotiate contracts and price discounts in a competitive market (e.g., wholesalers, and insurance companies)	180	1.2 (1.6)	-0.8 (1.7)
(j.)	Owning an independent pharmacy will require an increase in my business and managerial skills	180	2.2 (1.2)	1.2 (1.5)

^a Perceived likelihood measure: “Very Unlikely” (-3) to “Very Likely” (+3)

^b Perceived evaluation measure: “Very Bad” (-3) to “Very Good” (+3)

Table 6. Means and Standard Deviations of Product of Belief and Outcome Evaluation Scores

Item	Behavioral Belief and Outcome Evaluation	N	Mean	SD
Product of likelihood and evaluative measures for each of the following outcome statements:				
(a.)	Owning an independent pharmacy will increase my business autonomy (e.g., control of staffing and hours of operation)	180	4.5	3.7
(b.)	Owning an independent pharmacy will increase my professional autonomy (e.g., implementation of patient care services, such as compounding and disease state management)	180	4.2	3.6
(c.)	Owning an independent pharmacy will be financially rewarding (e.g., income and investments)	180	2.2	3.7
(d.)	Owning an independent pharmacy will increase my financial risk as a pharmacist	180	-1.1	5.5
(e.)	Owning an independent pharmacy will increase my ability to establish customer/patient loyalty	180	4.3	3.6
(f.)	Owning an independent pharmacy will increase my sense of professional responsibility as a pharmacist	180	3.3	4.1
(g.)	Owning an independent pharmacy will require an increased time commitment to fulfill duties as a pharmacy owner	180	0.2	6.4
(h.)	Owning an independent pharmacy will increase my tax liability	180	-0.7	5.2
(i.)	Owning an independent pharmacy will decrease power to negotiate contracts and price discounts in a competitive market (e.g., wholesalers, and insurance companies)	180	-1.4	4.5
(j.)	Owning an independent pharmacy will require an increase in my business and managerial skills	180	3.1	4.3
Overall Attitude		180	18.6	28.0

Table 7. Correlations of Salient Beliefs with Overall Attitude (N=180)

Belief	Correlation (r)	p-value
Business Autonomy	0.50	p<0.0001
Professional Autonomy	0.46	p<0.0001
Financial Rewards	0.44	p<0.0001
Financial Risks	0.68	p<0.0001
Customer Loyalty	0.60	p<0.0001
Responsibility	0.62	p<0.0001
Time Commitment	0.83	p<0.0001
Tax Liability	0.75	p<0.0001
Competitive Market	0.55	p<0.0001
Business/Managerial Skills	0.63	p<0.0001

Age and Years Licensed and Attitudes toward Independent Pharmacy Ownership

Age ($r=0.18$, $p=0.02$) and years licensed ($r=0.16$, $p=0.04$) were significantly correlated with overall attitude scores, indicating that increasing age and years licensed are associated with a more favorable attitude towards independent pharmacy ownership.

Gender and Attitudes toward Independent Pharmacy Ownership

Gender was significantly associated with attitude towards independent ownership ($t=2.38$, $p=0.02$). Male pharmacists had a more favorable attitude towards independent ownership (mean=23.9, SD=31.4) compared to female pharmacists (mean=14.0, SD=23.4).

Advanced Training and Attitudes toward Independent Pharmacy Ownership

Advanced training was significantly associated with attitude towards independent ownership ($t=-2.90$, $p<0.01$). Pharmacists with advanced training had a more favorable attitude towards independent ownership (mean=27.6, SD=28.8) compared to those without advanced training (mean=14.3, SD=26.5).

Membership in Pharmacy Organizations and Attitudes toward Independent Pharmacy Ownership

Membership in several pharmacy organizations was significantly associated with attitude towards independent ownership. Pharmacists who were members of NCPA ($t=-3.40$, $p=0.01$) and PCCA ($t=-2.40$, $p=0.04$) had more favorable attitudes toward independent ownership compared to those who were not members of these organizations. Members of NCPA had the most favorable attitude towards independent ownership (mean=50.0, SD=28.5), followed by members of PCCA (mean=44.4, SD=31.2).

Practice Site and Attitudes toward Independent Pharmacy Ownership

Significant variation in pharmacists' attitudes with respect to practice site ($F=3.77$, $df=5$, $p<0.01$) was found. Pharmacists working in the community independent pharmacy setting had the most favorable attitude towards independent pharmacy ownership (mean=44.2, SD=21.2), followed by chain (mean=15.0, SD=28.2), other (mean=15.0, SD=24.4), consultant/LTC (mean=14.2, SD=19.8), and clinic (mean=10.0, SD=13.4). Statistically significant mean differences were seen between independent and chain (mean difference=29.2, 95% CI 8.4 to 50.0), independent and institutional (mean difference=24.0, 95% CI 1.8 to 46.1), and independent and other (mean difference=29.3, 95% CI 6.9 to 51.6).

A multivariate model containing age, interest, practice site, gender, advanced training, and career stages (variables significantly related to attitude in the bivariate analyses) was significant ($F=4.03$, $df=11$, $p<0.0001$) and explained 21.6 percent of the variance in attitude towards independent pharmacy ownership. Interest and advanced training were significant predictors of attitude, after controlling for all other variables in the model. The career stages

variable was not a significant predictor of attitudes when other variables had been taken into account. Pharmacists with a higher interest in pursuing independent ownership and those with advanced training had significantly more favorable attitudes toward independent pharmacy ownership compared to their counterparts.

Section III.

Pharmacists' Interest in Independent Pharmacy Ownership

Section III. Pharmacists' Interest in Independent Pharmacy Ownership

Interest in Independent Pharmacy Ownership

The mean interest in pursuing independent pharmacy ownership was -2.2 (SD=1.6, range= -3.0 to +3.0), indicating a low likelihood of pursuing independent pharmacy ownership.

Table 8 shows the correlations of the salient beliefs and interest in pursuing independent pharmacy ownership. Salient belief measures for financial rewards ($r=0.23$, $p<0.01$) and business/managerial skills ($r=0.23$, $p<0.01$) showed the highest correlation with pharmacists' interest in pursuing independent pharmacy ownership. Beliefs concerning business autonomy, customer loyalty, professional responsibility, tax liability, and competitive market were not significantly correlated with pharmacists' interest in pursuing ownership.

Table 8. Correlations of Salient Beliefs and Overall Attitude with Interest in Pursuing Independent Ownership (N=180)

Belief	Correlation (r)	p-value
Business Autonomy	0.15	$p=0.05$
Professional Autonomy	0.17	$p=0.02^*$
Financial Rewards	0.23	$p<0.01^*$
Financial Risks	0.17	$p=0.02^*$
Customer Loyalty	0.15	$p=0.05$
Responsibility	0.14	$p=0.06$
Time Commitment	0.20	$p=0.01^*$
Tax Liability	0.13	$p=0.09$
Competitive Market	0.10	$p=0.20$
Business/Managerial Skills	0.23	$p<0.01^*$
Attitude	0.26	$p<0.001^*$

* Indicates statistical significance at $p<0.05$.

Attitudes and Interest in Pursuing Independent Pharmacy Ownership

Pharmacists' attitudes were positively related to their interest in pursuing independent pharmacy ownership ($r=.26$, $P<0.001$). A more favorable attitude was associated with a higher likelihood to pursue independent pharmacy ownership.

Practice Site and Interest in Pursuing Independent Pharmacy Ownership

Pharmacists' practice site was significantly associated with their interest in pursuing independent ownership ($F=2.87$, $df=5$, $p=0.02$). Pharmacists who practice in community independent pharmacies were most likely to pursue ownership (mean= -1.0, $SD=2.5$), followed by consultant/LTC (mean= -2.1, $SD=1.9$), chain (mean= -2.1, $SD=1.7$), institutional (mean= -2.4, $SD=1.1$), other (mean= -2.5, $SD=1.0$), and clinic (mean= -3.0, $SD=0.0$) pharmacists. Statistically significant mean differences were seen between community independent and institutional (mean difference=1.4, 95% CI 0.2 to 2.7) and also with community independent and other (mean difference=1.5, 95% CI 0.2 to 2.8).

Geographic location and Interest in Pursuing Independent Pharmacy Ownership

Geographic location of practice site was significantly associated with interest in pursuing independent ownership ($F=4.33$, $df=2$, $p=0.02$). Pharmacists in rural locations were most likely to pursue independent ownership (mean= -1.4, $SD=2.3$), followed by suburban (mean= -2.1, $SD=1.6$) and urban (mean= -2.5, $SD=1.3$). A statistically significant mean difference was seen between rural and urban pharmacists (mean difference=1.0, 95% CI 0.2 to 1.9).

Pharmacy Services and Interest in Pursuing Independent Pharmacy Ownership

Of the pharmacy services reported, only involvement in compounding services was significantly associated with interest in pursuing independent ownership ($t= -3.62$, $p<0.001$). Pharmacists who offered compounding services were more likely to pursue independent ownership (mean= -1.5, $SD=2.2$) when compared to those who did not (mean= -2.4, $SD=1.3$).

Membership in Pharmacy Organizations and Interest in Pursuing Independent Pharmacy Ownership

Membership in several pharmacy organizations was significantly associated with interest in pursuing independent ownership. Pharmacists who were members of ASCP ($t = -2.45$, $p = 0.02$), NCPA ($t = -7.86$, $p < 0.0001$), PCCA ($t = -2.17$, $p = 0.03$), and TPA ($t = -3.74$, $p < 0.001$) were more likely to pursue independent ownership compared to those who were not members of these organizations. Members of NCPA had the highest likelihood of pursuing independent pharmacy ownership (mean=1.3, SD=2.6 for NCPA). The mean likelihood of pursuing independent ownership was -1.0 (SD=2.6) for ASCP, -1.0 (SD=2.8) for PCCA, and -1.4 (SD=2.2) for TPA members.

Financial Resources and Interest in Pursuing Independent Pharmacy Ownership

The ability to obtain financial resources was significantly associated with interest in pursuing independent ownership ($t = -2.25$, $p = 0.03$). Pharmacists who indicated that they were able to obtain the financial resources to buy out or start up a pharmacy were more likely to pursue independent ownership (mean= -2.0, SD=1.8) compared to those who were not (mean= -2.6, SD=1.2).

A multivariate model containing practice site, compounding services, geographic location, ability to obtain financial resources, and attitude (variables significantly related to interest in the bivariate analyses) was significant ($F = 4.10$, $df = 10$, $p < 0.0001$) and explained 20.5 percent of the variance in interest in pursuing independent pharmacy ownership. The career stages variable was not included since it was not significantly related to interest in the bivariate models. Compounding services, geographic location, ability to obtain financial resources, and

attitude were all significant predictors of interest, after controlling for all other variables in the model. Pharmacists who offered compounding services, could obtain financial resources, and had more favorable attitudes were more likely interested in pursuing independent pharmacy ownership compared to their counterparts.

Section IV.

Attitudes and Interest of Pharmacists Toward Independent Pharmacy Ownership Based on Career Stage

Section IV. Attitudes and Interest of Pharmacists Toward Independent Pharmacy Ownership Based on Career Stage

Career Stage and Attitude Towards Independent Pharmacy Ownership

Analysis of Variance (ANOVA) statistical procedures showed that pharmacists' attitudes toward independent pharmacy ownership differed by career stage ($F=3.12$, $df=2$, $p=0.047$). Mid career pharmacists had the most favorable attitude (mean=23.6, $SD=27.3$) followed by late career pharmacists (mean=20.8, $SD=29.9$). Early career pharmacists held the least favorable attitude with a mean of 11.0 ($SD=24.7$).

Several salient beliefs that most highly correlated with attitude were significantly different based on career stage. Pharmacists' attitudes about financial risk ($F=3.01$, $df=2$, $p=0.05$), time commitment ($F=3.47$, $df=2$, $p=0.03$), competitive markets ($F=4.01$, $df=2$, $p=0.02$), and business/managerial skills ($F=3.20$, $df=2$, $p=0.04$) were all significantly influenced by career stage classification. Late career pharmacists were less likely to believe that owning an independent pharmacy would increase financial risk (mean=0.0, $SD=5.9$) when compared to early career pharmacists (mean=-2.4, $SD=4.9$) (mean difference= -2.4, 95% CI -0.1 to -4.7). Mid career pharmacists were more likely to believe that owning an independent pharmacy would decrease their ability to compete (mean=-0.1, $SD=4.5$) when compared to early career pharmacists (mean=-2.6, $SD=3.9$) (mean difference= 2.4, 95% CI 0.4 to 4.4). The belief that ownership would require an increase in business/managerial skills was highest in mid (mean=3.9, $SD=3.8$) and late career (mean=3.5, $SD=4.3$) pharmacists compared to early career pharmacists (mean=1.9, $SD=4.5$). Time commitment was more burdensome for early career pharmacists (mean=-1.6, $SD=5.8$) compared to mid (mean=1.1, $SD=6.5$) and late (mean=1.0, $SD=6.6$) career pharmacists.

Multivariate findings revealed that career stages did not significantly influence attitudes when other variables had been taken into account.

Career Stage and Interest In Pursuing Independent Pharmacy Ownership

ANOVA statistical analysis showed no significant differences in interest in pursuing independent pharmacy ownership on the basis of career stage ($F=0.13$, $df=2$, $p=0.88$). Based on the mean values for each of the defined career stages, pharmacists classified as early career stage were least likely to pursue independent pharmacy ownership (mean= -2.3, SD=1.6), closely followed by mid career stage (mean=-2.2, SD=1.4) and late career stage (mean= -2.1, SD=1.7).

Section V.

Study Objectives

Section V. Study Objectives

Objective 1: To assess the attitudes towards pharmacy ownership of pharmacists in different career stages.

Pharmacists in the study held an overall positive attitude toward independent pharmacy ownership with a mean overall attitude score of 18.6 (SD=28, range=-63 to 90). Increased business autonomy, professional autonomy, and patient loyalty made the largest and most positive contributions to the overall attitude score. Decreasing the ability to compete made the largest negative contribution to the overall attitude score.

Between early (mean=11.05, SD=24.7), mid (mean=23.63, SD=27.32), and late (mean=20.80, SD=29.90) career stage pharmacists, there were significant differences in attitude towards pharmacy ownership ($F=3.12$, $df=2$, $p=0.047$). Career stages significantly influenced beliefs about increased financial risk ($F=3.01$, $df=2$, $p=0.05$), time investment ($F=3.47$, $df=2$, $p=0.03$), power to negotiate contracts ($F=4.01$, $df=2$, $p=0.02$), and need for increased business and managerial skills ($F=3.20$, $df=2$, $p=0.04$).

Several demographic and setting characteristics were significantly related to pharmacists' attitudes toward independent pharmacy ownership. Age ($r=0.18$, $p=0.02$) and years licensed ($r=0.16$, $p=0.04$) were positively related to attitude. Community independent pharmacists reported the most favorable attitude (mean=44.2, SD=21.2) when compared to all other sites. Pharmacists who were male (mean=23.9, SD=31.4), had advanced training (mean=27.6, SD=28.8), or were members of NCPA (mean=50.0, SD=28.5) or PCCA (mean=44.4, SD=31.2) had a more favorable attitude when compared to their respective counterparts.

A multivariate model containing age, interest, practice site, gender, advanced training, and career stages revealed that interest and advanced training were significant predictors of attitude, after controlling for all other variables in the model. Pharmacists with a higher interest

in pursuing independent ownership and those with advanced training had significantly more favorable attitudes toward independent pharmacy ownership compared to their counterparts. The career stages variable was not a significant predictor of attitudes when other variables had been taken into account.

Objective 2: To identify which beliefs are the primary determinants of pharmacists' attitude toward pharmacy ownership in different career stages.

Beliefs concerning statements on increases in time commitment ($r=0.83$, $p<0.001$), tax liabilities ($r=0.75$, $p<0.001$), and financial risk ($r=0.68$, $p<0.001$) were found to have the highest correlation with pharmacists' attitude toward independent pharmacy ownership.

Several salient beliefs that most highly correlated with attitude were significantly different based on career stage. Pharmacists' attitudes about financial risk ($F=3.01$, $df=2$, $p=0.05$), time commitment ($F=3.47$, $df=2$, $p=0.03$), ability to compete ($F=4.01$, $df=2$, $p=0.02$), and business/managerial skills ($F=3.20$, $df=2$, $p=0.04$) were all significantly influenced by career stage classification. Late career pharmacists less likely believed that owning an independent pharmacy would increase financial risk (mean=0.0, SD=5.9) when compared to early career pharmacists (mean=-2.4, SD=4.9) (mean difference= -2.4, 95% CI -0.1 to -4.7). Mid career pharmacists were more likely to believe that owning an independent pharmacy would decrease their ability to compete (mean=-0.1, SD=4.5) when compared to early career pharmacists (mean=-2.6, SD=3.9) (mean difference= 2.4, 95% CI 0.4 to 4.4). The belief that ownership would require an increase in business/managerial skills was highest in mid (mean=3.9, SD=3.8) and late career (mean=3.5, SD=4.3) pharmacists compared to early career pharmacists (mean=1.9, SD=4.5). Time commitment was more burdensome for early career pharmacists

(mean=-1.6, SD=5.8) compared to mid (mean=1.1, SD=6.5) and late (mean=1.0, SD=6.6) career pharmacists.

Objective 3: To determine the level of interest in pharmacy ownership among pharmacists in different career stages.

Pharmacists indicated a low interest in pursuing independent pharmacy ownership. The mean likelihood of pursuing pharmacy ownership was -2.2 (SD=1.6, range= -3.0 to +3.0). Interest in independent pharmacy ownership did not vary based on pharmacists' career stages.

Several characteristics were significantly related to interest in pursuing independent pharmacy ownership. Community independent pharmacists were most likely (mean=-1.1, SD=2.5) to pursue ownership when compared to all other sites. Pharmacists who practiced in rural settings (mean=-1.4, SD=2.3), who offered compounding services (mean=-1.5, SD=2.2), and who reported the ability to obtain financial resources were more likely to pursue ownership than their respective counterparts.

Pharmacists' attitudes were positively related to their interest in pursuing independent pharmacy ownership ($r=.26$, $P<0.001$). A more favorable attitude was associated with a higher likelihood to pursue independent pharmacy ownership. Salient belief measures for financial rewards ($r=0.23$, $p <0.01$) and business/managerial skills ($r=0.23$, $p <0.01$) showed the highest correlation with pharmacists' interest in pursuing independent pharmacy ownership. Beliefs concerning business autonomy, customer loyalty, responsibility, tax liability and competitive market were not significantly correlated with pharmacists' interest in pursuing ownership.

A multivariate model containing practice site, compounding services, geographic location, ability to obtain financial resources, and attitude revealed that, except for practice site, all variables were significant predictors of interest. Pharmacists who offered compounding

services, could obtain financial resources, and had more favorable attitudes were more likely interested in pursuing independent pharmacy ownership compared to their counterparts. The career stages variable was not included since it was not significantly related to interest in the bivariate models.

Objective 4: To make recommendations on how to best target the needs of these different groups to prepare them for pharmacy ownership based on their attitudes, beliefs, and interests.

The current study provides information that will be helpful in the development of meaningful resources for current and future independent pharmacy owners. Materials aimed at stimulating interest in independent pharmacy ownership should focus on those perceptions that were found to drive pharmacists' attitude towards ownership. The current study identified several barriers that current pharmacists perceive with regard to independent pharmacy ownership that significantly inhibit their interest in pursuing ownership. Although they may also see many favorable aspects of independent pharmacy practice, these perceived barriers seem to outweigh any associated benefits with regard to actual interest in pursuing ownership. Career stage as well as demographic and practice site characteristics can be effective means for developing resources aimed at stimulating interest in independent pharmacy ownership. Utilizing the results of this study to help stimulate interest in independent pharmacy ownership is the key to preserving and promoting the growth of independent pharmacy in the future. Specific recommendations are contained in the next section.

RECOMMENDATIONS

Recommendations on how to prepare pharmacists for independent ownership

Develop strategies to modify attitudes of pharmacists

- Attitudes are changed by either altering pharmacists' subjective probability (likelihood) that independent pharmacy has certain attributes or to influence their evaluation (good/bad) of those attributes.

Example:

Financial risk: To change the negative impact of financial risk on attitude, strategies should either lower the perceived likelihood of the occurrence of financial risk with ownership or minimize how negatively it is evaluated. The idea is to maximize the positive and minimize the negative in order to form more favorable attitudes.

- Attitudinal change strategies should:
 - Emphasize beliefs that made negative contributions to attitude formation
 - Financial risk
 - Tax liability
 - Ability to compete
 - Emphasize beliefs that made low positive contributions to attitude formation
 - Financial reward
 - Time commitment
 - Also include beliefs that made higher positive contributions to attitude formation
 - Business autonomy
 - Professional autonomy
 - Patient loyalty
 - Professional responsibility
 - Business/managerial skills

Attitudinal change strategies should:

- Target early career pharmacists particularly regarding their beliefs about financial risk, time commitment, ability to compete, and business/managerial skills associated with ownership.
- Focus on the following demographics:
 - Non-independent pharmacy practitioners
 - Younger pharmacists
 - Female pharmacists
 - Pharmacists with no advanced training
 - Pharmacists who members of organizations other than NCPA and PCCA

Stimulate interest in independent pharmacy ownership by:

- Developing and distributing promotional materials for the resources currently available to independent pharmacy owners including:
 - The NCPA Management Institute
 - The Virtual Mentors for Pharmacy Ownership
- Educating current and future pharmacists on the benefits and risks of independent ownership particularly regarding professional autonomy, financial reward, financial risk, time commitment and business/managerial skills.
 - An example includes promoting the financial rewards that can be associated with independent ownership and the provision of new and innovative patient care services.

Provide pharmacists training in the business and managerial aspects of independent pharmacy ownership, specifically addressing the following areas:

- Management of tax liabilities that are inherent to owning a business
- Time management methods that are required to start-up and run an independent pharmacy
- Assistance with financial advise with large firms (e.g., American Express Small Business) for discounted services
- Annual tax time seminars

Develop a legal aid matching service similar to the “Independent Pharmacy Matching Service” that is currently available through NCPA for independent owners

Promote educational resources that can facilitate independent pharmacy ownership, such as:

- Dual degree programs such as Pharm.D/MBA or associate degree programs in business, accounting, management, and human resources
- Medical foreign language short courses

Foster interest in compounding and other niche markets available to independent pharmacy owners by:

- Establishing collaborative efforts with national professional compounding organizations to provide greater access to resources and helpful educational resources

Focus efforts toward all practitioners because interest in pursuing was low overall, but special focus is needed in early and mid career pharmacist populations.

Future Studies

It may be helpful to pursue additional studies to determine when and where pharmacists’ feel business management training would be most helpful in stimulating interest in pursuing independent pharmacy ownership (e.g., before, during or after Pharm.D studies). Additionally,

determining what specific types of CE or certification programs are thought to be most helpful (e.g., human resources, tax preparation, HIPAA training, managing computer software, inventory management).

This study found that early career stage pharmacist were the least likely to pursue independent pharmacy ownership. Future studies evaluating the perceived barriers of pharmacy students and early career stage pharmacists regarding independent pharmacy ownership may provide further insight into how to stimulate interest in ownership in this group of pharmacists.

DISCUSSION AND CONCLUSIONS

Independent pharmacies represent 41% of the retail prescription market, and 42% of the pharmacies in the United States.³ Pharmacy owners are offering new and innovative services to their customers at unprecedented rates. Although independent pharmacies have always been identified by a more service oriented environment, today's independent pharmacies are providing expanded patient care services through incorporation of disease state management, durable medical equipment distribution, compounding services, as well as other niche market needs around the country.⁴ Given the characteristics of today's independent pharmacy it is important to find ways of introducing and promoting interest in this area of pharmacy practice as the career opportunities available to pharmacists continue to expand. Sparking new interest in independent pharmacy ownership is the key to continuing the provision of new and innovative services to patients for generations to come.

Lower levels of job ambiguity, role conflict, role overload, and job stress have all been identified by pharmacists as positive characteristics of practicing in an independent pharmacy setting.⁵ Additionally, research suggests that pharmacists in independent practice settings consistently report higher levels of job satisfaction.⁵ Although much of the research shows such positive aspects of independent pharmacy practice, the current study provides important information regarding the beliefs, attitudes and interests of pharmacists regarding independent pharmacy ownership.

Overall, the study showed that although pharmacists practicing in various practice settings held a positive attitude towards independent pharmacy ownership, they reported a low likelihood of pursuing ownership. Pharmacists' beliefs regarding financial risk, time commitment, and taxes served as the primary driving factors for overall attitudes toward ownership. This study showed statistically significant differences in both overall attitudes

toward independent ownership and several salient beliefs about ownership based on pharmacists' career stage. However, when other important variables are taken into account, career stages do not significantly influence overall attitudes. Controlling for other important variables, differences in pharmacists' attitudes were significantly explained by their interest in pursuing ownership and whether or not they had advanced training. Interest in pursuing ownership was significantly explained by attitude, geographic location of practice site, ability to obtain financial resources, and involvement in compounding activities. Interest in pursuing ownership did not differ by career stage.

These findings suggest that methods of changing attitudes need to be varied and to target those beliefs that are driving pharmacists' attitudes depending on what stage of their pharmacy career they are in. Salient beliefs regarding financial rewards and business/managerial skills were highly associated with interest and should be emphasized when stimulating interest in ownership. In a profession with an ever expanding range of opportunities, successfully stimulating interest in independent pharmacy ownership is the key to the preservation and growth of independent pharmacy practice. Specific recommendations are offered in the "Recommendations" section.

Limitations of the Study

The current study sample utilized pharmacists currently licensed and residing in Texas. Current owners were removed from the sample accounting for differences in demographic characteristics with respect to national averages of pharmacists' practice site. Our study consisted of 10.2% pharmacists who indicated independent community pharmacy as their primary practice site. Additionally, there may be differences in attitude accounted for by other characteristics of pharmacists in the state of Texas that were not identified in this study.

Future research in this area may consider focusing on early career stage pharmacist to better understand underlying reasons for the low level of interest in pursuing independent ownership that was gathered in this study. This demographic of the population as well as those about to enter the field of pharmacy may be of particular importance based on their role in the future of independent pharmacy.

REFERENCES

1. Guthrie, J.P., Schwoerer, C. E. Older dogs and new tricks: career stage and self-assessed need for training. *Public Personnel Management*, 1996;25(1):59-72.
2. Reilly, NP and Orsak, C.L. A Career Stage Analysis of Career and Organizational Commitment in Nursing, *Journal of Vocational Behavior*, 1991;39(3):311-330.
3. *National Community Pharmacists Association: Annual Report 2004*. Preliminary 2004 NCPA-Pfizer Digest; 2004.
4. Anonymous. Gross margins, net profits up for independents. *Drug Store News*, 2004; 26 (9): 30.
5. Mott, D.A., Doucette, W.R., Gaither, C.A. et al. (2004). Pharmacists' attitudes toward worklife: results from national survey of pharmacists. *Journal of the American Pharmacists Association*, 2004; 44 (3): 326-336.
6. Fishbein, M and Ajzen, I. *Belief, Attitude, Intention, and Behavior*. Englewood Cliffs, NJ: Prentice Hall, Inc. 1980.
7. Guthris, J.P., Schwoerer, C.E. Older dogs and new tricks: career stage and self-assessed need for training. *Public Personnel Management*, 1996; 25 (1): 59-72.
8. Reilly, N.P. and Orsak, C.L. A Career Stage Analysis of Career and Organizational Commitment in Nursing. *Journal of Vocational Behavior*, 1991: 39 (3): 311-30.
9. Brown, C.M. Use of alternative therapies and their impact on patient compliance: perceptions of community pharmacists in Texas. *Journal of the American Pharmacists Association*, 1998; 38: 603-8.

APPENDIX A.

SURVEY BOOKLET

Survey of Texas Pharmacists' Attitudes Toward Independent Pharmacy Ownership

We are interested in factors that would influence your decision if you were considering ownership of an independent pharmacy. We believe it is important to identify those factors that may attract prospective independent pharmacy owners, as independent pharmacies play a vital part in the provision of new and innovative pharmaceutical care services to patients throughout communities. Please answer the following questions to the best of your knowledge based on your personal and professional experiences as a pharmacist.

I. Likelihood of Independent Pharmacy Ownership

Please circle the number that corresponds to the likelihood of your owning an independent pharmacy.

	Very Unlikely		Neither Likely Nor Unlikely				Very Likely
	-3	-2	-1	0	1	2	3
1. I am likely to pursue independent pharmacy ownership in the next year.							

II. Attitudes

Next, we would like to inquire about your attitudes toward independent pharmacy ownership (Questions 2-4). The statements below represent possible outcomes of owning an independent pharmacy as identified by Texas pharmacists. First, we want you to indicate how likely each of the outcomes would be (Questions 2a-2j) then to evaluate how good or bad each outcome would be (Questions 3a-3j). Please circle the number that corresponds to your choice using the scale listed below.

2. How likely do you think the following outcomes will be if you were to own an independent pharmacy?

	Very Unlikely		Neither Likely Nor Unlikely				Very Likely
	-3	-2	-1	0	1	2	3
a. Will increase my business autonomy (e.g., control of staffing and hours of operation)							
b. Will increase my professional autonomy (e.g., implementation of patient care services, such as compounding and disease state management)							

	Very Unlikely		Neither Likely Nor Unlikely				Very Likely
	-3	-2	-1	0	1	2	3
c. Will be financially rewarding (e.g., income and investments)	-3	-2	-1	0	1	2	3
d. Will increase my financial risk as a pharmacist (e.g., bankruptcy and profit loss)	-3	-2	-1	0	1	2	3
e. Will increase my ability to establish customer/patient loyalty	-3	-2	-1	0	1	2	3
f. Will increase my sense of professional responsibility as a pharmacist	-3	-2	-1	0	1	2	3
g. Will require an increased time commitment to fulfill duties as a pharmacy owner	-3	-2	-1	0	1	2	3
h. Will increase my tax liabilities (e.g., social security and Medicare taxes)	-3	-2	-1	0	1	2	3
i. Will decrease power to negotiate contracts and price discounts in a competitive market (e.g., wholesalers and insurance companies)	-3	-2	-1	0	1	2	3
j. Will require an increase in my business and managerial skills	-3	-2	-1	0	1	2	3

3. Although you may not agree with the outcomes about ownership listed above, how good or bad do you feel the following outcomes would be if you owned an independent pharmacy?

	Very Bad			Neither Good Nor Bad			Very Good
	-3	-2	-1	0	1	2	3
a. Will increase my business autonomy (e.g., control of staffing and hours of operation)	-3	-2	-1	0	1	2	3
b. Will increase my professional autonomy (e.g., implementation of patient care services, such as compounding and disease state management)	-3	-2	-1	0	1	2	3
c. Will be financially rewarding (e.g., income and investments)	-3	-2	-1	0	1	2	3
d. Will increase my financial risk as a pharmacist (e.g., bankruptcy and profit loss)	-3	-2	-1	0	1	2	3
e. Will increase my ability to establish customer/patient loyalty	-3	-2	-1	0	1	2	3
f. Will increase my sense of professional responsibility as a pharmacist	-3	-2	-1	0	1	2	3
g. Will require an increased time commitment to fulfill duties as a pharmacy owner	-3	-2	-1	0	1	2	3
h. Will increase my tax liabilities (e.g., social security and Medicare taxes)	-3	-2	-1	0	1	2	3
i. Will decrease power to negotiate contracts and price discounts in a competitive market (e.g., wholesalers and insurance companies)	-3	-2	-1	0	1	2	3
j. Will require an increase in my business and managerial skills	-3	-2	-1	0	1	2	3

Next, we would like to know your general feelings about owning an independent pharmacy. Please complete the following statement based on each of the following adjectives. Circle the number that corresponds to your answer.

4. In general, I feel that independent pharmacy ownership is:

	Very Bad		Neither Good Nor Bad				Very Good
a.	-3	-2	-1	0	1	2	3
	Very Harmful		Neither Beneficial Nor Harmful				Very Beneficial
b.	-3	-2	-1	0	1	2	3
	Very Useless		Neither Useful Nor Useless				Very Useful
c.	-3	-2	-1	0	1	2	3
	Very Foolish		Neither Wise Nor Foolish				Very Wise
d.	-3	-2	-1	0	1	2	3
	Very Worthless		Neither Valuable Nor Worthless				Very Valuable
e.	-3	-2	-1	0	1	2	3
	Very Punishing		Neither Rewarding Nor Punishing				Very Rewarding
f.	-3	-2	-1	0	1	2	3

III. Demographics and Practice Information

Now, we would like to know a little about you and your practice setting so that we can better understand your responses. Please check the appropriate item or write in your responses where appropriate.

5. What is your primary pharmacy practice site?

- Community independent (3 or fewer stores under common ownership)
- Community chain (4 or more stores under common ownership)
- Community clinic
- Institutional
- Other (please specify): _____

6. What is your current position or title?

- Staff Pharmacist
- Pharmacy Manager/Assistant Pharmacy Manager
- Relief Pharmacist
- Clinical Pharmacist
- Other (please specify): _____

7. Do you work full-time or part-time at your primary work site?

- Full time (greater than or equal to 32 hours per week)
- Part-time (less than 32 hours per week)

8. On average, how many prescriptions does your pharmacy fill per day? _____

9. Are you involved in any of the following patient care services? (Check all that apply.)

- Disease state management (e.g., diabetes, hypertension, osteoporosis)
- Pharmaceutical care practice (e.g., assessment and monitoring of drug therapy problems)
- Compounding services
- Health promotion services (e.g., vaccinations, smoking cessation)
- Other (please specify): _____

10. What is your gender?

- Male
- Female

11. In what year were you born? 19 _____

12. In what year were you initially licensed? _____ (year)

13. Which of the following best describes the area/setting of your primary place of employment?

- Urban
- Suburban
- Rural

14. Do you hold any advanced training certifications?

- Yes
- No

15. Which, if any, of the following organizations are you a current member? (Check all that apply.)

- AMCP – Academy of Managed Care Pharmacy
- APhA – American Pharmacists Association
- ASCP – American Society of Consultant Pharmacists
- ASHP – American Society of Health-System Pharmacists
- NCPA – National Community Pharmacists Association
- PCCA – Professional Compounding Centers of America
- TPA – Texas Pharmacy Association
- TSHP – Texas Society of Health-System Pharmacists
- Other(s) (Please specify): _____

16. Could you obtain the financial resources necessary to buy out or start up an independent pharmacy?

- Yes
- No

17. Which of the following items would be helpful to you in pursuing independent pharmacy ownership? (Check all that apply.)

- Financial advisor
- Certification programs (e.g., diabetes)
- Mentor/Apprenticeship
- Continuing education (CE) or Postgraduate programs (e.g., disease state, business)
- Other(s) (Please specify): _____

Please write any additional comments you have regarding independent pharmacy ownership.

If you would like a summary of the results of this survey, please send a request via email to cmbrown@mail.utexas.edu or a postcard to the address on the cover letter.

Please fold the questionnaire with the business reply on the outside. Secure it with tape and drop it in any mailbox. No postage is necessary.

Thank you for your participation!