

Assessing Entrepreneurial Intentions Amongst Students:

A Comparative Study

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Abstract

While most US universities offer entrepreneurship courses today, little is known about the relationship between the likelihood of students taking courses in entrepreneurship and their intentions of becoming entrepreneurs. This paper explores and evaluates entrepreneurial intentions and their antecedents among 123 students at San Jose State University by building on Fishbein and Ajzen's (1975) model. In doing so, it contributes to our understanding of whether, and if so how, education can affect students' attitudes toward entrepreneurship and their entrepreneurial self-efficacy. It also examines the role of family exposure to business, personal entrepreneurial experience, and ethnic background in affecting attitudes, subjective norms, and intentions by comparing students from diverse ethnic and family backgrounds. Findings highlight the impact of education and practical exposure to entrepreneurship on entrepreneurial intentions.

Introduction

It is well known that a career in entrepreneurship offers significant opportunities for individuals to achieve financial independence and benefit the economy by contributing to job creation, innovation, and economic growth. Today's students are tomorrow's potential entrepreneurs, which may explain why a growing number of US universities offer courses and programs in entrepreneurship. However, there is little understanding of the factors that affect students' intentions of becoming entrepreneurs and the relationship between entrepreneurship education and students' entrepreneurial attitudes and intentions (Souitaris et al 2007). Similarly, little is known about differences in entrepreneurial intentions and attitudes among students belonging to different cultures and ethnicities (Wilson et al 2004). This paper seeks to contribute toward redressing this gap in our knowledge by empirically testing a model that draws on the theory of planned behavior to examine the antecedents of entrepreneurial intentions among students.

The purpose of the study is to investigate whether prior exposure to entrepreneurship education affects students' attitudes, subjective norms about entrepreneurship, and perceived behavioral control and whether these, in turn, affect their entrepreneurial intentions. In doing so, it enhances our understanding of whether, and if so, how, education can affect students' attitudes toward entrepreneurship and their entrepreneurial self-efficacy. It also examines the role of family background and ethnicity in affecting attitudes, norms, and intentions, by comparing students from diverse socio-cultural backgrounds.

Literature Review and Hypotheses

The theory of planned behavior, grounded in social psychology, is based on the premise that much human behavior is planned and is therefore preceded by intention toward that behavior (Fishbein and Ajzen 1975). It asserts that intention is an accurate predictor of planned behavior, especially in cases where the behavior is difficult to observe, rare, or involves unpredictable time lags. Entrepreneurial behavior displays these characteristics, which explains why several empirical studies of entrepreneurship have applied the theory of planned behavior to the study of entrepreneurship from a psychological perspective (see for example, Kolvereid and Isaksen 2006; Rotefoss and Kolvereid 2005; Krueger, Reilly, and Carsrud 2000; Souitaris et al 2007). According to Kreuger et al (2000), entrepreneurial activity can be predicted more accurately by studying intention rather than personality traits, demographic characteristics, or situational factors.

The theory of planned behavior contends that intentions are a function of three sets of factors: attitudes, subjective norms, and perceived behavioral control (PBC). Attitudes are defined as beliefs and perceptions

regarding the personal desirability of performing the behavior, which are in turn related to expectations regarding the personal impact of outcomes resulting from that behavior (Ajzen 1991). Subjective norms or perceived social norms are defined as individuals' perceptions about the values, beliefs, and norms held by people whom they respect or regard as important and the individuals' desire to comply with those norms. It is argued that social norms are less predictive of intentions for individuals who have a high internal locus of control (Krueger et al 2000). PBC is defined as the personal belief about being able to execute planned behavior and the perception that the behavior is within the decision maker's control. It is similar to Bandura's (1986) concept of self-efficacy.

In the context of entrepreneurship, the theory of planned behavior asserts that entrepreneurial intention is dependent on an individual's attitude toward the desirability of an entrepreneurial career, subjective norms including perceived family expectations and beliefs to perform the behavior, and perceived behavioral control or the perceived ability to execute the intended behavior of entering entrepreneurship.

Exposure to Entrepreneurship Education

Prior research suggests that individuals' attitudes are determined by "exogenous factors" (Krueger 1993: 6) like prior experience. However, those factors are not adequately explored. Specifically, the role of education in affecting attitudes, norms, perceptions of controllability, and behavior merits further investigation. Previous research indicates that entrepreneurship education can enhance an individual's level of self-efficacy (Bandura 1986; Hollenbeck and Hall 2004; Wilson et al 2007). Wilson et al's (2007) study concluded that this relationship is more pronounced in the case of female students. Noel (1998) found that entrepreneurship education is strongly related to entrepreneurial intention, with entrepreneurship majors expressing higher intentions to start their own businesses. Dyer (1994) and Wilson et al (2007) argued that entrepreneurship education can also increase students' interest in entrepreneurship as a career. Souitaris et al (2007) found that entrepreneurship programs significantly raised students' subjective norms and intentions toward entrepreneurship by inspiring them to choose entrepreneurial careers. This leads to our first hypothesis:

H1: Students who have had prior exposure to entrepreneurship education will have more positive attitudes toward entrepreneurship (H1a), stronger subjective norms favoring entrepreneurship (H1b), and more perceived behavioral control (H1c).

Exposure to Entrepreneurship Through Family and Direct Experience

Shapiro (1975, 1982) argued that attitudes toward entrepreneurship depend on exogenous factors like demographics, traits, skills, culture, and social and financial support. Prior exposure to entrepreneurial activity would be included as one such factor. Prior exposure could be in the form of early exposure to a family business, which influences attitudes toward entrepreneurship (Krueger 1993). Drennan, Kennedy, and Renfrow (2005) found that those who reported a positive view of their family's business experience perceived starting a business as both desirable and feasible. They found that other childhood experiences that involved facing adversity or frequent relocation also had a positive effect on individuals' perceived autonomy and attitude toward self-employment. At the same time, it can be argued prior exposure in the form of direct experience in starting or attempting to start a new business would affect attitudes and perceptions about entrepreneurship as a career. This leads to our second and third hypotheses as follows:

H2: Students with self-employed fathers will have more positive attitudes toward entrepreneurship (H2a), stronger subjective norms favoring entrepreneurship (H2b), and more perceived behavioral control (H2c).

H3: Students who have experience of starting their own business will have more positive attitudes toward entrepreneurship (H3a), stronger subjective norms favoring entrepreneurship (H3b), and more perceived behavioral control (H3c).

Antecedents of Entrepreneurial Intentions

Empirical studies generally support the relationship postulated by the theory of planned behavior between entrepreneurial intention and attitudes, subjective norms, and perceived behavioral control (Kolvereid 1996; Krueger et al 2000; Douglas and Shepherd 2002; Souitaris et al 2007). In order to replicate and confirm this relationship, we propose our fourth hypothesis:

H4: Students with more positive attitudes, stronger subjective norms, and more perceived behavioral control with respect to entrepreneurship, will have stronger entrepreneurial intentions.

Role of Ethnicity

Recent empirical research for the US indicates significant differences in self-employment rates among different ethnic and racial groups (Fairlie 2004). Fairlie's (2004) study found that rising self-employment among Blacks between 1979 and 1998, and the narrowing gap between Black and White self-employment rates could be traced to increasing educational levels among Black men. In contrast, self-employment rates between Hispanics and Whites widened over the same period, and that trend was associated with no corresponding improvement in the educational attainment of Hispanic men. Wilson et al (2004: 193) found significant ethnic/racial and gender differences among students in terms of the importance they placed on "relational factors.... such as working with others, having good relationships and earning respect." In general, relational factors were more important motivators for girls and for Hispanics and Blacks compared with Whites. Wilson et al (2004) speculated that the latter may be related to differences in the norms and expectations of different communities. However, the relationship between ethnicity and attitudes, norms, and perceived behavioral control requires deeper investigation. We therefore propose the following exploratory hypothesis:

H5: Students belonging to different ethnic groups will have different attitudes, subjective norms, and perceived behavioral control with respect to entrepreneurship.

Method

Sample and measures

Data were collected via paper and pencil surveys administered to students in several business classes at San Jose State University, which has a highly diverse body of students. The final sample consisted of 122 students, most of whom (96.7%) were full time students with an average age of 23.4 years. Twelve students (9.8% of those surveyed) had taken a class in entrepreneurship in a prior semester.

A large number of students (77%) were management majors, 8.9% were engineering students, 2.4% were finance majors, 1.6% law majors, another 1.6% were international business majors, and the rest were from accounting, economics, project management, recreation, and other miscellaneous areas.

Around two-thirds (65.6%) were male. Most (77%) were employed, and worked at an average of twenty-four hours a week, and had an average work experience of four years. Approximately 17% had their own or family business, and twenty-six students (about 21%) had started or tried to start their own business in the past. Of the 122 students who responded to the question, thirty-four (about 28%) had a father who was self employed, and about 21% had a mother who was self employed.

The majority were Asians (45.5%), followed by Caucasians (23.6%), Latino/Hispanics (14.6%), Middle Eastern (4.1%), African American (1.6%), and Native American (.8%). The remaining were either bicultural or did not report their race.

In terms of country of origin, the majority were American (47.2%) followed by Vietnamese (11.4%), Indians (4.1%), Chinese (3.3%), Mexicans (2.4%), Japanese (2.4%), Pakistanis (2.4%), Italians (2.4%), Venezuelans (1.6%), Swedes (1.6%), El Salvadorians (1.6%), Indonesians (1.6%), Romanians (1.6%), and Filipinos (1.6). One individual each from eleven other countries was also represented (Djibouti, Thailand, Poland, Iran, Samoa, England, Hong Kong, Singapore, Korea, Columbia, and Peru). In all, people originating from twenty-five countries were included in the sample.

Measures

Prior exposure to entrepreneurship education was measured by asking students a question about whether they had previously taken a class in entrepreneurship. Paternal self-employment was measured by asking a question about whether their father owns/runs his own businesses (is self-employed)? Prior entrepreneurship experience was also measured with a single question that asked whether they had "started or had tried to start their own business." For the single-item measures, the response scale was a Yes/No, and it was felt that they were

appropriate to ask with a single item measure. Attitude toward entrepreneurship was measured with a shortened scale adapted from Kolvereid (1996) that had a total of nine items on a scale that ranged from 1=Strongly Disagree to 5=Strongly Agree. Four of these questions related to employment in an organization (e.g., having job security and stability, having fixed working hours, being part of an organizational community and having opportunities for climbing the corporate ladder), and five questions related to self employment (e.g., having challenging work, desiring to be your own boss, having power to make decisions, creating something new, and being engaged in the whole business). Following Kolvereid (1996), and others (Souitaris et al 2007), we subtracted the mean of the self-employment items by the mean of the employment items to get an overall index of attitudes toward entrepreneurship, with a higher number indicating a more positive attitude toward entrepreneurship. Subjective norms were also measured using the measure by Kolvereid (1996), and consisted of a combination of items that measured belief (three items) and motivation to comply (three items) on a five-point scale that ranged from strongly disagree to strongly agree. The three belief items were as follows: “My closest family members think that I should pursue a career in self employment,” “My closest friends think...” and “People who are important to me think...” The three motivation-to-comply items were: “I care about the opinion of my family regarding my career,” “I care about the opinion of my friends...” and “I care about the opinion of people important to me...” To compute the overall subjective norm scale, and following previous researchers (Souitaris, et al 2007), the belief items were recoded into a bipolar scale (from -2 to +2), multiplied with the respective motivation-to-comply items and summarized to come up with the composite score. Entrepreneurial Intentions were measured with three questions on a five-point scale from Kolvereid (1996). An example question is, “How likely is it that you will choose a career as a self-employed entrepreneur?” Response choices for that question ranged from unlikely (1) to likely (5). Cronbach’s alpha was .74. Perceived behavioral control was measured with four questions (Kolvereid, 1996). Cronbach’s alpha was .73. An example item is “For me, being self-employed would be...” (1) very easy to (5) very difficult.

Results

Means, standard deviations, and bivariate correlations are presented in Table 1. The data were analyzed using t-tests of comparing means and regression analysis.

Table 1 : Descriptive Statistics and Bivariate Correlations

	Variable	Mean	SD	1	2	3	4	5	6	7				
1	Previous Entrep. Educ.	.10	.29	1	.04	.10	.17	.03	.26	**	.16			
2	Father self-Employed	.28	.45		1	.08	.18	*	.30	**	.28	**		
3	Prior entrep. experience	.21	.41			1	.25	**	.16		.24	**	.32	**
4	Attitudes to Entrep.	.33	.92				1		.30	**	.43	**	.58	**
5	Subjective Norms (Entrep)	.21	3.44					1			.30	**	.45	**
6	Perceived Behav. Control	3.11	.75						1				.45	**
7	Entrep. Intention	3.18	.95											1

** p < .01, * p < .05

Relationship between Prior Exposure to Entrepreneurship and Attitudes, Subjective Norms, and Perceived Behavioral Control

Our first set of hypotheses stated that students who have had prior exposure to entrepreneurship education will have more positive attitudes toward entrepreneurship (H1a), stronger subjective norms favoring entrepreneurship (H1b), and more perceived behavioral control (H1c). In our sample we had twelve students who had prior exposure to entrepreneurship education and 109 who did not. Since prior exposure to entrepreneurship education was coded as 0=No and 1=Yes, we conducted a test of differences in the mean using ANOVA results of which are reported in Table 2. Results indicate support for Hypothesis 1a, implying that those who have prior education in entrepreneurship have more positive attitudes toward a career in entrepreneurship. We did not find support for H1b in that there was no significant difference between the subjective norms of those who had prior exposure to entrepreneurship education. Hypothesis 1c was supported, implying that taking entrepreneurship classes is significantly associated with higher perceived controllability over behavior with regard to entrepreneurship.

Table 2: Mean Differences in Attitudes, Subjective Norms, and Perceived Behavioral Control for Prior Entrepreneurship Education

Prior Entrepreneurship Education	No Prior Entrepreneurship Education	
Attitude	.82a	.28a
Subjective Norm	.47	.28
Perceived Behavioral Control	3.7b	3.04b

Note :“a” significant at $p < .05$; “b” significant at $p < .01$

Relationship between having a Self-Employed Father and Entrepreneurial Attitudes, Subjective Norms, and Perceived Behavioral Control

Our second set of hypotheses stated that students with self-employed fathers will have more positive attitudes toward entrepreneurship (H2a), stronger subjective norms favoring entrepreneurship (H2b), and more perceived behavioral control (H2c). In the sample we had thirty-four students whose father was self-employed and eighty-eight students whose fathers were not. Similar to Hypotheses 1, we conducted an F test of differences, the results of which are reported in Table 3. These results indicate that attitudes, subjective norms, and perceived behavioral control, as well as entrepreneurial intentions are significantly higher for those whose fathers are self-employed.

Table 3: Mean Differences in Attitudes, Subjective Norms, and Perceived Behavioral Control for Father’s Employment Status

Self-Employed Father	Father not Self-Employed	
Attitude	.60a	.23a
Subjective Norm	1.86b	-.43b
Perceived Behavioral Control	3.45c	2.98c

Note :“a” significant at $p < .05$; “b” significant at $p < .01$; “c” significant at $p < .01$

Relationship between having Previous Experience Starting a Business and Entrepreneurial Attitudes, Subjective Norms, and Perceived Behavioral Control

The third set of hypotheses stated that students who have experience of starting their own business will have more positive attitudes toward entrepreneurship (H3a), stronger subjective norms favoring entrepreneurship (H3b), and more perceived behavioral control (H3c). The results are in Table 4, and show that those with prior experience in entrepreneurship have more positive attitudes toward entrepreneurship and higher perceived behavioral control in support of hypotheses 3a and 3b. No differences were found in subjective norms, implying lack of support for hypothesis 3b. Results are reported in Table 4.

Table 4: Mean Differences in Attitudes, Subjective Norms, and Perceived Behavioral Control for Prior Experience in Entrepreneurship

	Prior Entrepreneurship Experience	No Prior Entrepreneurship Experience
Attitude	.77a	.21a
Subjective Norm	1.86	-.43
Perceived Behavioral Control	3.46b	3.02b

Note :“a” significant at $p < .01$; “b” significant at $p < .01$

Relationship between Attitudes, Subjective Norms, and Perceived Behavioral Control and Entrepreneurial Intentions

Hierarchical regression was used to test the relationships between attitudes and entrepreneurial intentions (H4a), subjective norms and entrepreneurial intentions (H4b), and perceived behavioral control and entrepreneurial intentions (H4c). All three variables were entered together, and all three are significantly related to Entrepreneurial Intention in support of Hypotheses 4a, b, and c. Results are reported in Table 5. Explained variance was .44 ($F=32.06$, $p<.001$).

Table 5. Results of Hierarchical Multiple Regression Analyses of Attitudes, Subjective Norms, and Perceived Behavioral Control as Predictors of Entrepreneurial Intention

Predictor Variable			β	t	Sig.	Adj. R ²			
	Attitude			.41	5.32	.00***			
	Subjective Norm		.27	3.72	.00***				
PBC				.19	2.51	.01*			
							.44		

* $p<.05$, ** $p<.01$, *** $p<.001$

Relationship between Ethnicity and Entrepreneurial Attitudes, Subjective Norms, and Perceived Behavioral Control

Ethnic composition of the sample indicated that 45.5% of the respondents were Asian, 23.6% were Caucasian, and 14.6% were Hispanic/Latino. Since these were the only groups with greater than five respondents per category, only those were used in the analysis. The results indicated no differences in subjective norms and perceived behavioral control among students from different ethnicities. However, for attitudes, we found Caucasians to have the most positive attitudes to entrepreneurship (mean = .48), followed by Asians (mean = .30) and Hispanics/Latinos (mean = -.09). Although the p value was .08, the lack of significance may be due to lack of power in detecting the relationships.

Discussion and Conclusion

Our findings imply that prior exposure to entrepreneurship education has a positive effect on students' attitudes toward a career in entrepreneurship and on perceived behavioral control or entrepreneurial self-efficacy. At the same time, individuals' prior exposure to entrepreneurship in practice, both direct and indirect through their family background in business, is significantly linked to their attitudes, norms, and perceived behavioral control regarding entrepreneurship. More specifically, having a self-employed father is significantly related to the student's positive attitudes, stronger norms, and greater self-efficacy with respect to entrepreneurship. This supports the findings of Krueger (1993) and suggests that students with self-employed fathers gain exposure to and tacit knowledge of entrepreneurship from an early age, which in turn affects their attitudes and perceptions of self-efficacy toward entrepreneurship. Prior experience of starting a business or trying to start a business is significantly linked with a positive attitude toward entrepreneurship and a greater degree of self-efficacy but not significantly related to subjective norms. This implies that students who have had direct experience of starting their own business have a more favorable attitude toward an entrepreneurial career and are more confident in their own ability to repeat that behavior. The finding regarding subjective norms suggests that students who are more confident in their ability based on practical experience are less influenced by perceived social norms about entrepreneurship.

Our results confirm the findings of previous studies in terms of the significant relationship between entrepreneurial intentions and its antecedents and thereby lend further support to the application of Fishbein and Ajzen's theory of planned behavior to predicting and understanding entrepreneurial behavior.

While the results for differences by ethnicity among students are inconclusive, the results suggest that Hispanics/Latinos have the least favorable attitude toward entrepreneurship, which is consistent with Fairlie's (2004) findings regarding the low propensity toward self-employment among the Hispanic population as a whole. The differences between the other ethnic groups and the heterogeneity within some of these groups, like the Asians, merit further research.

This study has several limitations that arise from having cross-sectional self-reported data. Self-reported data tend to artificially inflate relationships, and cross-sectionality of data makes it difficult to determine causality. We also have a small sample size of 123 students and an even smaller comparison group of students who have taken entrepreneurship classes. Some may argue that the use of single-item measures weakens this study. However for the questions we had, single-item measures were the most appropriate given the dichotomous nature of expected responses.

Despite these limitations, our study makes a contribution to the literature by shedding light on the antecedents of entrepreneurial behavior and the factors that influence attitudes, social norms, and perceived behavioral control. The implications for entrepreneurship education are encouraging, since the findings suggest that taking a course in entrepreneurship enhances students' self-efficacy and self-confidence about their ability to become entrepreneurs. Furthermore, the findings imply that encouraging students to try to secure internships in new ventures or start their own ventures can be extremely beneficial in shaping their attitudes, norms, and perceived behavioral control with respect to entrepreneurship. The findings also suggest that different ethnic groups have differing attitudes, cultural norms, and intentions towards entrepreneurship. This has implications for educators looking to gain a better understanding of their students' attitudes and perceptions of social norms and behavioral control, and provide appropriate training.

Future research should study these issues with a larger sample size. Of particular concern is the need to get larger sample sizes for each of the ethnic groups. Small numbers in our ethnic categories made it difficult to detect statistically significant relationships, and future research should seek to redress that. It is also important for future research to not stop at assessing entrepreneurial intention, but go on to examine whether intentions lead to entrepreneurial entry and entrepreneurial success.

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