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Pharmacy ownership interest of pharmacy students

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A Thesis

entitled

Pharmacy Ownership Interest of Pharmacy Students

by

Bhairavi Lohana

Submitted to the Graduate Faculty

in partial fulfillment of the requirements for

The Master of Science in Pharmaceutical Science Degree,

Administrative Pharmacy Option

Advisor: Monica Holiday-Goodman, R.Ph., Ph.D

Dr. Patricia Komuniecki, Dean
College of Graduate Studies

The University of Toledo

December 2010

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An Abstract of

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Introduction - Entrepreneurship is the ability of an individual to start one's own business, undertaking all the risks related to that business. Many business schools have entrepreneurship courses which encourage students to consider this career option. Today, along with organizational careers, entrepreneurship is also considered as a viable choice by many business students.

Objective - To examine the factors that determine the intent and attitudes of pharmacy students towards ownership of a pharmacy using the Theory of Planned Behavior.

Methods - Students in year five of a six year degree program of the colleges of pharmacy of the University of Findlay (UF) and the University of Toledo (UT) were asked to fill out a survey in class. The course professors distributed the surveys and collected them immediately after the surveys were completed. No interaction took place between the researcher and the students.

Results - Confirmatory factor analysis was done to get an overall score of 0.7 and above to get a reliable questionnaire. Linear regression (LR) results showed that subjective norms ($p > .000$) and attitude ($p > .000$) had a significant relationship with intent at both universities. Only at the University of Findlay was a significant relationship found between perceived behavioral control and intent ($p = .006$). ANOVA and t-test results demonstrated that the question “Did any of your courses have an entrepreneurship component in it” significantly influenced intent at both the universities. Age and income did not significantly influence intent at either university. Gender and participation in an entrepreneurship course significantly influenced intent only for the University of Toledo students.

Conclusion – Intent was found to have a significant relationship with attitude and subjective norms at both the universities. Adding courses to the pharmacy curricula might encourage students pursue ownership in the future.

This thesis is dedicated to

My Parents- Bipin Lohana and Prerana Lohana

My Husband- Ashish Sangwai

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Chapter One

Introduction

Entrepreneurship is defined in various ways. It does not only mean ownership of an organization but also refers to independent, risk-taking and innovative work attitude. The purpose of this study is to examine the intent and attitude of pharmacy students towards entrepreneurship (ownership of a pharmacy). Starting one's own pharmacy means that they would be their own boss and deal with various challenges and risks. It would be interesting to know if students want to take up entrepreneurship as a career option. The Theory of Planned Behavior was used for this study. Surveys with questions on attitude, subjective norms, perceived behavioral control and intent were distributed at the University of Findlay and the University of Toledo.

Entrepreneurship

Entrepreneurship can also be considered as an important option for career. It is the ability of an individual to start one's own business, undertaking all the risks related to that business. Self-reliance and self-direction are tremendously favored today by individuals' work preference.¹ Entrepreneurs might not be constrained by the existing technologies, products, and market changes.² Individuals who become entrepreneurs have the ability to innovate, take moderate risks, and have an internal locus of control.³⁻⁴ When

an individual believes that their behavior is determined by their own personal decisions and efforts, they are said to have an internal locus of control. Favoring innovation and changes, being proactive and undertaking business risks is the entrepreneurial style of management.³ Job creation, innovation and economic growth are brought about by the contribution of new and small businesses.¹ Since entrepreneurship involves generating new ideas and converting them into profitable businesses it would be interesting to know pharmacy students' perceptions regarding this career option.

Entrepreneurship Education

Launching a new organization is generally agreed to be the core of entrepreneurship. In the early 1970s, the reality of entrepreneurship education began as a force in business schools.⁵ In 1971, The University Of Southern California was the first university to launch the Master of Business Administration Concentration in entrepreneurship, followed by the first undergraduate concentration in 1972.⁶ An emphasis on entrepreneurship by the Association to Advance Collegiate Schools of Business (AACSB) has spurred colleges and universities to expand curricula in the entrepreneurship area.⁷ Approximately 2,200 courses are offered at 1,600 colleges and universities throughout the United States. More than 200 colleges and universities have concentrations and majors in entrepreneurship and at least 20 business schools require that graduate students take an entrepreneurship course as a part of the curriculum.⁴ The course work of entrepreneurship is intended to encourage and stimulate the creation of new ventures.⁸ Entrepreneurship courses will be perceived relevant and legitimate by students only if the course content corresponds to the reality of behaviors leading to

probability of start-up.⁹ According to Kilenthong et al. students majored in entrepreneurship were shown to have higher self-efficacy in performing business-related tasks and have high intentions to start a business than those students who did not major in entrepreneurship.¹⁰ Although the pharmacy students in the present study did not have specific courses on entrepreneurship, the concept was introduced to them in pharmacy management courses. Based on the knowledge they have through these courses, it would be interesting to know about their attitude towards ownership of a pharmacy.

Independent versus Chain Pharmacies

Ownership of an independent pharmacy has its own advantages. It is often associated with health services such as filling prescriptions quickly, in-store screenings, supplying hard-to-find drugs, and obtaining out-of-stock medications within 24 hours.¹¹ The owner can practice pharmacy according to his own personal style in an independent pharmacy. Changes in an independent pharmacy can be implemented quickly and appropriately.¹¹ Independent pharmacies are more flexible in adjusting to the changing marketplace. According to the Consumer Reports 1999, independent pharmacies provide their customers with courtesy, help, and accessibility at a greater speed compared to chain pharmacies.¹² A Consumer Reports study demonstrated that 58% of customers were satisfied at a chain store compared to 85% who claimed to be satisfied by services in an independent pharmacy.¹¹ In 2007, an \$84 billion marketplace was represented by the nation's independent pharmacies, independent pharmacy franchises, and independent chains.¹³ About 1.4 billion prescription drugs were dispensed by independent pharmacies in the year 2007.¹³ Independent pharmacies continue to excel in areas of patient-care

services, customer satisfaction, and technology adoption, though they face great challenges from other chain pharmacies.¹³ Along with the advantages of owning an independent pharmacy there are certain risks too. Starting or owning a new business usually involves threats and is costly as there is no proven plan. A detailed plan needs to be put together before owning a new business in order to obtain funding to start it.¹⁴ Each and every detail like naming the business, marketing, obtaining licenses, finding product sources, etc. are entirely the responsibility of the owner.¹⁴ The present study uses the Theory of Planned Behavior (TPB) to determine students' perceptions of various risks and benefits involved in owning a pharmacy.

Theory of Planned Behavior

The Theory of Planned Behavior was created by Dr. Icek Ajzen in 1991. According to this theory, the three considerations that guide human action are behavioral beliefs- beliefs about the likely outcomes of the behavior and the evaluations of these outcomes; normative beliefs- beliefs about the normative expectations of others and motivation to comply with these expectations; and control beliefs- beliefs about the presence of factors that may facilitate or impede performance of the behavior and the perceived power of these factors.¹⁵ Attitude toward the behavior, subjective norm, and perception of behavioral control when combined together lead to formation of behavioral intent.¹⁵ The more favorable the attitude and subjective norm, and the greater the perceived control, the stronger will be the person's intention to perform the behavior.¹⁵ Intention is considered an immediate antecedent of behavior.¹⁵

Need for research

After a thorough literature review the researcher found no studies done on entrepreneurial intent of pharmacy students using the Theory of Planned Behavior in the U.S.A.

In the Colleges of Pharmacy of the University of Findlay and the University of Toledo, there are no courses which are entirely based on entrepreneurship. However, at both the schools entrepreneurship is taught as a part of Pharmacy Management course work. It would be of interest to pharmacy schools to know these students' entrepreneurial intent based on the knowledge they have through these courses.

Fishbein et al. discovered that lower levels of job stress, ambiguity, role overload and role conflict are reported less by pharmacists who work in independent pharmacies.¹⁶ Current research has shown that pharmacists at independent pharmacies show more job satisfaction.¹⁷ Brown et al. found that though pharmacists had a positive attitude towards owning a pharmacy, many of them were less interested to do so.¹⁷ This study will observe the entrepreneurial intent with a younger, less experienced population. The study hopes to determine the perceptions of pharmacy students about the risks and benefits associated with entrepreneurship.

Significance

This study will provide insight into what pharmacy students think about owning a pharmacy and their attitude towards entrepreneurship. Many business school studies have already shown that students who have taken entrepreneurship

courses have a higher intent of entrepreneurship than students who have not.⁵ This study may also help pharmacy schools to determine if additional material on entrepreneurship should be added to the curricula. Since the focus of the study was intent and not actual behavior, future studies may do a pre and post study to determine the actual behavior of the pharmacy students after they graduate.

Goal

To examine the factors that determine the intent and attitudes of pharmacy students towards ownership of a pharmacy, using the Theory of Planned Behavior.

Objectives

1) To assess the relationship between the components of the Theory of Planned Behavior (attitudes, subjective norms, and perceived behavioral control) and pharmacy students' intent to become an entrepreneur.

2) To identify if the presence of certain factors has an influence on pharmacy students' intent to become entrepreneurs. (Factors studied will be gender, entrepreneurial course work, age and household income).

Research Questions:

RQ1: Do attitude towards owning a pharmacy, subjective norms and perceived behavioral control (constructs of TPB) have a relationship with intent to become an entrepreneur?

RQ2: Do other study variables influence pharmacy students' intent to become an

entrepreneur? (Gender, household income, entrepreneurial course work and age)

Research Hypothesis

- 1) Subjective norms influence intent of pharmacy students to become an entrepreneur.
- 2) Attitudes influence intent of pharmacy students to become an entrepreneur.
- 3) Perceived behavioral control influences intent of pharmacy students to become an entrepreneur.
- 4) Study variables influence the pharmacy students' intent to become an entrepreneur. (Gender, age, household income and entrepreneurial course work)

Chapter Two

Literature Review

Introduction to the Theory of Planned Behavior

In the earlier 1970s, Martin Fishbein collaborated with Icek Ajzen to write a book called *Belief, Attitude, Intention and Behavior* which formed the basis of Theory of Reasoned Action (TRA).¹⁸ However, Ajzen along with other associates felt that the theory was deficient in explaining behavior, especially of those people who thought that they could control their own behavior.¹⁸ So, in 1991, Ajzen added the construct Perceived Behavioral Control (PBC) to TRA.¹⁸ Henceforth the Theory of Reasoned Action came to be known as the Theory of Planned Behavior (TPB). Figure 1 shows the Theory of Planned Behavior as proposed by Ajzen and colleagues.

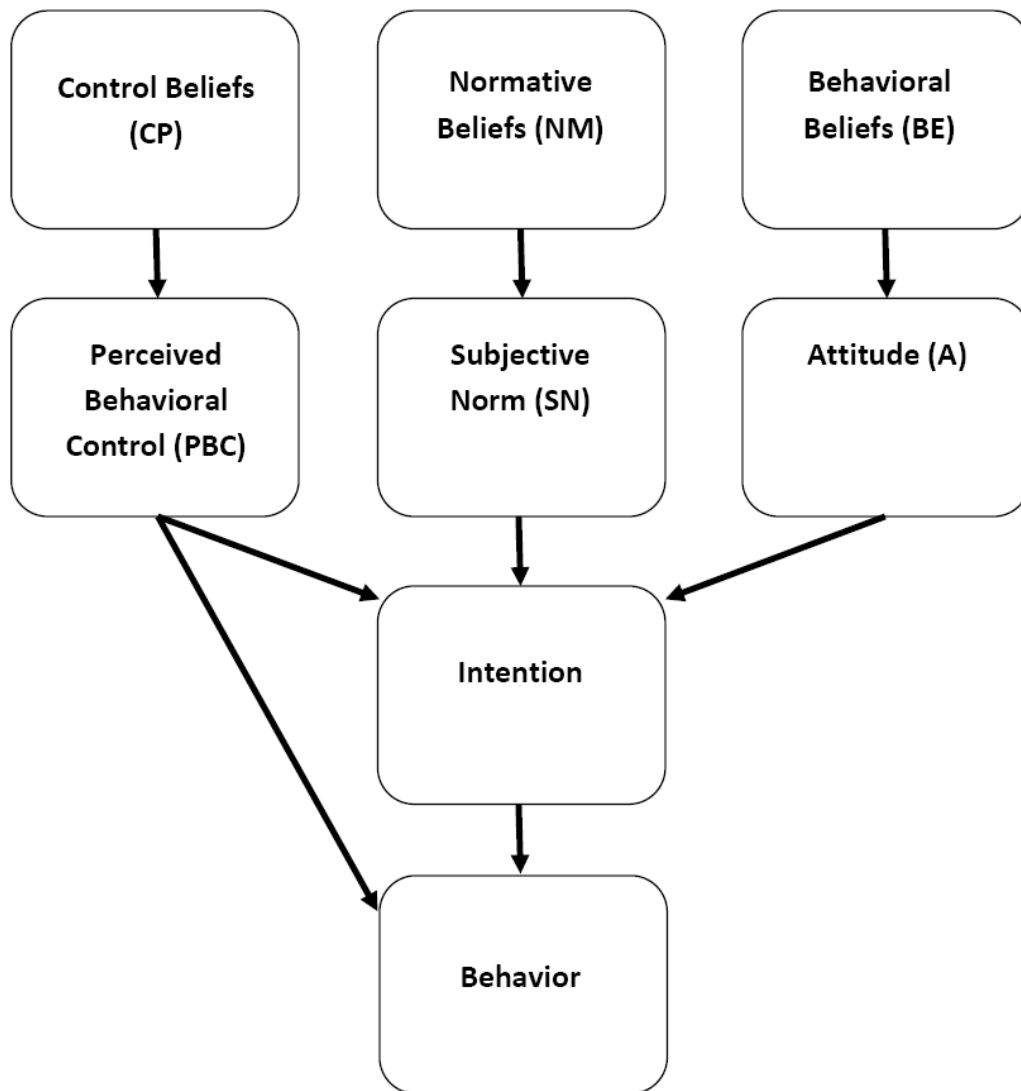


FIG.1 The Theory of Planned Behavior (Ajzen, 1985,1991)

Descriptions of each construct of the Theory of Planned Behavior:

Behavioral Belief: A behavioral belief is the subjective probability that the behavior will produce a given outcome.¹⁹ It is an individual's belief about consequences of a particular behavior.

Attitude towards the Behavior: It is the degree to which performance of the behavior is positively or negatively valued.²⁰ It is an individual's positive or negative evaluation of self-performance of a particular behavior.

Normative Beliefs: Normative beliefs refer to the perceived behavioral expectations of such important referent individuals or groups as the person's spouse, family, friends, and--depending on the population and behavior studied--teacher, doctor, supervisor, and coworkers.²¹ Influence of others (parents, spouse, friends, etc.) changes the behavior of an individual.

Subjective Norm: It is the perceived social pressure to engage or not to engage in a behavior.²² An individual decides whether to perform a behavior or not according to the social and family pressures surrounding him/her.

Control Beliefs: Control beliefs have to do with the perceived presence of factors that may facilitate or impede performance of a behavior.²³ It measures the probability and likelihood of an individual performing a behavior.

Perceived Behavioral Control: It refers to people's perceptions of their ability to perform a given behavior.²⁴ How easy or difficult an individual thinks it is to carry out a particular behavior.

Behavioral Intention: Intention is an indication of a person's readiness to perform a given behavior, and it is considered to be the immediate antecedent of behavior.²⁵ It is the willingness of an individual to perform a behavior.

Behavior: Behavior is the manifest, observable response in a given situation with respect to a given target.²⁶ Behavior is considered to be the outcome of an intention.

Theory of Planned Behavior (TPB) studies

The Theory of Planned Behavior has been often used in various fields like advertising, public relations and healthcare. The TPB also showed its effect in studies involving students. Julie et al. examined PharmD students' knowledge about Medicare Part D and their attitudes towards and intention to provide Medicare Medication Therapy Management services. (MTMs)²⁷ A survey that assessed 1) knowledge about Medicare Part D 2) attitudes, perceived behavioral control, subjective norms and intentions to provided Medicare MTM and 3) demographic and experience information was distributed to students in the final year of four year degree program at the University of Iowa, College of Pharmacy.²⁷ The results of the study revealed that 94% (mean) showed a good basic knowledge about Medicare Part D.²⁷ About 60% of the students agreed that they intended to provide MTM. However, when they were asked if they were willing to take the initiative to provide MTMs the response decreased by 37%.²⁷ The researchers concluded from the study that colleges and schools of pharmacy must strengthen efforts to encourage students to take the initiative to provide Medicare MTMs because of their lack of willingness to do so.²⁷ Marco van Gelderen et al. studied the entrepreneurial intentions of business students by means of the Theory of Planned Behavior.¹ This study was conducted in the Netherlands among students of Business Administration across four

different universities (University of Groningen, Erasmus University Rotterdam, University of Maastricht and Radbound University Nijmegen).¹ The objective of the study was to present a detailed empirical investigation of the entrepreneurial intentions of business students.¹ The authors used the Theory of Planned Behavior because intentions are regarded as resulting from attitudes, subjective norms and perceived behavioral control.¹ Qualitative research conducted at two other universities (Free University of Amsterdam and the University of Amsterdam) were used to operationalize the components of the TPB for this study.¹ The usefulness of TPB in explaining entrepreneurial intentions was demonstrated by this article. In this study, the perceived behavioral control construct was measured by four variables: perseverance, entrepreneurial alertness, entrepreneurial self-efficacy and creativity.¹ Of the four variables, entrepreneurial alertness was the most important predictor of intent. Similarly, attitude construct questions consisted of items related to autonomy, wealth, challenge, need for financial security, and work load avoidance.¹ The researchers found that out of the six variables, need for financial security was the most common predictor of attitude towards entrepreneurial intention(EI).¹ Social norms were another important predictor of EI. Family and friends strongly influenced students' choice of entrepreneurship as a career option.¹

Factors affecting entrepreneurial intention (EI)

Turker et al. conducted a study which analyzed the impacts of contextual factors on entrepreneurial intention of university students. This study was conducted in Turkey on a sample of 300 students at two private universities.²⁸ The researchers used the entrepreneurial support model to form their questionnaire. The model considered

entrepreneurial intent as a function of educational, relational and structural supports.²⁸ The results of the study showed that education was a significant predictor of entrepreneurial intention.²⁸ The authors concluded that if the university provided adequate knowledge and inspiration on entrepreneurship, then there were greater chances of students choosing entrepreneurship as a career.²⁸ The results of the study clearly proved that education plays a key role in entrepreneurial intention.²⁸ The second most significant predictor according to the study was structural support. Entrepreneurship requires collaboration from all the sectors of the society.²⁸ When compared with structural support, education predicted entrepreneurial intention more. This study found that perceived relational support was not a strong predictor of EI.²⁸ Individuals were not supported by family and friends to take up an entrepreneurial career.²⁸

Entrepreneurship Education

In their study, Edelman along with co-researchers compared start-up entrepreneurs in the Panel Study of Entrepreneurial Dynamics (PSED) dataset to data collected from entrepreneurship textbooks.²⁹ Textbooks selected for this study discussed new venture start-ups. Data from the textbook was compared to the start-up activities that are listed in PSED data set by two research assistants.²⁹ PSED demonstrated the process of new business creation, and the number and characteristics of new entrepreneurs starting a new business.²⁹ The study indicated that there is no resemblance between what is emphasized in text books and the activities practiced by nascent entrepreneurs.²⁹ Thus the study concluded that along with theoretical knowledge, practical training was also necessary for nascent entrepreneurs for a good start-up of a new business.³⁰ Despite the spread of entrepreneurship education throughout the universities in the United States over

the past few years, doubts are still raised about the effectiveness of formal entrepreneurship education.³⁰

Zhao et al. investigated the mediating role of self-efficacy in the development of students' intention to become entrepreneurs.³¹ Structural equation modeling with a sample of 265 master of business administration students across five universities was used by the researchers. The researcher conducted the study using two surveys.³¹ The initial survey was given to the incoming MBA students and the final survey was given to the same cohort of students when they were graduating.³¹ The researchers used the Social-Cognitive Theory (SCT) for this study. Self-efficacy is an important construct of this theory.³¹ The study was designed and conducted through the cooperation of business faculty at five U.S universities.³¹ The researchers in this study expected students' perceptions of formal learning in entrepreneurship courses to be positively related to their level of entrepreneurial-self-efficacy.³¹ The results of the study provided evidence that individuals chose to become entrepreneurs because they have high entrepreneurial self-efficacy and they believe they can succeed as entrepreneurs.³¹ Independent variables, learning and experience had a stronger influence on self-efficacy and entrepreneurial intentions than risk propensity and gender. Thus the researchers found a positive relationship between self-efficacy, education and intention of becoming an entrepreneur.³¹

Kilenthong et al. examined the impact of entrepreneurship education on individuals' entrepreneurial self-efficacy and intentions.³² The same methodology was used as in the Zhao et al. study.³² Results of this study indicated that education had a positive impact on self-efficacy and intention.³² Students who did their major in

entrepreneurship were shown to have higher self-efficacy in performing business- related tasks and have high intentions of starting a business than those students who did not major in entrepreneurship.³² Entrepreneurship students learned more from the MBA program than the non-entrepreneurship students.³² The study also found that students with different backgrounds were affected differently through entrepreneurship education.³²

Gender

A 2004 study showed that in the United States, 6.7 million privately held women-owned businesses accounted for \$1.19 trillion in sales.³³ Also, women-owned businesses have shown a impressive increase in growth.³³ In 2004 the growth rate of women-owned businesses was 39% as compared to 12% in 1997.³³

Kourisky et al. and Wilson et al. demonstrated the interest of teenage girls in business as a career opportunity.³⁴ The study was conducted by Simmons College School of Management in Boston, Massachusetts, and The Committee of 200, a national women's business organization headquartered in Chicago.³⁴ The sample surveyed included 3000 girls and 1200 boys in grades 7 to 12 across the US.³⁴ The study revealed that girls were significantly less interested than boys in becoming entrepreneurs.³⁴

Kikul et al. examined the reasons behind the significant gender gaps observed in entrepreneurial interest among adolescents.³⁵ The researchers aimed to test multiple models that analyzed presence of parental role models, direct and indirect relationships between work and leadership experience and interest by teens in becoming entrepreneurs.³⁵ The sample for this study consisted of over 5000 students from both middle and high school.³⁵ Participants completed a survey which had items related to

entrepreneurial self-efficacy, entrepreneurial intentions, work and leadership experience, and parental entrepreneurial role models.³⁵ Structural equation modeling was used for analyzing the data. Results revealed that teenage girls' self-efficacy had a stronger effect on their entrepreneurial career than teenage boys.³⁵ The study also revealed that having any one parent as an entrepreneur had a greater effect on girls than on boys.³⁵ Thus the girls' perceptions that they have the abilities, skills and support to succeed as entrepreneurs are more important in considering future career options.³⁵

Kourilsky et al. investigated survey data from a national sample of female and male high school students about their entrepreneurship knowledge and attitudes.³⁶ The researchers also wanted to know if there were any significant differences in those areas. The data was collected by the Gallup organization from a sample of 1000 males and females.³⁶ Logit analysis was used to analyze the data. The results supported previous findings that females demonstrated a direct relationship between self-efficacy and intentions, including specifically their entrepreneurial aspirations.³⁶ In regards to entrepreneurial skills, when the perceptions of knowledge was compared with actual knowledge, it showed that both males and females had skill levels which were comparable, but still females were more likely to feel ill prepared.³⁶ Females significantly differed from males in starting their own business. Also both males and females felt that lack of knowledge regarding entrepreneurship can be improved by further education.

Age

Reynold et al. conducted a study using the Panel Study of Entrepreneurial Dynamics (PSED) database.³⁷ This was the first national database to offer systematic, reliable and generalizable data on the process of business formation.³⁷ This database

contains information on adults who are going to start a new business, the kinds of activities done by new entrepreneurs when they are about to start their business, and characteristics of start-up efforts that become infant firms.³⁷ The researchers found that both age and gender significantly predicted the intent to start a new business.³⁷ Again it was found that men had higher intentions to start new businesses than women. Also, it was found that men and women between the ages of 25-34 were most likely to be involved in entrepreneurial activity.³⁷

Chapter Three

Methodology

This chapter describes the methodology used in the study. It will focus on the study design, subjects, instrumentation, data collection, and data analysis. The methodology is based on the research objectives of the study.

Study Design and Subjects

This study had a cross-sectional, prospective study design. The survey was distributed to students in year five of six year degree program of the University of Toledo and the University of Findlay. The survey was distributed by the course professor in both the courses. No interaction took place between the student investigator and any of the students present in the class. The students were asked not to write their names anywhere on the questionnaire to assure confidentiality. The survey was passed out to the students and collected back in one class period. Survey distribution and data collection was done on April 27, 2010 at the University of Toledo and on April 21, 2010 at the University of Findlay. At the University of Findlay the researcher could get the surveys back in 10 min but at the University of Toledo the researcher had to wait for the whole class period to get back the surveys. Some of the students at the University of Findlay were not present during the survey distribution due to other course commitments. These students were

allowed to complete the survey on April 22. The course professor mailed these completed surveys back to the researcher on April 26, 2010.

Instrumentation and Data Collection

The three constructs of the Theory of Planned Behavior, attitude, subjective norms, and perceived behavioral control, served as the basis for the development of the survey instrument. A cover letter attached to the survey explained the purpose of the study and assured the respondents of the confidentiality of their responses. It also mentioned that filling out the survey was completely voluntary and their grades would not be affected if they did not do so. The survey took only 5-10 minutes to complete.

The questionnaire was designed by the researcher under the guidance of the advisor and committee members based on previous literature. It had clear instructions for the participants and also an example was given for them to know how to mark their responses. The survey instrument in this study was a three page questionnaire. The study had one dependent variable (intent to become an entrepreneur) and six independent variables (attitudes, subjective norms, perceived behavioral control, age, entrepreneurial course work, household income, and gender). The survey was divided into two sections. Section I contained 20 items pertaining to questions formed by the researcher, based on the Theory of Planned Behavior. All questions were measured on a 6-point semantic differential scale. The scales were anchored by strongly disagree and strongly agree. The 5 questions about subjective norm measured the decision of the individual to perform a behavior or not according to perceived social pressures. Questions 1 to 5 measured subjective norms. The 6 questions about attitude measured the students' positive or

negative evaluation of self-performance as an entrepreneur. Questions 6 to 11 on the questionnaire measured attitude. The 7 questions about perceived behavioral control referred to how easy or difficult it is for an individual to perform as an entrepreneur. Questions 12 to 18 on the survey measured perceived behavioral control. Questions 19 and 20 on the survey measured intent to become an entrepreneur.

Section II contained demographic questions and questions on other study variables. The questions of Section II were constructed as categorical variables. The demographic questions regarding age, income and gender were used to determine the correlation with intent of pharmacy students to become an entrepreneur. The other study variables were related to entrepreneurial course work.

The content and face validity of the survey instrument was assessed by faculty of the Pharmacy Health Care Administration(PHCA) Division, graduate students of the PHCA department, faculty of the College of Business at the University of Toledo and faculty of College of Pharmacy at the University of Findlay. This group reviewed the survey for issues pertaining to item objective match, sensitivity issues, length of the questionnaire, and timing. Based on the suggestions further changes were made to the questionnaire.

IRB approval was required by both universities prior to survey administration. IRB approval was granted on March 17, 2010 from the University of Toledo and on April 19, 2010 from the University of Findlay.

Data Analysis

Data was analyzed using SPSS V.17, (Statistical Package for the Social Sciences) for windows. Incomplete surveys were excluded from the study. The surveys with more than 5 questions unanswered were considered incomplete. The reliability of the questionnaire was measured by factor analysis and Cronbach's α coefficient. The research question "Does attitude towards owning a pharmacy, subjective norms and perceived behavioral control (constructs of TPB) have a relationship with intent to become entrepreneur?" was analyzed using linear regression. Questions related to independent study variables were analyzed using mean and frequency distributions. The relationship between the intent of the pharmacy student to become an entrepreneur and dichotomous study variables (Gender and entrepreneurial course work) was analyzed using T-tests. The relationship between the intent of the pharmacy students to become an entrepreneur and categorical study variables (Age and Income) was analyzed using ANOVA.

Chapter Four

Data Analyses and Results

This chapter presents the results of analyses performed on the data collected. All data input and analyses were performed on version 17.0 of the Statistical Package for Social Sciences. (SPSS Corporation. Chicago, IL).

The chapter is divided into the following headings:

- 1) Determination of validity and reliability
- 2) Association between attitude, subjective norms and perceived behavioral control with intent
- 3) Demographic characteristics of respondents and response rate
- 4) Influence of other study variables on intent

Determination of validity and reliability

Face and content validity were assessed by the Pharmacy Health Care Administration (PHCA) faculty, PHCA graduate students, faculty from the College of Business at the University of Toledo and faculty of the College of Pharmacy, at the University of Findlay. The suggested changes were considered and appropriately incorporated in the survey. For reliability analyses the data were subjected first to

Exploratory Factor Analysis (EFA) with Varimax rotation. The results of the analysis yielded three domains. Questions 8-12 of the questionnaire had little or no value ($\alpha \leq 0.7$) so they were not a part of any factor. The three factors were divided as shown below:

- 1) Factor 1: Survey Questions 2,4,5,6,18,19,20
- 2) Factor 2: Survey Questions 13,14,15,16,17
- 3) Factor 3: Survey Questions 1,3,7

It was difficult to name the domain factor 1 as it contained a varied range of questions from the survey. For example, questions 1, 2, 4, and 5 belonged to the Subjective norms construct; 6 belonged to the Attitude construct; 18 belonged to Perceived behavioral control construct; and 19 and 20 were intention questions. Out of the three domains, only factor 2 had questions from one construct. Due to the inability to define constructs specifically using exploratory factor analyses, confirmatory factor analyses were performed.

Confirmatory Factor Analyses

Cronbach's coefficient alpha was used to test reliability of the questionnaire. The questionnaire had two sections. Section II, Demographics, was excluded from the test for reliability. Section I contained questions on each construct of the Theory of Planned Behavior – subjective norm, attitude, perceived behavioral control and intent. The Subjective norm construct section had five questions. In order to obtain reliability of 0.7 and above, survey questions 1 and 3 were deleted from the list. After doing so, a reliability of 0.76 was obtained. From a list of six questions, under the attitude construct,

survey questions 10 and 11 were eliminated to get an alpha value of 0.74. Questions 12 to 18 belonged to the construct perceived behavioral control. From the latter, survey questions 12 and 18 were removed to get an alpha value of 0.78. The intent construct had only two questions and the corresponding reliability was 0.83. Values of alpha were above 0.7 in all the constructs confirming reliability of questionnaire.

The Response

The responses were collected in a single classroom session at both the University of Toledo (UT) and the University of Findlay (UF). Out of 167 total students enrolled in both courses, only 132 students responded to all the questions in the survey. All the questionnaires that had more than 5 questions unanswered were not considered for analysis. Table 1 summarizes the survey response rate.

Table 1 Survey Response Rate

	UT	UF
Total number of students enrolled in the class	109	58
Absent students	23	3
Unusable questionnaires	9	0
Usable questionnaires	77	55

Demographic Characteristics of the Respondents

Gender

The majority of the respondents at both the universities were females. At UT, out of 77 students who responded to the survey, 59.0% (46) were females. Out of 55 students who responded to the survey at UF, 72.7% (40) were females. Table 2 summarizes the respondents based on gender at both the universities.

Table 2- Respondents by gender

Gender	Number of Respondents (%)	
	University of Toledo (N=77)	University of Findlay (N=55)
Females	46 (59.0)	40 (72.2)
Males	31 (39.7)	15 (27.3)

Age

Most of the respondents were in the age range of 22-25. At UT, 80.8% (63) were between 22 and 25, and 11.5% (9) were in the age range of 26-30. At UF, 65.5% (36) were in the age range of 22-25, and 27.3% (15) were in the age range of 26-30. Age distribution at both the universities is shown in Table 3.

Table 3 - Respondents by age

Age Group	Number of respondents (%)	
	University of Toledo (N=77)	University of Findlay (N=55)
18-21	0	0
22-25	63 (80.8)	36 (65.5)
26-30	9 (11.5)	15 (27.3)
31-35	2 (2.6)	3 (5.5)
Above 35	3 (3.8)	1 (1.8)

Entrepreneurship Courses

Approximately, 15.4% (12) took a course in entrepreneurship at UT. At UF, 29.1% (16) took a course in entrepreneurship. Table 4 summarizes the responses to the question “Have you taken courses on entrepreneurship?” of UT and UF students respectively.

Table 4 – Entrepreneurship course participation

Entrepreneurship Course	Number of respondents (%)	
	University of Toledo (N=77)	University of Findlay (N=55)
No	64 (82.1)	39 (70.9)
Yes	12 (15.4)	16 (29.1)

Entrepreneurship as a component of other course

At UT, 66.7% (52) of the students agreed that they had an entrepreneurship component as a part of course. About 70.9% (39) of the students at UF agreed that they had an entrepreneurship component in one of their course. Table 5 represents responses to the question “Did any of your other courses have an entrepreneurship component in it?”

Table 5 - Entrepreneurship as a course component

Entrepreneurship Course Component	Number of respondents (%)	
	University of Toledo (N=77)	University of Findlay (N=55)
No	25 (32.1)	16 (29.1)
Yes	52 (66.7)	39 (70.9)

Income

At UT, 24.4% (19) of respondents had a family income below 30,000 and above 90,000 each. Almost 25.5% (14) in UF had a family income below 30,000. The distribution of income at both universities is shown below in table 6.

Table 6 - Respondents by income

Income	Respondents by %	
	University of Toledo (N=77)	University of Findlay (N=55)
Below 30,00	19 (24.4)	14 (25.5)
31,000-50,000	14 (18)	9 (16.4)
51,000-70,000	13 (16.7)	13 (23.6)
71,000-90,000	12 (15.4)	5 (9.1)
Above 91,000	19 (24.4)	13 (23.6)
No Response		1 (1.3)

RESULTS FOR THE FOUR RESEARCH QUESTIONS

Research Question 1: Do subjective norms regarding entrepreneurship predict students' intent to become entrepreneurs?

The first research question examined whether subjective norms predicted the intent of pharmacy students to become an entrepreneur. After reliability analysis, the three items in this construct were 1) "Most of the pharmacy students with whom I am acquainted, plan to own a pharmacy in the future", 2) "My family thinks that I should own a pharmacy as soon as I graduate" and 3) "My family thinks that I should own a pharmacy sometime in the future". Linear regression was used to determine the relationship of subjective norms and intent to become an entrepreneur.

The University of Toledo

About 68.3% of variance was explained by variation in subjective norms. Subjective norms had a statistically significant relationship with the intent of pharmacy students to become an entrepreneur. Survey questions 2 and 4 were found to predict intent. Out of the two questions, question 4 had the higher β value. Survey question 5 was not significant at .05 level and hence it did not predict intent. Thus, it was found that subjective norms had a significant relationship with intent at UT.

The University of Findlay

Approximately 43.7% of variance in the intent was explained by variation in the subjective norms. The construct - subjective norms had a significant relationship with intent. ($p < .05$) From the analysis, we observed that survey question 5, had a beta coefficient value of .684 and p value of .000 which suggested that it strongly predicted intent. Survey question 2 marginally predicted intent. ($p = .043$) Survey question 4 had a

negative beta value and hence has no significant prediction on intent. ($p=.189$) Table 7 summarizes the p , R^2 and adjusted R^2 values for the construct. Table 8 summarizes the p values of the two universities for each question of the construct.

Table 7-Relationship between subjective norm and intent

<u>University</u>	<u>R²</u>	<u>Adjusted R²</u>	<u>F Statistic</u>	<u>P value</u>
UT	.696	.683	14.974	.000
UF	.468	.437	55.704	.000

Table 8- P and β values for each question in the subjective norm construct

<u>Survey Questions</u>	<u>Universities</u>	<u>Beta values (respectively by the questions)</u>	<u>P Values (respectively by University)</u>
Question 2	UT	.686	.000
Question 4		1.039	.000
Question 5		.335	.071
	UF	.567	.043
		-.379	.189
		.947	.000

Research Question 2: Does the attitude of the pharmacy students’ predict the intent to become entrepreneurs?

The second research question determined the students’ attitudes toward entrepreneurship. The attitude originally had six items. To improve the reliability of this construct, question 10 and 11 were deleted from this list. The survey questions contained in this construct were – 6) “For me, owning a pharmacy in the future would be very exciting”, 7) “I would be financially successful if I own a pharmacy”, 8) “My owning of a pharmacy would greatly improve my management and marketing skills”, and 9) “I believe that customers are more satisfied at independent pharmacies rather than chain pharmacies.” Linear regression was used to determine if attitude predicts intent to become an entrepreneur.

The University of Toledo

The percentage of variance in the intent explained by variation in attitude was 58.9%. Again attitude had a significant relationship with the intent ($p < .05$). Survey question 6 strongly predicted intent and also was statistically significant at α level of .05. ($p = .000$) Survey question 7 too significantly predicted intent ($p = .016$), while, survey question 8 ($p = .154$) and survey question 9 ($p = .016$) did not significantly predict intent.

The University of Findlay

Approximately 33.8% of variance in the intent can be explained by variation in attitude. Attitude was found to have a significant relationship with intent. ($p < .05$) Survey question 6 significantly predicted intent. ($p = .016$) The other three survey questions did not predict intent. (Question 7 - $p = .467$, Question 8 - $p = .329$, Question 9 - $p = .241$). Table 9 summarizes the p , R^2 and adjusted R^2 values for the construct. Table 10 summarizes the p and β values of the two universities for each question of the construct.

Table 9- Relationship between attitude and intent

<u>University</u>	<u>R²</u>	<u>Adjusted R²</u>	<u>F Statistic</u>	<u>P value</u>
UT	.611	.589	28.248	.000
UF	.387	.338	7.892	.000

Table 10-P and β values for each question in the attitude construct

<u>Survey Questions</u>	<u>Universities</u>	<u>Beta values (respectively by the questions)</u>	<u>P Values (respectively by University)</u>
Question 6	UT	.965	.000
		.491	.016
Question 7		.342	.065
Question 7		-.306	.154
Question 8	UF	.400	.016
		.164	.467
Question 9		.224	.329
		.184	.241

Research Question 3: Does perceived behavioral control predict the intent of pharmacy students to become entrepreneurs?

The third research question determined if perceived behavioral control (PBC) predicted the intent to become an entrepreneur. From 7 items in this questionnaire, two items were eliminated to improve reliability of the construct.

The remaining questions in this construct were: 13) “Owning a pharmacy would be extremely risky”, 14) “I think that having my own pharmacy would place high demands on my time”, 15) “I think that having my own pharmacy would place additional burdens on my personal life”, 16) “Owning a pharmacy would increase my work load” and 17) “I

would have to take a loan from the bank to own a pharmacy.” Linear regression was used to determine if perceived behavioral control predicted intent of pharmacy students.

The University of Toledo

The percentage of variance in intent that was explained by PBC was very low (-3%). Perceived Behavioral Control did not have a significant relationship with intent (p=.821) nor did any of the questions when considered individually.

The University of Findlay

Slightly over 20% of the variance in intent can be explained by perceived behavioral control. This variance was low. However, the relationship between perceived behavioral control and intent was statistically significant. (p<.05) Survey questions 13 and 14 predicted intent (p=.053), whereas questions 15, 16 and 17 did not. Table 11 summarizes the p, R² and adjusted R² values for the construct. Table 12 summarizes the p and β values of the two universities for each question of the construct.

Table 11- Relationship perceived behavioral control and intent

<u>University</u>	<u>R²</u>	<u>Adjusted R²</u>	<u>F Statistic</u>	<u>P value</u>
UT	.030	-.038	0.437	.821
UF	.276	.202	3.728	.006

Table 12- P and β values for each question in the perceived behavioral construct

<u>Survey Questions</u>	<u>Universities</u>	<u>Beta values (respectively by the questions)</u>	<u>P Values (respectively by University)</u>
Question 13	UT	.084	.807
		.406	.559
Question 14		-.489	.459
		-.292	.538
Question 15		-.063	.842
		UF	-.694
1.107			.053
-.611			.134
Question 16	-.531		.251
	.409		.180
Question 17			

Research Question 4: Do other study variables influence the pharmacy students' intent to become an entrepreneur? (Gender, household income, entrepreneurial course work and age)

A T-test was performed to determine the influence of gender and entrepreneurship courses on intent to become an entrepreneur.

A One-Way Analysis of Variance (ANOVA) was performed to determine the influence of age and income on intent to become an entrepreneur. The lower the mean, the higher was the intention and vice versa.

Gender

A T-test was done to determine whether the intent to become an entrepreneur differed among males and females. "Females" were coded as 0 and "males" were coded as 1 to do the analysis.

The University of Toledo

At UT, gender significantly influenced intent to become an entrepreneur ($F=.002$, $p<.05$). Females (Standard Deviation-SD=2.588) showed higher levels of intention to become entrepreneurs than males (SD=3.404).

The University of Findlay

At UF, gender did not significantly influence intent to become an entrepreneur ($F=.002$, $p>.05$). Females showed slightly greater intent (SD=1.960) than males (SD=1.424). Table 13 summarizes the mean and p values for gender.

Table 13- P values and mean for gender

<u>University</u>	<u>Mean</u>		<u>P value</u>
University of Toledo	Females	3.50	.006
	Males	5.45	
University of Findlay	Females	3.18	.964
	Males	3.20	

Age

To find out if age group influenced intent, ANOVA was done. The age groups were coded- 22-25=1, 26-30=2, 31-35=3 and Above 35=4.

The University of Toledo

UT statistics showed that age did not significantly influence intent (F= 5.443, $p < 0.05$). Again it was found that the age group 22-25 (SD=2.782) showed the strongest intent followed by the age group 26-30 (SD=2.863). The next age group which showed a modest intent was above 35 (SD=4.163). The group which showed the least intent was 31-35 (SD=2.828).

The University of Findlay

At UF, the analysis demonstrated that age did not significantly influence intent ($F=.485, p>.05$). Age groups 22-25 and above 35 showed maximum intent to become entrepreneurs. ($SD=1.724$). The next group to show considerable intent was 31-35 ($SD=2.309$). The age group which showed the least intent to become an entrepreneur was 26-30 ($SD=2.063$). Table 14 summarizes the mean and p values for age.

Table 14 - P values and mean for age

University	<u>Mean</u>		<u>P value</u>
University of Toledo	22-25	3.75	.687
	26-30	5.78	
	31-35	10.0	
	Above 35	7.33	
University of Findlay	22-25	3.00	.860
	26-30	3.60	
	31-35	3.33	
	Above 35	3.00	

Entrepreneurial course

A T-test was performed to determine if the question “have you taken courses on

entrepreneurship” influenced intent to become an entrepreneur. For the analysis “no” was coded as 0 and “yes” was coded as 1.

The University of Toledo

The UT analysis showed that having taken an entrepreneurship course significantly influenced intent ($F= 4.438, p<0.05$). Interestingly, it was found that students who did not take an entrepreneurship course ($SD=2.862$) had a stronger intent than students who did ($SD=3.790$).

The University of Findlay

An analysis of data obtained from UF showed that having taken a course in entrepreneurship did not significantly influence intent ($F= 4.909, p<0.05$). Students who did not take an entrepreneurship course had higher intent ($SD=1.182$) than students who did ($SD=2.708$). Table 15 summarizes the mean and p values for “Have you taken courses on entrepreneurship?”

Table 15 - P values and mean for entrepreneurship course participation

<u>University</u>	<u>Mean</u>		<u>P value</u>
University of Toledo	No	4.00	.002
	Yes	6.00	
University of Findlay	No	2.84	.776
	Yes	4.00	

Entrepreneurship as a part of course work

An analysis was done to observe whether entrepreneurship as a component of course work influenced intent of pharmacy students to become an entrepreneur. For the analysis “yes” was coded as 0 and “no” was coded as 1.

The University of Toledo

UT results showed that entrepreneurship as a component of course content significantly influenced intent ($F= .164, p>0.05$). Interestingly it was found that students who did not have entrepreneurship as a part of course work demonstrated stronger intent ($SD=3.252$) than students who did ($SD=3.017$).

The University of Findlay

In UF, entrepreneurship as a component of course content significantly influenced intent ($F= .031, p>0.05$). It was established that students who had entrepreneurship as a part of course work demonstrated stronger intent ($SD=1.755$) than students who did not ($SD=2.017$). Table 16 summarizes the mean and p values for “Did any of your courses have an entrepreneurship component in it?”

Table 16 - P values and mean for entrepreneurship as a component of course work

University	<u>Mean</u>		<u>P value</u>
University of Toledo	No	4.08	.039
	Yes	4.38	
University of Findlay	No	3.25	.031
	Yes	3.15	

Income

An analysis determined if family income influenced intent of pharmacy students to become an entrepreneur. For analysis “below 30,000” was coded as 0, “31,000-50,000” coded as 1, “51,000-70,000” coded as 2, “71,000-90,000” coded as 3 and “above 91,000” as 4.

The University of Toledo

An analysis of UT data illustrated that income did not significantly influence intent ($F= 1.263$, $p>0.05$). The family income group of 51,000-70,000 was found to have the highest intent ($SD=2.115$) followed by below 30,000 ($SD=3.095$). The income groups which showed the least intent was above 91,000 ($SD=3.291$) followed by the group 71,000-90,000 ($SD=3.223$).

The University of Findlay

UF results illustrated that income did not influence intent ($F= 1.645$, $p>0.05$). The group 71,000-90,000 showed the highest intent ($SD=1.342$) followed by groups 51,000-70,000 ($SD=1.109$) and above 91,000 ($SD=1.032$). Group 31,000-50,000 had the least ($SD=2.646$). Table 17 summarizes the mean and p values for income.

Table 17- P values and mean for income

University	<u>Mean</u>		<u>P value</u>
University of Toledo	Below 30,000	3.63	.293
	31,000-50,000	4.36	
	51,000-70,000	3.15	
	71,000-90,000	5.25	
	Above 91,000	5.05	
University of Findlay	Below 30,000	3.36	.178
	31,000-50,000	4.33	
	51,000-70,000	2.69	
	71,000-90,000	2.60	
	Above 91,000	4.33	

Chapter Five

Discussion and Conclusion

This chapter presents a discussion of the findings reported in Chapter Four. This chapter is divided into the following categories:

- 1) Reliability and Validity
- 2) Response
- 3) Study Variables
- 4) Discussion on the statistical analysis
- 5) Limitations of the study
- 6) Suggestions for future research
- 7) Conclusions from the study

Reliability and Validity

Some of the survey questions were deleted in order to obtain an α value of 0.7 and above to make each construct reliable. The overall reliability of the questionnaire was found to be a considerably high value of 0.775, which indicated an overall good consistency among the items in the questionnaire. While the instrument could be considered a reliable source of measurement from its reliability, content validity was also

carried out to test the suitability of the instrument. Upon incorporating the suggestions, the instrument was approved as valid for content.

Response

Since the survey was administered in a required course at both universities, a good response rate was obtained. The course lecture was required for the 5th year students' curriculum, so there was maximum attendance. Of the students present when the surveys were administered, nine chose not to participate. The cover letter clearly stated that participation was completely voluntary and their grades would not be affected by their decision.

Study Variables

Gender

This study found that females had higher intention to become entrepreneurs than males. Previous studies have shown contradictory results. A study done by Wilson et al. among teenage girls and boys demonstrated that girls showed lower degrees of intention towards entrepreneurship as a possible career. Kourilsky et al. investigated survey data from a national sample of female and male high school students about their entrepreneurship knowledge and attitudes.³⁶ The results of this study also revealed that females showed lower levels of intention than males in choosing entrepreneurship as a career.³⁶ A possible reason for the finding that females showed higher levels of intention in the present study can be that at both universities - UF (N=40) and UT (N=46) females outnumbered males. According to the American Association of Colleges of Pharmacy,

2003-04 reports, 67% of students receiving their first professional degree in pharmacy were women.³⁸ Therefore, a high percentage of women compared to men are choosing pharmacy as a degree option.

Age

At both universities, those in the age group of 22-25 showed the highest level of intention to become an entrepreneur. A possible reason for this can be that most respondents were younger, and it was likely that they had not determined their career options at this early stage. Reynold et al. conducted a study using the Panel Study of Entrepreneurial Dynamics (PSED) database.³⁷ The researcher studied the effect of various factors on entrepreneurial intent. The results of the study demonstrated that men and women between the ages of 25-34 were most likely to be involved in entrepreneurial activity.³⁷

Entrepreneurship Courses

A significant relationship was found between entrepreneurial course work and intent of pharmacy students to become an entrepreneur. But surprisingly it was found that students who took entrepreneurship courses had lower levels of intention to become entrepreneurs. This finding was not consistent with previous studies which found that students who took an entrepreneurship course showed higher levels of intention. Zhao et al. investigated the mediating role of self-efficacy in the development of students' intention to become entrepreneurs.³¹ The researchers found a positive relation between self-efficacy, education and intention of becoming an entrepreneur.³¹

In the present study, it was found that UF students who had entrepreneurship as a part of their course work showed higher levels of intent towards entrepreneurship. At UT, it was found that students who did not have entrepreneurship as a part of course work showed higher levels of intent. One possible reason for students not having stronger intent when exposed to the concept of entrepreneurship in course work may be that they become aware of the risks involved in owning a pharmacy, but not the strategies needed to reduce those risks. Also, it may be possible that students thought that the two questions “have you taken courses on entrepreneurship” and “did any of your other courses have an entrepreneurship component in it” were similar and were confused. This is a possibility as the correlation between both the questions was very high.

Income

Income did not have a statistically significant relationship with intent at both the universities. However, students at both universities who showed more interest in owning a pharmacy came from families with good income (71,000-90,000 and 51,000-70,000 respectively). Students in higher income categories might be more confident that they can get financial support from their family if needed. No previous studies were found that showed the effect of income on entrepreneurship.

Discussion of statistical analysis

This section discusses the effectiveness of the theory of planned behavior in explaining entrepreneurial intentions.

Subjective norms

This construct was measured by three items and was found to be significantly related to the intention of pharmacy students. For our study, most of the students mostly disagreed with all three questions in this construct. The results showed that most of them disagreed that their family thinks they should own a pharmacy in the future. A possible reason for this can be that students feel that their families have already invested a lot of money in their education. The six year pharmacy program is very expensive and thus, the students may feel obliged to be employed as soon as they graduate so that they can earn money. Starting a pharmacy will not only require money, but also, earning a profit will not be immediate. Similarly, Galloway et al. discovered that though business students preferred self-employment, only about one third actually expected to become entrepreneurs due to constraints and risks.³⁹ Most of the students wanted to join an organization to obtain skills, knowledge and contacts which will help them become entrepreneurs in the future. On the contrary, one study done on business students demonstrated that they are more entrepreneurship oriented compared to being organization oriented.⁴⁰ The authors concluded that a major reason for the inclination towards being self-employed was that their family members or friends were self-employed themselves.⁴⁰ Also, business schools in this study emphasized entrepreneurship education to strengthen subjective norms and to spread its awareness among students.⁴⁰

Attitude

Attitude was found to be significantly related to intent at both universities. Most of the students strongly disagreed that owning a pharmacy would be very exciting for them.

Maybe the students were aware of the risks and responsibilities of entrepreneurship, but not the benefits and privileges. At both universities most of the students somewhat disagreed that they would be financially successful if they own a pharmacy. This finding was similar to Douglas et al. but contradictory to Brenner et al in their studies of business students. The former study demonstrated that most students feared the financial risks while the later study showed that students felt that they can obtain more income and wealth if they are self-employed.^{40,41} In the present study, a large percentage of students at both universities felt that their marketing and management skills would greatly improve by owning a pharmacy. This is likely, because with ownership comes responsibility for the varied duties entailed in operating a pharmacy. The next item in this construct dealt with customer's satisfaction at both chain and independent pharmacies. Most of the students at both universities somewhat agreed that customers would be more satisfied at independent pharmacies. Students felt that at independent pharmacies pharmacists would have more time for counseling patients about various drugs. Another possible reason for this response could be that independent pharmacies have more latitude in changing organizational procedure compared to chain settings.

Perceived Behavioral Control

This construct had a significant relationship with intent for UF respondents while it did not for UT respondents. This construct had five items pertaining to the problems of owning a pharmacy. Students at both universities somewhat or strongly agreed on all five items. Mostly all the students agreed that owning a pharmacy would be extremely risky. Also, most of them agreed that owning a pharmacy would place high demands on their

time, place additional burdens on their personal life, and increase their work load. Most of the students strongly agreed that they would have to take a loan from the bank to start their own pharmacy. In truth, owning a pharmacy does require significant financial obligation. Additionally, the owner is ultimately responsible for all aspects of the business. The viability of the business is in the hands of the owner. Therefore, it is possible that ownership may be burdensome. In many instances business owners may have to reduce the time they spend with their family. However, pharmacy ownership has proven to be a rewarding career option for many pharmacists. In order to make an informed choice, pharmacy students should be made aware of the benefits as well as the risks of ownership.

Limitations of the Study

The findings of this study are interpreted only in the circumstances of following limitations.

This study involved only two universities. So we cannot generalize the results. Maybe the students at some other universities would feel different about entrepreneurship.

The University of Findlay and the University of Toledo had entrepreneurship as a lecture in some other course. It might be possible that entrepreneurship would be more concentrated as a subject in other universities or they would be offering entrepreneurship courses in their curricula.

Also, the students involved at both universities were not in their final year of study. Doing this study with the final year students might have yielded different results. Final year students get a chance to go on rounds and work in the real world. They would have the experience to work in various pharmacy settings. Hence, they may have had a better understanding of the advantages and disadvantages of owning a pharmacy.

Finally, the researcher was not present during survey administration to clarify any questions students may have had regarding the survey.

Suggestions for Future Research

The intent of pharmacy students of two universities was investigated in this study. It would be interesting to study the behavior of these same set of students in the future. Since this study was done only in two universities it would be interesting to know if students at other universities across the nation had any intentions of owning a pharmacy. It would be interesting to know the perceptions of students who have actually taken entrepreneurship courses.

Also, since this study only involved pharmacy students it would be exciting to compare the intent of pharmacy students with business students. In addition, it would be interesting to compare these results with the intent of final year pharmacy students. A future study can also compare students who have family members who are entrepreneurs with students who do not have.

Conclusion from this study

This study was the first of its kind to be carried out. The goal of the study was to examine the factors that determine the interests and attitudes of pharmacy students towards ownership of a pharmacy. Based on our study results, we can conclude that intention is affected by attitude and subjective norms more than perceived behavioral control. From these results, the Theory of Planned Behavior proved to be useful for this study.

Students at both universities showed low levels of intent to become an entrepreneur; although they had studied entrepreneurship as a course component. If more comprehensive courses dedicated to the risks and benefits of entrepreneurship are added by pharmacy schools in their curricula, more students might be interested in owning their own pharmacy in the future. Therefore it is recommended that pharmacy schools introduce entrepreneurship courses in their curricula which not only focus on the benefits and risks of entrepreneurship, but also focus on an extensive understanding of how to reduce the risks.

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The University of Toledo
Department for Human Research Protections
Social, Behavioral & Educational Institutional Review Board
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(FWA00010686)

To: Monica Holiday-Goodman, Ph.D. and Bhairavi Lohana
Department of Pharmacy Practice

From: Barbara K. Chesney, Ph.D., Chair
Wesley A. Bullock, Ph.D., Vice Chair

Signed: _____ **Date:** 03/11/10

Subject: IRB #106889
Title: **Pharmacy Ownership Interest of Pharmacy Students**

On 03/11/10, the above research was reviewed and approved as Exempt (category #2b) by the Chair and Chair Designee of the University of Toledo (UT) **Social Behavioral & Educational** Institutional Review Board (IRB). The requirement to obtain a signed consent/authorization for use and disclosure of protected health information form has been waived as this research is determined to be minimal risk and a signed consent/authorization document would be the only record linking the subject to the data. It was determined that this waiver for signed consent/authorization will not adversely affect the rights and welfare of the participants. This action will be reported to the committee at its next scheduled meeting.

Please Note: A consent form is not required for this study. However an Information Sheet regarding the study should be distributed to potential participants. This Information Sheet should include the name and telephone number of a contact person in case the subjects need additional information. It is also strongly encouraged that the study be explained verbally to potential subjects.

Items Reviewed:

- IRB Application Requesting Expedited Review
- Survey Instruments

Designated as EXEMPT RESEARCH on: 03/11/2010

Please read the following attachment detailing Principal Investigator responsibilities.

FINDLAY

THE UNIVERSITY OF FINDLAY

Institutional Review Board

Date: **April 20, 2010**

To: Bhairavi Lohana

CC: Dr. Joseph Crea

RE: Pharmacy Ownership Interest of Pharmacy Students

Project Expiration date: April 20, 2011

The University of Findlay Institutional Review Board (IRB) has completed its review of your project utilizing human subjects and has granted authorization. This study has been approved for a period of one year only. The project has been assigned the number 464.

In order to comply with UF policy and federal regulations, human subject research must be reviewed by the IRB on at least a yearly basis. If you have not completed your research within the year, it is the investigator's responsibility to ensure that the **Progress Report** is completed and sent to the IRB in a timely fashion. The IRB needs to process the re-approval before the expiration date, which is printed above.

Understand that any proposed changes may not be implemented before IRB approval, in which case you must complete an **Amendment/Modification Report**.

Following the completion of the use of human subjects, the primary investigator must complete a **Certificate of Compliance form** indicating when and how many subjects were recruited for the study.

Please refer to the IRB guidelines for additional information. This packet can be obtained within blackboard under community section. Please note that if any changes are made to the present study, you must notify the IRB immediately. Please include that number on any other documentation or correspondence regarding the study.

Thank you very much for your cooperation. If you have any questions, please feel free to contact me at (419) 434-4864 or email wahrman@findlay.edu.

Sincerely,

Chair, Institutional Review Board

Cc: IRB Office

Dear Participant,

Date: 03/23/2010

You are invited to participate in a Master's thesis study conducted by researchers from the University of Toledo, College of Pharmacy. You may be aware that there are different types of pharmacies like independent pharmacies and chain pharmacies. The purpose of this study is to find out your opinion about owning your own pharmacy. The results of this study may help Pharmacy colleges to introduce courses in the pharmacy curriculum that will focus more on the advantages and disadvantages of owning your own pharmacy. You are being invited to participate in this study as your thoughts are very valuable to us.

To participate in this study, please complete the following questionnaire. This survey is designed to take no more than 15 minutes of your time. Please complete the whole questionnaire as each question is important in achieving valid results.

Please do not put your name anywhere on the questionnaire. We assure you that your responses will be kept confidential. Your answers will be combined with many others participating in this study and used only for statistical analysis.

Your participation in this study is completely voluntary. Your agreement or refusal to participate will not affect your course grade in anyway. Your filling out this questionnaire implies that you agree to participate in the study. If you have any questions about the survey please contact me, Bhairavi Lohana, via email : Bhairavi.lohana@rockets.utoledo.edu or by phone at (419)530-1969. Alternatively you can contact Dr. Monica Holiday-Goodman, at the University of Toledo, at (419)530-1968 or at Mholiday@utnet.utoledo.edu.

Thank you very much for your cooperation.

Sincerely,

Bhairavi Lohana

M.S candidate in
Director

Pharmacy Health Care Administration
Administration

Dr. Monica Holiday-Goodman

Associate Professor and Program

Pharmacy Health Care

Pharmacy Ownership Interest of Pharmacy Students

Dear Participant:

Please answer the following questions by circling the number which best describes your opinion. Please note that each question addresses different issues, although some of them may appear very similar. Please read and answer each question carefully.

Example : Exercise makes me feel active the whole day.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : 6___ **5** Strongly Agree

Section I

- 1) Most people whose opinions I value would approve of me owning a pharmacy.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 2) Most of the pharmacy students with whom I am acquainted, plan to own a pharmacy in the future.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 3) I believe that pharmacists who own pharmacies make more income than staff pharmacists.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 4) My family thinks that I should own a pharmacy as soon as I graduate.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 5) My family thinks that I should own a pharmacy sometime in the future.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 6) For me, owning a pharmacy in the future would be very exciting.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 7) I would be financially successful if I own a pharmacy.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 8) My owning of a pharmacy would greatly improve my management and marketing skills.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 9) I believe that customers are more satisfied at independent pharmacies rather than chain pharmacies.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 10) I believe that it would be difficult for me to own a pharmacy during poor economic times.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 11) Complying with government rules and regulations would be difficult to follow when you own a pharmacy.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 12) Owning my own pharmacy would provide me a better quality of life.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 13) Owning a pharmacy would be extremely risky.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 14) I think that having my own pharmacy would place high demands on my time.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 15) I think that having my own pharmacy would place additional burdens on my personal life.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 16) Owning a pharmacy would increase my work load.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 17) I would have to take a loan from the bank to own a pharmacy.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 18) I feel that I have the knowledge and skills to own my own pharmacy.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

- 19) I intend to own a pharmacy soon after graduation.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

20) I intend to own a pharmacy after 5 years or later.

Strongly Disagree: ___1___ : ___2___ : ___3___ : ___4___ : ___5___ : ___6___ : Strongly Agree

Section II – Demographic and other Information

Please check the appropriate boxes that corresponds to your best appropriate answer

- Gender

Male Female

- What is your age?

18-21 22-25 26-30 31-35 Above 35

- Have you taken courses on entrepreneurship?

Yes No

- Did any of your other courses have an entrepreneurship component in it?

Yes No

- What is the annual household income of your family?

Below 30,000 31,000-50,000 51,000-70,000

71,000-90,000 Above 91,000