

# **Entrepreneurship among Non-Business Students: Implications for Entrepreneurship Education**

**Raymond Doe**  
**Lamar University**

*This study investigates entrepreneurial intentions among non-business students. Studies on entrepreneurial intentions have traditionally been done among business students. How do non-business students compare to their counterparts? A total of 130 respondents participated in this study. The results indicated low entrepreneurial intentions, with a majority indicating no previous business start-ups, and a majority self-reported that they were not from an entrepreneurial background. However, coming from an entrepreneurial background was related to entrepreneurial intentions and the variable attitudes in the theory of planned behavior explained the largest variance in the model. Implications for entrepreneurship curriculum development towards non-business students were discussed.*

## **INTRODUCTION**

The price of college education is on the continual rise, necessitating part- or full-time employment for most students enrolled at universities across the United States (Choy & Berker, 2003). In 2007, about 45 percent of college students were working full time and around 80 percent were working part time (Perna, 2010). Some of these work opportunities and exposures have contributed to the increasing number of students engaging in business start-ups and self-employment ideas and even considering dropping out of college to take off with an entrepreneurial idea with or without entrepreneurship education. According to Shane and Venkataraman (2000), entrepreneurship is usually broadly defined as the identification and exploitation of business opportunities by an individual. Its importance has been largely documented to include economic growth, job creation, innovation and productivity (Urbano & Aparico, 2015; Van Praag & Versloot, 2007).

Entrepreneurship education is therefore not only seen as a panacea for any nation going through economic hardships (Martley, 2006), Entrepreneurship education that is targeted at students could keep them in college to graduate and venture into self-employment or co-ops upon graduation. In addition, studies have shown that exposing students to entrepreneurship courses lead to higher entrepreneurial intentions compared to students who have never taken any entrepreneurship course in college (Wilson, Kickul, & Marlino, 2007; Otuya et al., 2013). Entrepreneurial intentions, in turn, lead to engaging in an action, taking the form of starting a business to solving a social problem (Ajzen, 2005; Douglas, 2013). On many instances, the construct of entrepreneurial intentions (EI) has been shown as a predictor of future entrepreneurial activities (Liñán & Fayolle, 2015) and there is a burgeoning literature on this topic. For the purposes of this article, entrepreneurial intention is defined as the “self-acknowledged conviction by a person that they intend to set up a new business venture and consciously plan to do so at some point in the future” (Thompson, 2009, p.676).

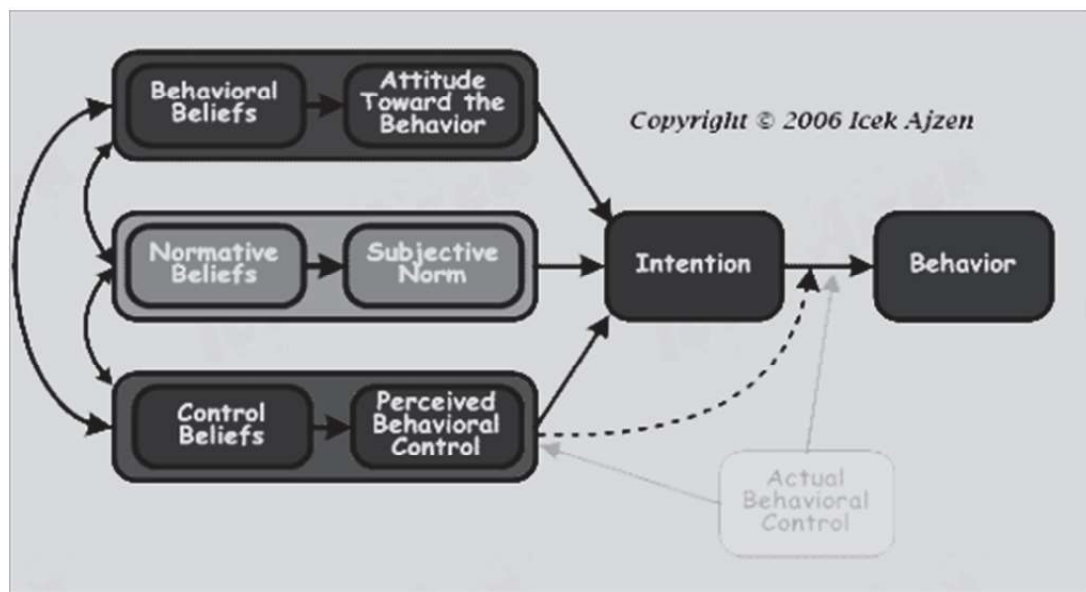
The literature on entrepreneurship, however, has focused mostly on students in business colleges (Mauldin, Grain, & Mounce, 2000; Pritchard, Potter & Saccucci, 2004). It is not worth arguing that entrepreneurship is only limited to students within these colleges. Admittedly, a majority of entrepreneurship courses are offered through business colleges, and the data according to the Global Entrepreneurship Monitor indicates that individuals with business degrees show the highest entrepreneurial activity (Minniti & Bygrave, 2003). There are however, self-made entrepreneurs who have never stepped foot in a college of business classroom. The few studies involving non-business students indicate that non-business majors also show significant interest in self-employment (Muske & Stanforth, 2000).

The purpose of this study is to therefore examine the characteristics and intentions of non-business students, to understand this population and to inform university decision makers and instructors in the design of entrepreneurship curriculum outside of business colleges.

### Review of literature and theoretical framework

Central to entrepreneurial intentions studies is the theory of planned behavior (Ajzen, 1991). This socio-cognitive theory (Figure 1) explains that conscious intentions often lead to purposeful human behavior. These intentions, Ajzen argues, are shaped by three variables, namely individual attitudes, subjective norms and perceived behavioral control (see Kuehn, 2008 for more details). Studies have been documented that, attitudes alone tends to explains about 50% of the variance in intentions and intentions explains about 30% of the variance in behavior (Grassl & Jones, 2005). In the field of entrepreneurship, Gird and Begraim (2008) confirmed that the theory of planned behavior does account for 27% of the variance in university students intentions to become entrepreneurs.

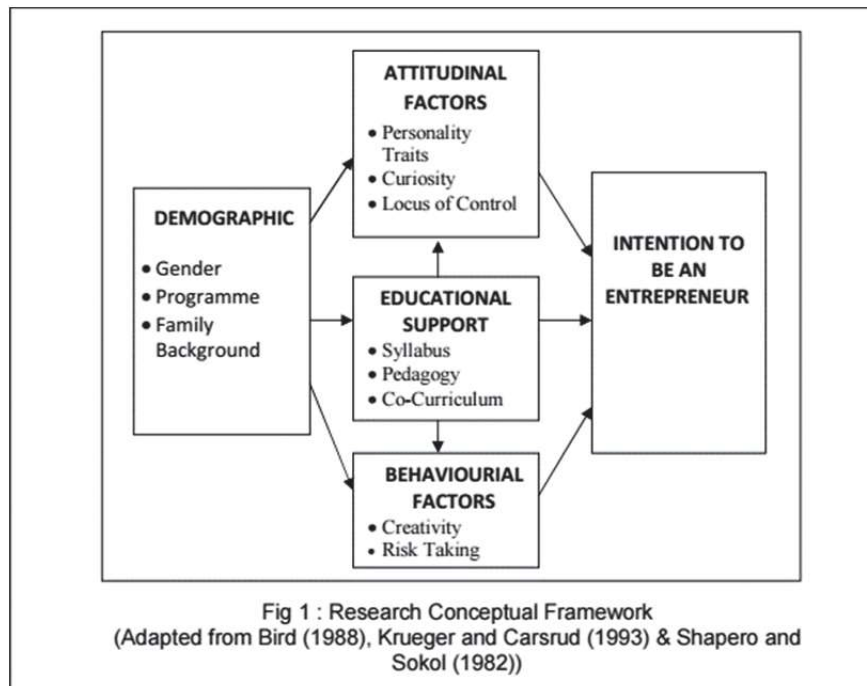
**FIGURE 1**  
**THEORY OF PLANNED BEHAVIOR**



In addition to the theory of planned behavior, factors influencing intention to become an entrepreneur is explained by Bird (1988), Krueger and Carsrud (1993), and Shapero and Sokol (1982). Their framework (Figure 2 below) asserts that entrepreneurial intentions among students can be traced to three factors (Attitudinal, educational support and behavioral). Bird (1988) explains intention as a state of mind that directs a person's attention, experience and action towards a specific path to achieve something. Krueger and Carsrud (1993), thus view intention as a predictor of planned entrepreneurial behavior. In this

framework, controlling for demographic variables such as gender, program of study and family background; attitudinal factors (such as personality or risk taking) and educational support (such as entrepreneurship teaching/training) and behavioral factors (such as creativity or risk taking) which independently influence one's intention to become an entrepreneur. This model thus suggests that entrepreneurial characteristics can be learned in colleges and universities, but these characteristics vary from person to person.

**FIGURE 2**  
**FACTORS INFLUENCING INTENTION**



Among college students, the focus has shifted from attitudinal factors to institutional supports that can predict entrepreneurial behavior (Bowen & De Clercq, 2008). This is mostly due to the earlier held assumption that students of business administration did have a higher predisposition for entrepreneurship, although there is some evidence to the contrary (Hostager & Decker, 1999). Most of the studies that found significantly higher entrepreneurial intent among business administration students allude to the fact that these differences were due to motivational variables rather than situational variables (Abebe, 2012; Grassl & Jones, 2005). To contribute to these discussion, and to guide curriculum structure, the current study sets out with the following objectives.

**Research objectives**

1. To determine the entrepreneurial intentions of non-business students.
2. To determine the correlation between entrepreneurial intention and personal characteristics such as family business background, starting a business, perception of being an entrepreneur, gender, and work status among non-business students.
3. To determine the variable that best explains the variance in the entrepreneurial intention in the context of the theory of planned behavior.
4. To compare entrepreneurial intention scores of non-business students to business students in the literature.
5. To recommend best practices in the design of entrepreneurship courses for non-business students.

## **METHOD**

### **Participants**

A total of 130 undergraduate students at a medium-sized university in the Southeastern region of the United States took part in a large-scale study after approval from the Institutional Review Board (IRB). These participants ranged in ages from 18 to 44 and the median age was 19 and the average age was 20. The majority of the students were female (77.7%;  $n = 101$ ) and the rest were males. In terms of educational level, 40.8% of the students were sophomores ( $n = 53$ ), 33.1% were freshman ( $n = 43$ ), 16.2% were juniors ( $n = 21$ ), and 10.0% were seniors ( $n = 13$ ). Participants self-reported their working status with 63.8% reported that they were working ( $n = 83$ ) and 36.2% reported that they did not have a job in addition to their studies ( $n = 47$ ). In terms of majors, the majority of the students were arts and sciences, communication and education majors and each participant received research credits for participating in the study.

### **Measures**

Participants were given a survey containing a four-item scale on entrepreneurship intentions developed by Liñán & Chen (2006; 2009) in lieu of the six items to be able to compare previous studies since 2006. Previous studies using these items revealed adequate internal consistency and reliability ranging from 0.75 to 0.94 (Liñán & Chen 2006, 2009; Iakovleva, Kolvereid, Stephan, 2011; Malebana, 2014). In addition, the following factors (attitudes, perceived behavioral control and subjective norms) were adapted from Liñán and Chen's (2009) entrepreneurial intention questionnaire (EIQ). In employing this scale for this study, students were asked to rate the items on a Likert-type scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Higher scores indicated high entrepreneurial intent. The survey also elicited the participants' personal and demographic information such as gender, age, student classification, work status (working or not working), entrepreneurial background, and whether or not the students have tried to start a business in the past.

### **Procedure**

Participants came to the research suites at their designated times and were given an informed consent form to read over and sign. Once a participant had indicated their agreement to the terms and conditions on the consent form, they were given a survey instrument to complete. Upon completion, the participant returned the survey to the researcher and were shown out of the research suites. The data was subsequently entered into a statistical software (IBM SPSS Statistics) and are screened to identify and remove outliers. Tests of normality were also carried out analyzing skew and kurtosis. There were no concerns for deviations of normality, skewness nor kurtosis.

### **Results**

To confirm the reliability of the dependent measure (entrepreneurial intentions), a Cronbach's alpha results showed a reliability score of 0.92 (4 items). Preliminary descriptive statistics were used to compare gender and age across working and non-working students. For working students ( $n = 83$ ), 75.9% of respondents were females ( $n = 63$ ) and 24.1% were males ( $n = 20$ ). Ages for working students ranged from 18 to 31 where the median age was 20 and the average age was also 20. For non-working students ( $n = 47$ ), 80.9% of respondents were females ( $n = 38$ ) and 19.1% were males ( $n = 9$ ). Ages of non-working students ranged from 18 to 44. The median age was 19 and the average age was 20.

### **Entrepreneurial Intentions outlook of non-business students**

The average entrepreneurial intention score among the 130 non-business students was 2.67 ( $SD=1.5$ ) with a minimum score of 1 and a maximum score of 7. In answering the question "Have you tried to start a business before?" a total of 96.2% answered "No" and only 3.8% answered "Yes". The second question

asking whether they are “From Entrepreneurial background”, 81.5% answered “No”, while 18.5% answered “Yes”.

### Relationship with other variables

Prior to conducting a regression analysis, the relationships among eight variables that were tested in this study were determined. Table 1 shows the correlations for these variables.

**TABLE 1  
CORRELATIONS AMONG THE VARIABLES**

	M	SD	1	2	3	4	5	6	7	8
<b>Gender (1)</b>										
<b>Work Status (2)</b>			.057							
<b>Tried to start business (3)</b>			-.011	-.016						
<b>Entrepreneurial background (4)</b>			-.017	.069	.214**					
<b>Attitudes (5)</b>	3.18	1.65	.082	.022	.119	.157*				
<b>Perceived beh. Control (6)</b>	2.67	1.35	.272**	.109	.044	.293***	.675***			
<b>Subjective norms (7)</b>	4.23	1.92	.037	-.001	.004	.258**	.375***	.539***		
<b>Entrepreneurial intentions (8)</b>	2.67	1.51	.063	.023	.057	.154*	.851***	.723***	.439***	

Note.  $N=130$ . \* $p < .05$ , \*\*  $p < .01$ , \*\*\* $p < .001$

Results in Table 1 indicate that gender, work status and ‘whether or not the student has tried to start a business’ do not relate to a participant’s entrepreneurial intentions. In addition, separate tests of independence using t-tests between the groups of these three variables showed no significant differences in their entrepreneurial intentions. Coming from an entrepreneurial background, however, showed a significant positive relationship with entrepreneurial intentions as well as the other three variables (Attitudes, Perceived behavioral Control and Subjective norms) in the theory of planned behavior.

### Explaining entrepreneurial intention differences

To examine the variation in entrepreneurial intentions, a hierarchical regression was used to analyze the data. In stage one, the demographic characteristics were entered to control for their effects. After that, independent variables in the theory of planned behavior were entered.

**TABLE 2**  
**SUMMARY OF HIERARCHICAL REGRESSION ANALYSIS FOR VARIABLES PREDICTING**  
**ENTREPRENEURIAL INTENTIONS OF NON-BUSINESS STUDENTS.**

<b>Variable</b>	<b>R</b>	<b>R<sup>2</sup></b>	<b>ΔR<sup>2</sup></b>	<b>B</b>	<b>SE</b>	<b>β</b>	<b>t</b>
<b>Step 1</b>	.17	.03	.03	2.48	.24		
<b>Gender</b>				.23	.32	.07	.73
<b>Work Status</b>				.03	.28	.01	.11
<b>Tried to start business</b>				.21	.71	.03	.29
<b>Entrepreneurial background</b>				.58	.35	.15	1.65
<b>Step 2</b>	.88	.77	.75	-.15	.20		
<b>Gender</b>				-.26	.17	-.07	-1.55
<b>Work Status</b>				-.05	.14	-.02	-.37
<b>Tried to start business</b>				-.20	.35	-.03	-.57
<b>Entre. background.</b>				-.16	.18	-.04	-.87
<b>Attitudes</b>				.60	.06	.65	10.87***
<b>Perceived beh. control</b>				.33	.08	.29	4.13***
<b>Subjective norms</b>				.04	.04	.05	1.01

Note. Statistical Significance: \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

The results in Table 2 showed that the demographic characteristics of non-business students alone in model 1 did not significantly predict entrepreneurial intentions and only explained a small variance (3%). In model 2, however, the introduction of the key predictors of entrepreneurial intentions according to the theory of planned behavior (Attitudes, Perceived behavioral Control and Subjective norms) did alter significantly the variance explained in entrepreneurial intentions. An additional 75% of variance was explained. Two individual predictors (Attitudes and Perceived behavioral control) also showed significant positive relationship with the entrepreneurial intention as well as indicating the highest beta values.

## DISCUSSION

The results above were compared to results published in the literature among business students. It is possible that the various definitions and conceptualization of entrepreneurship intentions in those studies influence their measurements and casts doubt on the validity of the results in the literature. The goal of this imperfect comparison is, however, to put into perspective the importance of redesigning default entrepreneurship courses for non-business students, all things being equal. First, the demographic variables that were studied among business students did seem to show males having a higher tendency in becoming an entrepreneur. Reasons for this trend, however, can be linked to the fact that fields such as entrepreneurship have been male dominated and there are many male role models (compared to females) that business college students aspire to (Coleman & Robb, 2012). It would not be an overstatement, that there is also a tendency for females to initially demonstrate low self-efficacy for careers that females are underrepresented. In this present study (among non-business students), this gender difference was not significant. In other words, gender is not quite relevant among non-business students in determining their entrepreneurial intentions. In addition, the influence of family support in business start-ups or encouraging behaviors such as working in a family business that leads to higher entrepreneurial self-

efficacy and subsequent higher entrepreneurial intentions seem to be an important factor among business student population but not non-business students (Van Auken, Fry, & Stephens, 2006).

Next, the entrepreneurial intentions among business students as reported in the literature were relatively higher than non-business students. For example, using a US population of business students and with a 4-item measure of entrepreneurial intentions, Abebe (2012) reported moderate mean scores -  $M=5.68$  ( $SD =1.486$ ). Phipps, Prieto and Kungu (2011) also reported moderate mean scores of entrepreneurial intentions ( $M=3.34$ ,  $SD=1.77$ ) but with a 6-item scale. Although there are other reports among business students from countries that are similar to the US, the reported entrepreneurial intention scores among business students are usually above the current findings in this study [ $2.67$  ( $SD=1.5$ )]. This is consistent with previous discussions on this subject.

Although it is too early to insinuate any conclusions, these contextual differences between business and non-business students are largely motivational. This assertion also dovetails with the findings in the current study showing ‘attitudes’ as explaining a large percentage of the differences in entrepreneurial intent. In other words, personality variables such as proactive attitude and achievement motivation and self-efficacy in any student could explain the intent to become an entrepreneur. That is to say that, entrepreneurship education aimed at students outside the field of business would increase entrepreneurial intent. Obviously, the results would not be uniform in all contexts but non-business students would benefit more from a tailored entrepreneurship education rather than a cut-and-paste model from the colleges of business.

## CONCLUSIONS

Stimulating non-business students to develop interest and accelerate their entrepreneurial intent starts with a systemic shift of focus from teaching entrepreneurship as a field of science to teaching entrepreneurship as a profession. Looking back at the demographic and personal characteristic differences outlined earlier, non-business students from the onset would be better served with a motivation laden curriculum. One that is rich with constant exposure to entrepreneurs so that non-business students can connect with and see how a start-up was conceived, how an innovative idea materialized, how a new product was redesigned based on an existing model. Although the curriculum should not be limited to these, the core focus should be the development of entrepreneurial attitude. Martin and Lucu (2014) thus laid out three objectives for this paradigm shift. That is an occupationally oriented curriculum that is geared towards creating awareness and motivation, revealing how business are conceived and run, and teaching non-business students the skills and the attitude to identify and exploit opportunities when they see one. This tailored entrepreneurship education ought to be geared towards building passion, uplifting the self-efficacy of non-business students as well as giving a heavy dose of entrepreneurial orientation, and not to leave out taking out negative affect towards risk taking. While a lot of attention on topics such as general management and marketing will serve business students, it could deplete the time needed to focus on the essentials for non-business students, such as financial bootstrapping. This contemporary view of teaching entrepreneurship to non-business students can be seen as focusing on the pursuit of opportunities instead of the traditional new venture creation (see Brand, Wakkee & Veen, 2006). Changing of attitudes to recognize and pursue opportunities means taking a psychological perspective of entrepreneurship for non-business students. This perspective, through research, has indicated that a key personality characteristic that leads to entrepreneurial behavior is the orientation and there is meta-analytic evidence that this orientation is highly correlated with business creation and business success (Frese & Fay, 2001; Rosenbusch et al., 2013; Frese & Gielnik, 2014).

### *Limitations and Recommendations*

This study focused on self-reports of non-business students regarding the construct of entrepreneurial intentions and it was not possible to immediately determine whether these students fully grasp the width and depth of the construct. As with any self-report studies, there is a possibility of underinflating or overinflating of responses. In addition, the sample may not be an ideal representation of all non-business

students in the United States, therefore, caution should be exercised in interpreting the findings beyond the current sample, for instance the low entrepreneurial intent findings. It is possible that some students may have excluded social entrepreneurship or non-profit enterprises when responding to the survey. Future studies could replicate the study using different samples of non-business students as well as in non-US settings. The low entrepreneurial intent among non-business students could also be attributable to the declining support given to would-be entrepreneurs. Gallup Organization (2007) reported a downward trend with about 25% of Americans considering starting a business. Starting a business might not be viewed positively by the current student population.

These findings and the limitations however, present promising opportunities for future research. While highlighting the quest to tailor entrepreneurship courses to a population that would also make considerable contribution to society, more research should be conducted particularly, longitudinal studies that can track non-business students prior, during and after completing entrepreneurship courses and their entrepreneurial activities.

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