Comparing Entrepreneurial Intentions among Students: The Role of Education and Ethnic Origin



Anuradha Basu
San Jose State University
San Jose, CA 95192-0070, USA
(Anu.basu@sjsu.edu)

DOI:10.26573/2010.4.3.2
Volume 4, *Number* 3
September 2010, *pp*. 163-176

Our knowledge about the relationship between entrepreneurship education and entrepreneurial intentions is limited. This paper explores and evaluates entrepreneurial intentions and their antecedents among students at a US university by building on Fishbein and Ajzen's (1975) model. In doing so, it contributes to our understanding of how education affects students' attitudes and self-efficacy toward entrepreneurship. It also examines the role of family background, experience and ethnic origin, in affecting attitudes, norms and intentions. Findings highlight the impact of education and ethnic origin on entrepreneurial intentions, and suggest that cultural and socio-economic factors remain important to a study of entrepreneurial intent.

Keywords: Entrepreneurship Education; Entrepreneurial Intentions; Ethnicity

1. Introduction

"Throughout our history, American entrepreneurs have been an effective force for innovation at home and around the world…. Entrepreneurs are the engine of job creation in America, generating millions of good jobs. To secure our Nation's future prosperity, we must ensure that our entrepreneurs have the tools they need to survive and thrive" (Obama, 2009). The need to inspire young people to generate creative ideas and translate them into sustainable businesses is crucial for economic progress. Today's students are tomorrow's potential entrepreneurs, which may explain why a growing number of US universities offer courses and programs in entrepreneurship. As Krueger, Carsrud and Reilly (2000) assert, entrepreneurial intentions are the best predictor of entrepreneurial behavior. Hence, the study of entrepreneurial intentions is critical to fostering entrepreneurship in practice. However, there is limited 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.

This study aims to investigate whether or not 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.

2. Literature Review and Hypotheses

The Theory of Planned Behavior, which is 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 & Isaksen 2006; Rotefoss & Kolveried 2005; Krueger, Reilly, & Carsrud 2000; Souitaris et al. 2007). According to Krueger 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 starting an entrepreneurial venture. Despite some conflicting evidence, empirical studies have generally supported the applicability of the Theory of Planned Behavior to entrepreneurship (Liñán and Chen 2009).

2.1. 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 women 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).*

2.2. Entrepreneurial Experience through Family and Direct Experience

Shapero (1975, 1982) argued that attitudes toward entrepreneurship depend on exogenous factors like demographics, traits, skills, culture, and social and financial support. Past experience of entrepreneurial activity would be included as one such factor. Entrepreneurial experience could be in the form of early exposure to a family business, which influences attitudes to 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 that direct experience in starting or attempting to start a new business would affect attitudes and perceptions about one's ability to take on an entrepreneurial career. This leads to our second and third hypotheses as follows:

H2: *Students whose parents are self-employed 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).*

2.3. Role of Ethnic Origin and Immigration

Recent empirical research for the United States 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 Caucasians. Wilson et al (2004) speculated that the latter might be related to differences in the norms and expectations of different communities. These ethnic and racial differences persist, despite the fact that the United States is characterized by low uncertainty avoidance (average index of 46 compared to world average of 64), implying "a society that has fewer rules and does not attempt to control all outcomes and results. It also has a greater level of tolerance for a variety of ideas, thoughts, and beliefs." (http://www.geert-hofstede.com/hofstede_united_states.shtml).

Empirical findings on the link between national culture and entrepreneurship are ambiguous. There is some evidence to indicate that broad cultural characteristics identified by Hofstede (2001), namely, high individualism, *low* uncertainty avoidance and high power-distance, are associated with higher national levels of entrepreneurship. However, these relationships are found to be inconsistent over time (Hayton, George and Zahra, 2002). A recent study of uncertainty avoidance and the rate of business ownership across 21 OECD countries between 1976 and 2004 indicates that *high* uncertainty avoidance is positively correlated with the prevalence of business ownership, although this relationship is not evident for 2004 (Wennekers, Thurik, van Stel, and Noorderhaven, 2006). Similarly, while Hofstede's research shows that India has a low uncertainty avoidance index (of 40, compared with the world average of 64; see http://www.geert-hofstede.com/hofstede_india.shtml), some Indian communities like Gujaratis and Marwaris, and castes like the Baniyas and Chettiars, have been more entrepreneurial than others, perhaps because of their long tradition of family in business. This suggests that cultural and ethnic differences have an impact on entrepreneurship, although it is difficult to posit a precise hypothesis about the impact of national culture on entrepreneurship.

At the same time, research indicates that immigrants generally show a greater propensity toward entrepreneurship, compared with the native born population. A recent US study finds that regions with the largest immigrant populations have the largest number of technology startups (Wadhwa, Rissing, Saxenian and Gereffi 2007). This could be attributed to "pull" factors like immigrants being inherently attracted to entrepreneurship because of their self-selecting characteristics, entrepreneurial spirit, and alertness in identifying new opportunities, or to "push" factors like discrimination in the labor market or the inability to find paid employment (Basu 2008). The reasons for the high rates of business formation by immigrants and the relationship between ethnicity/ immigration and attitudes, norms, and perceived behavioral control, require deeper investigation. We therefore propose the following exploratory hypotheses:

H4a: *Students belonging to different ethnic groups will have different attitudes, subjective norms, and perceived behavioral control with respect to entrepreneurship.*

H4b: *International students (of non-US origin) will have more positive attitudes, subjective norms, and perceived behavioral control with respect to entrepreneurship, and greater entrepreneurial intent, compared with students of US origin.*

2.4. 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; Kreuger et al. 2000; Douglas and Shepherd 2002; Souitaris et al. 2007). However, based on the previous hypotheses developed in this paper, and consistent with Shapero's (1975, 1982) assertions, we predict that prior entrepreneurship education, parents' self-employment, own business experience, and ethnic origin or perceptions of being an outsider (of non-US origin) will add to the predictive power of the entrepreneurial intentions model. In order to replicate and confirm this relationship, we propose our fifth hypothesis:

H5a: *Students with more positive attitudes, stronger subjective norms, and more perceived behavioral control with respect to entrepreneurship, will have stronger entrepreneurial intentions.*

H5b: *Prior entrepreneurship education, parents' self-employment, own business experience, and ethnic origin will add to the predictive power of the entrepreneurial intentions model.*

3. Method: Sample and Measures

Data were collected via paper and pencil surveys administered to students in 2007-08 in several business classes at San Jose State University (SJSU), which has a highly diverse body of students in terms of ethnicity and country of origin. The final sample consisted of 231 students, most of whom (94.2%) were full time students whose average age was 23.2 years. Of those surveyed, 27 students (11.9%) had taken a class in entrepreneurship in a prior semester. Most students (84.4%) were Business majors, 5.7% were Engineering students, and the remaining were majoring in Economics, Industrial Design, Kinesiology, Nutrition, and other miscellaneous disciplines.

Around two-thirds (64.4%) of the students were male. Most (73.1%) were employed, worked an average of 22 hours a week, and had an average work experience of 4 years. Approximately 46% of students had their own or family business, and 46 students (about 21%) had started or tried to start their own business in the past. Of the 224 students who responded to the question, 68 (about 30%) had fathers who were self-employed, and about 22.5% had mothers who were self-employed.

The majority of the students were Asians (45.1%), which is consistent with the composition of the overall population of students at SJSU. Asians were followed by Caucasians (25.8%), Latino/Hispanics (15.5%), Middle Eastern (5.2%), African Americans (3.8%), and Native Americans (0.8%). The remaining students were of mixed race.

In terms of country of origin, a majority identified themselves as from the United States (54.1%). The remaining students were from Vietnam (11.4%), India (4.8%), China (2.6%), Mexico (2.6%), Iran (2.2%), Philippines (2.2%), Japan (1.3%), Pakistan (1.3%), and Italy (1.3%). In addition, there were two students each from Djibouti, El Salvador, Indonesia, Korea, Poland, Romania, Sweden, and Venezuela.

One individual each of 12 other countries (Armenia, Canada, Colombia, England, Germany, Hong Kong, Malaysia, Peru, Portugal, Samoa, Singapore and Thailand) was also represented. In all, students originating from 31 countries were included in the sample. Of the total students, around two-thirds (153 or 66.2%) were born in the US, while the remaining immigrated to the US, at the average age of 3.5 years.

3.1. Measures

Prior Exposure to Entrepreneurship Education was measured by asking students whether they had previously taken a class in entrepreneurship.

Parents' Self-Employment was measured by combining the questions about whether their father owned or ran his own businesses (or was self-employed) or their mother owned/ran her own business (or was self-employed).

Entrepreneurial Experience was measured with a single question that asked students whether they had started or had tried to start their own business. For this and other single item measures, the response scale was a Yes/No, and it was felt that these were appropriate to ask with a single item measure.

Ethnic origin was measured by asking students to state their "country of origin (the country that you most identify with)". We used the responses to calculate a dichotomous variable to distinguish between those who stated that their country of origin was the US (response coded as 0) and those who identified with another country (response coded as 1). The responses were highly correlated with the immigrant status of the students, in terms of whether or not they were born in the US.

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 employment items from the mean of the self-employment items to get an overall index of attitudes toward entrepreneurship, with a higher number indicating a more positive attitude toward entrepreneurship.

Subjective Norms was 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 motivations 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 (e.g. Souitaris, et al. 2007), the belief items

were recorded 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.

4. 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	S.D.	1	2	3	4	5	6	7
1	Previous Entrep. Edu:	.12	.32							
2	Parent self-employed	.27	.38	.020						
3	Entrep. Experience	.20	.40	.128	.222**					
4	Ethnic origin	.46	.50	-.144	.009	.104				
5	Attitudes to Entrep.	.46	.96	.227**	.182*	.290**	.030			
6	Subjective Norms (Entrep)	3.03	.98	.021	.208**	.224**	.117	.342**		
7	Perceived Behav. Control	3.14	.75	.131*	.287***	.288*	.038	.384***	.306**	
8	Entrep. Intention	3.16	.95	.189**	.240**	.297***	.246***	.513***	.473**	.396***

4.1. Relationship between Exposure to Entrepreneurship Education and Attitudes, Subjective Norms and Perceived Behavioral Control (PBC)

Our first set of hypotheses stated that students who have had prior exposure to entrepreneurship education would have more positive attitudes toward entrepreneurship (H1a), stronger subjective norms favoring entrepreneurship (H1b), and more perceived behavioral control (H1c). In our sample, we had 27 students who had prior exposure to entrepreneurship education and 200 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.

Table 2 *Mean Differences in Attitudes, Subjective Norms, and PBC for Prior Entrepreneurship Education*

	Prior Entrepreneurship Education	No Prior Entrepreneurship Education
Attitudes	1.04**	.38**
Subjective Norms	3.09	3.02
Perceived Behavioral Control	3.41*	3.11*

*Note:** significant at $p < .05$; ** significant at $p < .01$

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 and had not had prior exposure to entrepreneurship education. Hypothesis 1c was supported, implying that taking entrepreneurship classes in previous semesters is significantly associated with higher perceived controllability over behavior with regard to entrepreneurship.

4.2. Relationship between Having Self-Employed Parents and Entrepreneurial Attitudes, Subjective Norms and PBC

Our second set of hypotheses stated that students with self employed fathers or mothers 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 38 students whose parents (father and mother) ran their own business or were self-employed, 47 had one parent engaged in running their own business, and 140 students whose parents were not self-employed. We conducted an F test of differences, 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 parents are self-employed.

Table 3. *Mean Differences in Attitudes, Subjective Norms, and PBC for Parents' Employment Status*

	Both Parents Self-Employed	One Parent Self-employed	Parents not Self-Employed
Attitudes	.72*	.69*	.32*
Subjective Norms	3.40**	3.20**	2.89**
Perceived Behavioral Control	3.45***	3.44***	2.96***

*Note:** significant at $p < .05$; ** significant at $p < .01$; *** significant at $p < .001$

4.3. Relationship between Previous Experience of Starting a Business and Entrepreneurial Attitudes, Subjective Norms and PBC

The third set of hypotheses stated that students who have experience of starting their own business would have more positive attitudes toward entrepreneurship (H3a),

stronger subjective norms favoring entrepreneurship (H3b) and more perceived behavioral control (H3c).

Table 4. *Mean Differences in Attitudes, Subjective Norms, and PBC for Previous Experience in Entrepreneurship*

	Entrepreneurship Experience	No Entrepreneurship Experience
Attitudes	1.00***	.32***
Subjective Norms	3.47**	2.92**
Perceived Behavioral Control	3.57***	3.03***

Note: ** significant at $p < .01$; *** significant at $p < .001$

Results in Table 4 show that those who had prior experience with entrepreneurship had more positive attitudes toward entrepreneurship, higher subjective norms, and higher perceived behavioral control, in support of Hypotheses 3a, 3b, and 3c.

4.4. Relationship between Ethnicity and Entrepreneurial Attitudes, Subjective Norms, PBC, and Entrepreneurial Intentions

Comparisons between Asians, Caucasians, and Hispanics (the three large groups in the sample) indicated no significant differences in subjective norms, and perceived behavioral control among students from different ethnicities (H4a). However, for attitudes, we found Asians to have the most positive attitudes to entrepreneurship (mean =.46), followed by Caucasians (mean = .43) and Hispanics/Latinos (mean=.20). The lack of significance may be due to lack of power in detecting the relationships. On comparing students of US origin with those of non-US origin (H4b), we found that those of non-US origin have higher subjective norms favoring entrepreneurship (p=.08) and significantly greater entrepreneurial intentions than US students. The results are reported in Table 5.

Table 5. *Mean Differences in Attitudes, Subjective Norms, PBC, and Entrepreneurial Intentions by Ethnic Origin*

	US origin	Non-US origin
Attitudes	.43	.48
Subjective Norms	2.93^	3.16^
Perceived Behavioral Control	3.11	3.17
Entrepreneurial Intention	2.95***	3.42***

Note: ^ significant at $p < .10$; *** significant at $p < .001$

Similar results are obtained on comparing students born in the US with those who immigrated to the US (Table 6). Immigrant students have more positive attitudes and norms regarding entrepreneurship, and significantly greater entrepreneurial intentions than US-born students.

Table 6. *Mean Differences in Attitudes, Subjective Norms, PBC, and Entrepreneurial Intentions by Immigrant status*

	US born	Non-US born immigrant
Attitudes	.42	.57
Subjective Norms	2.96^	3.20^
Perceived Behavioral Control	3.16	3.05
Entrepreneurial Intention	3.05*	3.38*

Note: ^ significant at $p < .10$; * significant at $p < .05$

4.5. Relationship between Attitudes, Subjective Norms, and PBC, and Entrepreneurial Intentions

Hierarchical regression was used to test the relationships between attitudes and entrepreneurial intentions, subjective norms and entrepreneurial intentions, and perceived behavioral control and entrepreneurial intentions. All three variables were entered together, and all three are significantly related to Entrepreneurial Intention in support of Hypothesis 5a. Results are reported in Table 7. Explained variance was 0.364 ($F=36.8$, $p<001$).

Table 7 *Results of Hierarchical Multiple Regression Analyses of Attitudes, Subjective Norms and PBC, and the Addition of Demographic and Situational Variables, as Predictors of Entrepreneurial Intention (DV)*

	Step 1		Step 2	
	Coeff.	T	Coeff.	T
Attitude	0.359	5.52***	0.328	5.12***
Subjective Norm	0.266	4.16***	0.228	3.68***
Perceived Behavioral control	0.172	2.65**	0.140	2.19**
Prior Entrep. Edu			0.141	2.43**
Parents Self-employed			0.059	.997
Entrep.Experience			0.017	.29
Ethnic Origin			0.254	4.46***
Adj. R^2	0.364		0.424	
Change in Adj. R^2			0.06	
F	36.832***		20.79***	

Note: Regression coefficients are standardized.
** significant at $p < .01$; *** significant at $p < .001$

To test hypothesis H5b, we included the following variables in the above regression in step 2: prior entrepreneurship education, parents' self-employment, own business experience, and ethnic origin. The explained variance improved to 0.424 ($F=20.79$), which implies that these socio-economic variables enhanced the predictive power of our model of entrepreneurial intentions. The results lend support to H5b.

5. Discussion and Conclusions

Our findings imply that exposure to entrepreneurship education has a positive effect on students' attitudes toward a career in entrepreneurship. The finding that prior entrepreneurship education has a positive effect on perceived behavioral control or entrepreneurial self-efficacy suggests that there is a time lag in the relationship between education and self-efficacy. At the same time, individuals' prior exposure to entrepreneurship in practice, both direct and indirect through their parents being in business, is significantly linked to their attitudes, norms and perceived behavioral control regarding entrepreneurship. More specifically, having a self-employed parent 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 parents gain exposure to and tacit knowledge of entrepreneurship from an early age, which in turn affects their attitudes, norms, 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, more positive subjective norms favoring entrepreneurship, and a greater degree of self-efficacy. 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.

While the results for differences in attitudes, norms, and perceived behavioral control between Asian, Caucasian, and Hispanic 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. A comparison by country of origin, between students of US and non-US origin, reveals that non-US origin students have more positive attitudes and subjective norms, as well as significantly greater entrepreneurial intent than US students. The reasons for these differences merit further investigation. Nevertheless, these results are consistent with prior research on differences in entrepreneurial attitudes and motives among students by ethnicity (Wilson et al 2004) and, more generally, conforms with research on ethnic minority entrepreneurs, which suggests that they frequently choose entrepreneurship as a career, either because they prefer to be independent and leverage their outsider status to identify opportunities and secure resources, or because they face prejudice or glass ceilings in the labor market (Basu 2008). These results also suggest that immigrants play a crucial role in stimulating entrepreneurship and support the view that the US needs immigrant talent to help create new enterprises and employment at home.

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. At the same time, prior entrepreneurship education, entrepreneurial experience, parents' self-employment, and ethnic origin enhance the predictive power of the model, which suggests that cultural, demographic and socio-economic factors affect intentions as argued by Shapero (1982).

This study has several limitations that arise from having cross sectional self-reported data. Self reported data tend to artificially inflate relationships, and cross-sectional data make it difficult to determine causality. We also have a relatively small sample size of 231 students and an even smaller comparison group of students who have previously taken entrepreneurship classes. Some may argue that the use of single item measures weakens this study. However for the questions we had, single items 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 significantly enhances students' attitudes, self-efficacy, and self-confidence about their ability to become entrepreneurs. Furthermore, the findings imply that encouraging students to secure internships in new ventures or to try starting 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, which is consistent with the findings of Linan and Chen (2009). Moreover, students of non-US origin have greater entrepreneurial intentions compared with those of US origin. This has implications for educators, who wish 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, with more students from the entrepreneurship classes. 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 between different ethnicities except when we created a dichotomous variable to distinguish between students of US and non-US origin. Future research should seek to develop the analysis further in this respect by collecting data in different countries and doing a comparative analysis to understand why students from different countries differ in their attitudes, perceptions, and intentions regarding entrepreneurship, and whether differences in inclination toward entrepreneurial careers stem from ethnicity, national culture (including characteristics like individualism and uncertainty avoidance), or the immigrant status of students. It is also important for future research to go beyond assessing entrepreneurial intention, to examine whether they lead to entrepreneurial entry and entrepreneurial success.

6. References

1. Ajzen, I. (1991) Theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, pp.179-211
2. Bandura, A. (1986) *The Social Foundations of Thought and Action*. Englewood Cliffs: Prentice-Hall.
3. Basu, A. (2008) Ethnic Minority Entrepreneurship in Casson, M., Yeung, B., Basu, A., and Wadeson, N. (eds.) *The Oxford Handbook of Entrepreneurship*. Oxford: Oxford University Press, pp. 580-600.

4. Douglas, E.J. & Shepherd, D.A. (2002) Self-Employment as a career choice: attitudes, entrepreneurial intentions, and utility maximization. *Entrepreneurship: Theory & Practice*, 26 (3), pp. 81-90
5. Drennan, J. Kennedy, J., & Renfrow, P. (2005) Impact of childhood experiences on the development of entrepreneurial intentions. *International Journal of Entrepreneurship & Innovation*, 6 (4), pp. 231-238.
6. Fairlie, R.W. (2004) Recent trends in ethnic and racial business ownership *Small Business Economics*, 23(3), pp. 203-218.
7. Fishbein, M. and Ajzen, I. (1975) Belief, attitude, intention and behavior: An introduction to theory and research. Addison-Wesley, Reading, MA.
8. Hayton, J.C., George, G., and Zahra, S. (2002) National Culture and Entrepreneurship: A Review of Behavioral Research. *Entrepreneurship: Theory and Practice*, 26 (4), pp. 33-52.
9. Hofstede, G. (2001) *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations*, Sage: Thousand Oaks, CA.
10. Luthje C. and Franke N. (2003) The 'making' of an entrepreneur: testing a model of entrepreneur: testing a model of entrepreneurial intent among engineering students at MIT. *R & D Management*, 33 (2), pp. 135-147.
11. Kolvereid, L. (1996) Organizational employment versus self employment: reasons for career choice intentions. Entrepreneurship Theory and Practice 20 (3), pp. 23–31.
12. Kolvereid, L., and Isaksen, E. (2006). New business start-up and subsequent entry into self-employment. *Journal of Business Venturing*, 21, pp. 866-885.
13. Krueger, N. (1993) The Impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability. *Entrepreneurship: Theory & Practice*, 18 (1), pp. 5-21.
14. Krueger, N.F., Reilly, M.D., and Carsrud, A. L. (2000) Competing models of entrepreneurial intentions. *Journal of Business Venturing* 15, pp. 411-432.
15. Linan, F. and Chen, Y. (2009) Development and Cross-Cultural Application of a Specific Instrument to Measure Entrepreneurial Intentions. *Entrepreneurship: Theory & Practice*, 33 (3), pp. 593-617.
16. Noel, T. (1998) Effects of Entrepreneurial Education on intent to open a business: an exploratory study. *Journal of Entrepreneurship Education*, 5, pp. 3-13.
17. Obama, B. (2009) A Proclamation during Global Entrepreneurship Week, Nov. 16-22, 2009.http://www.entrepreneurship.org/PolicyForum/Blog/post/2009/11/20/President-Obama-Proclaims-Support-During-Global-Entrepreneurship-Week.aspx
18. Rotefoss, B. and Kolvereid, L. (2005). Aspiring, nascent and fledgling entrepreneurs: an investigation of the business start-up process. *Entrepreneurship & Regional Development*, 17, pp.109-127.
19. Shapero, A. (1975) The displaced, uncomfortable entrepreneur', *Psychology Today*, 9, Nov, pp. 83-88.
20. Shapero, A. (1982) Some Social Dimensions of Entrepreneurship. In C. Kent, D. Sexton & K. Vesper (Eds.), *The Encyclopedia of Entrepreneurship*, Englewood Cliffs, NJ: Prentice-Hall.
21. Souitaris V, Zerbinati S, and Al-Laham A. (2007) Do entrepreneurship programmes raise entrepreneurial intention of science and engineering students?

The effect of learning, inspiration and resources. *Journal of Business Venturing*, 22 (4), pp. 566-591.

22. Wadhwa, V., Rissing, B. Saxenian, A. and Gereffi, G. (2007) 'Education, Entrepreneurship and Immigration: America's New Immigrant Entrepreneurs', Working Paper, Duke University.
23. Wennekers, S., Thurik, R., van Stel, A. and Noorderhaven, N. (2006) 'Uncertainty avoidance and the rate of business ownership across 21 OECD countries, 1976-2004'. Report published under SCALES-initiative, Netherlands Ministry of Economic Affairs.
24. Wilson, F., Marlino, D., and Kickul, J. (2004) Our entrepreneurial future: Examining the diverse attitudes and motivations of teens across gender and ethnic identity. *Journal of Developmental Entrepreneurship*, 9 (3), pp. 177-197.
25. Wilson, F., Kickul, J., and Marlino, D. (2007) Gender, entrepreneurial self-efficacy, and entrepreneurial career intentions: implications for entrepreneurship education. *Entrepreneurship: Theory & Practice*, 31 (3), pp. 387-406