An Examination of the Entrepreneurial Attitudes of U.S. versus Chinese Students

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ABSTRACT
Undergraduate students (N=434) at multiple U.S. and Chinese universities completed the Entrepreneurial Attitudes Orientation (EAO) survey. Results indicated that scores on all four of the entrepreneurial attitudes were found to vary significantly as a function of students’ country of origin; however, contrary to anticipated the strongest attitudes were not all found among U.S. students. In addition, U.S. students were found to have greater previous exposure to entrepreneurial activity, specifically they were more likely to have both worked for a small business in the past and to have a small family business; very few students from either country indicated having owned their own small business. Interaction effects were also found for two entrepreneurial attitudes such that U.S students who had been exposed to a family owned business had exceedingly strong entrepreneurial attitudes. Consideration of the factors associated with attitudes, as well as attitudes themselves, is argued to be of importance as they are frequently associated with intentions to start a new business venture.

Keywords: Entrepreneurship Education, Entrepreneurship, Demographics

JEL Code: L26, A20, A22, O15
Introduction

The 2006 Results Report from the Global Entrepreneurship Monitor demonstrates the importance of entrepreneurship in the global arena. Entrepreneurs throughout the world are pursuing new ventures out of both opportunity and necessity. In the U.S., entrepreneurship has long been considered a powerful source of economic growth and innovation (Reynolds & White, 1997). More recently, China has begun moving away from its reliance on large state-controlled businesses to a greater emphasis on small and medium-sized enterprises. This change has led to rapid growth in the Chinese economy over the past decade, and as suggested by Li, Zhang, and Matlay (2003), much of this success can be directly linked to the development of a more entrepreneurial spirit in the country. This success has not gone unnoticed by the Chinese government as it has developed more policies that promote small business creation and a greater reliance on self-employment.

Literature Review

Many of the necessary skills for business creation can be developed in entrepreneurship education and training courses (Mitra & Matlay, 2004). Zimmer and Scarborough (1998) believe that entrepreneurship is not a special genetic trait but a “learned skill” (p. 7). Research has shown that entrepreneurship education can improve individuals’ perceptions towards both the feasibility of their business ideas and their ability to start a new venture (Gatewood, Shaver, Powers & Gartner, 2002). In addition, studies have shown that positive feedback can raise an individual’s entrepreneurial expectations (Gatewood et al., 2002) and education and skill differentials help explain why certain individuals choose to pursue entrepreneurial activities and are more successful than others (Carter, Gartner, Shaver & Gatewood, 2003). Florin, Karri and Rossiter (2007) suggest that an important role of business schools is to foster and develop entrepreneurial drive in all students. Reflecting on the belief
that entrepreneurial skills can be learned and refined, the number of entrepreneurship programs at U.S.
colleges and universities is steadily on the rise (Kuratko, 2005).

One area these institutions need to focus on is helping students develop stronger
entrepreneurial attitudes. According to Florin, Karri, and Rossiter (2007) attitudes are more likely to be
influenced by educational programs than personality traits since they are learned and/or experience
based. Attitudes tend to change across time and situations through an interactive process with the
environment, and can offer a prediction about a person’s future actions (Carlson, 1985).

**Chinese Entrepreneurship Education**

Much like in the U.S., entrepreneurship education is gaining importance in Chinese colleges and
universities. While it is still a relatively new concept in China, entrepreneurship programs have been well
received by Chinese students (Li, Zhang & Matlay, 2003). In fact, officials within the Chinese higher
education system have suggested that entrepreneurship education will play a highly critical role in the
future of its students. Additionally, an important recommendation from the Global Entrepreneurship
Monitor’s 2006 Results Report was for middle-income countries like China to encourage a strong
commitment to entrepreneurship education in order to develop “fundamental aspects of the
entrepreneurial culture” (p. 42). Consistent with this, more Chinese universities are developing
educational programs on venture creation, product development, technology transfer, and business
plan development. The greater inclusion of entrepreneurship into the university curriculum, combined
with the recent success of small business in the Chinese economy, has begun to legitimize self-
employment as a viable occupation alternative in China.

In a study of undergraduate business students in China, Moy, Luk, and Wright (2003) found that
males are more likely to consider starting a new business venture than females, but both groups
reported a high level of interest in entrepreneurial activities. The attractions of self-employment include
intrinsic rewards, monetary potential, greater autonomy and independence, and the opportunity to be innovative. Possible barriers indicated by these students were a lack of experience and entrepreneurial knowledge, as well as strong competition, risk aversion, and lack of adequate financial resources.

In another sample of Chinese business students, Moy and Lee (2002) examined the perceptions of undergraduates toward employment with small and medium-sized businesses versus multinational corporations. The students were asked to rank various attributes to determine their relative importance in making a career decision. The results indicated that business students often place a stronger emphasis on extrinsic rewards when assessing employment opportunities. They perceived that multinational corporations were more favorable in the attributes of pay, fringe benefits, working conditions, long-term career prospects and marketability, while small and medium-sized businesses were more favorable in managerial relationships and responsibility given.

The Attitude-Behavior Link

The theory of planned behavior argues that intention is an antecedent to behavior (Azjen, 1991), and prior studies have shown that intentions play a crucial role in understanding the entrepreneurial process (Shapero & Sokol 1982; Krueger, 1993; Krueger & Brazeal, 1994). Shapero and Sokol (1982) argue that attitudes are linked with entrepreneurial intentions, especially in perceived venture feasibility and desirability. They suggest that attitudes are partly derived from prior exposure to entrepreneurial activities, including both breadth and positiveness of past activities. Later research also found that positive entrepreneurial exposure can impact intentions (Krueger, 1993), and that entrepreneurial characteristics can be learned and often vary according to personal characteristics and experiences (Krueger & Brazeal, 1994).

Prior research on entrepreneurship has examined various attitude constructs, and has linked high achievement (McClelland, 1961), internal locus of control (Gasse, 1985; Hansemark, 2003), and
self-efficacy (Krueger & Brazeal, 1994; Frazier & Niehm, 2006) to entrepreneurship and business creation. Research also suggests that entrepreneurs have a high level of self-esteem and confidence (Robinson, 1987) and a more positive attitude toward risk and independence (Douglas & Shepard, 2002).

**Hypotheses**

While the entrepreneurial culture in China is rapidly improving, the established entrepreneurial environment in the U.S. currently offers more business opportunities. The goal in high-income countries like the U.S. is to continually encourage competition, innovation, and entrepreneurial growth. In contrast, middle-income countries like China are trying to develop a foundation that provides the fundamental aspects that better promote the development of entrepreneurial ventures. Some of these aspects include stronger property rights, greater access to capital, and more exposure to educational programs and entrepreneurial opportunities (Moy, Luk & Wright, 2003). As noted in the Global Entrepreneurship Monitor’s 2005 Executive Report, these environmental differences allow entrepreneurs in high-income countries to focus more on opportunities while entrepreneurs from middle-income countries tend to be more necessity-driven.

The differences in these various countries can impact entrepreneurial policies at both the macro and micro level, and are bound to affect the attitudes and perceptions of nascent and established entrepreneurs. We believe this disparity will also trickle down and impact the entrepreneurial attitudes of U.S. and Chinese students since individuals often consider risk, independence and opportunities when evaluating career options (Douglas & Shepard, 2002). Accordingly, we offer the following hypotheses:
Hypothesis 1: Based on these distinctions, it is hypothesized that college students in the U.S. will possess stronger entrepreneurial attitudes than their peers in China.

Hypothesis 2: It is expected that Chinese students will have significantly less previous entrepreneurial exposure than do U.S. students.

Past studies have also established a link between entrepreneurial attitudes and past business exposure. This may include working for a small business, or more direct experience such as starting a new business or working within a family business. Research has shown that both work experience with a small business (Peterman & Kennedy, 2003) and a family business (Reitan, 1997) can have a positive impact on and individual’s perceptions regarding new venture feasibility and desirability. In addition, Gatewood and Shaver (1991) found that self-confidence and motivation can be affected by experience and past business results. This may indicate that firsthand experience provides a more realistic perspective of the challenges in starting and maintaining a successful business venture.

Since attitudes are partly derived from exposure to various entrepreneurial activities and tend to change through an interactive process with the environment, prior work experience or other forms of exposure may play a significant role in shaping entrepreneurial attitudes. As such, we hypothesize:

Hypothesis 3: Past entrepreneurial exposure will interact with country of origin impacting entrepreneurial attitudes.

Method

Participants

Participants were students enrolled at several U.S. and Chinese universities in courses related to business education. A total of 434 useable surveys were returned (216 U.S. students and 218 Chinese students). Approximately half of the participants were male (51 percent of both samples). Participants 67 American Journal of Entrepreneurship
ranged in age from 18 to 48 years old, with an average age of 23.8 years for U.S. students and 21.43 years for the Chinese students. Eighty-eight percent of U.S. students reported being in their fourth year of undergraduate study, whereas 99 percent of Chinese students were in their second year of undergraduate study.

Procedure

Beginning with the fall 2006 academic year, faculty teaching undergraduate courses received an e-mail letter from the research team requesting their voluntary participation. The stated purpose of the study was to compare differences in entrepreneurial attitudes that might exist across countries. Faculty was asked to request that their students complete an anonymous online survey during the first few weeks of the semester. Survey completion was entirely voluntary and no identifying information was recorded. A reminder email was sent out after the first week had passed to encourage participation. Data collection continued until the end of the spring 2007 academic term.

Measures

We measured entrepreneurial attitudes with the Entrepreneurial Attitudes Orientation (EAO) survey instrument (Robinson, Stimpson, Huefner & Hunt, 1991). The EAO is theoretically well grounded and provides a composite score based on four attitude subscales: 1) Achievement in business refers to concrete results associated with the start-up of a business (Cronbach’s alpha = .84), 2) Perceived personal control of business outcomes concerns one’s perception of control or influence over his or her business (Cronbach’s alpha = .70), 3) Innovation in business relates to acting on business activities in novel ways (Cronbach’s alpha = .90), and 4) Perceived self-esteem in business which relates to self-confidence with regard to one’s business affairs (Cronbach’s alpha = .73). Utilizing a sample of 54 entrepreneurs and 57 non-entrepreneurs, Robinson et al. (1991) found that the four subscales were able to accurately predict entrepreneur classification in 77 percent of cases.
In addition to completing the EAO, participants provided demographic information including gender, ethnicity, and previous exposure to entrepreneurship. In order to measure exposure to entrepreneurial initiatives, three questions were asked related to this: 1) Have you ever owned your own small business? 2) Have you ever worked for a small business? 3) Has your family ever owned a small business?

Analyses

The primary interest of the current study was to examine the impact that national origin has on entrepreneurial attitudes, as such t-tests were performed to compare entrepreneurial attitudes of U.S. and Chinese students. T-tests were also performed to examine potential differences in past exposure to entrepreneurial activities. Following this, a two-way analysis of variance was conducted to test the interactive effects of country of origin and previous exposure to entrepreneurship on each of the entrepreneurial attitudes measured by the EAO.

Results

The means and standard deviations for entrepreneurial achievement, entrepreneurial innovation, entrepreneurial personal control and entrepreneurial self-esteem are presented in Table 1.

<table>
<thead>
<tr>
<th>Entrepreneurial Attitude</th>
<th>Country</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achievement Scale Score</td>
<td>U.S. Students</td>
<td>7.6987</td>
<td>.95336</td>
</tr>
<tr>
<td></td>
<td>Chinese Students</td>
<td>7.3926</td>
<td>.97733</td>
</tr>
<tr>
<td>Innovation Scale Score</td>
<td>U.S. Students</td>
<td>6.9001</td>
<td>.88891</td>
</tr>
<tr>
<td></td>
<td>Chinese Students</td>
<td>6.5743</td>
<td>.83013</td>
</tr>
<tr>
<td>Personal Control Scale Score</td>
<td>U.S. Students</td>
<td>6.5945</td>
<td>.89097</td>
</tr>
<tr>
<td></td>
<td>Chinese Students</td>
<td>6.8559</td>
<td>.98985</td>
</tr>
<tr>
<td>Self Esteem Scale Score</td>
<td>U.S. Students</td>
<td>5.7573</td>
<td>.95516</td>
</tr>
<tr>
<td></td>
<td>Chinese Students</td>
<td>6.2703</td>
<td>.81480</td>
</tr>
</tbody>
</table>
Scores on all four of the entrepreneurial attitudes were found to vary significantly as a function of students’ country of origin; however, the strongest attitudes were not all found among U.S. students. U.S. students were found to have stronger attitudes than Chinese students for entrepreneurial achievement (t (432) = 3.30, p <.05) and entrepreneurial innovation (t (432) = 3.95, p <.05). Chinese students were found to have stronger attitudes related to entrepreneurial personal control (t (432) = -2.89, p <.05) and for entrepreneurial self-esteem (t (432) = -6.02, p <.05).

In order to examine potential differences in previous entrepreneurial exposure, which might be impacting the differing attitudinal strengths found here, t-tests were conducted to compare the three exposure variables across the two groups of students. U.S. students were found to have been significantly more likely to have both worked for a small business in the past (t (432) = -18.04, p <.05; 80 percent of U.S. students versus only 14% of Chinese students) and to have a small family business (t (432) = -2.94, p <.05; 47 percent of U.S. students versus 33 percent of Chinese students); very few students from either country indicated having owned their own small business (t (432) = -1.20, p >.05; 8 percent of U.S. students versus 5 percent of Chinese students).

For entrepreneurial achievement, the results of the ANOVA indicated a significant interaction was found between country and the presence of a family owned business (F (1) = 14.22, p <.05), but not between country and having worked for a small business (F (1) = .094, p >.05). The same was true for entrepreneurial innovation, with a significant interaction found between country and the presence of a family owned business (F (1) = 8.98, p <.05), but not between country and having worked for a small business (F (1) = .22, p >.05). Figures 1 – 2 depict the significant interactions found.
Figure 1. Interaction between nationality and previous exposure via a family owned SME on Entrepreneurial Achievement score.

![Graph showing interaction between nationality and previous exposure via a family owned SME on Entrepreneurial Achievement score.]

Figure 2. Interaction between nationality and previous exposure via a family owned SME on Entrepreneurial Innovation score.

![Graph showing interaction between nationality and previous exposure via a family owned SME on Entrepreneurial Innovation score.]

No significant interaction effects were found for entrepreneurial personal control and entrepreneurial self-esteem, not related to the presence of a family owned business ($F(1) = 3.11, p > .05$)
and $F(1) = .629, p > .05$ respectively), nor for having worked for a small business ($F(1) = 1.47, p > .05$ and $F(1) = 3.38, p > .05$ respectively).

A summary of the findings as they relate to the original hypotheses is presented in Table 2.

**Table 2. Summary of Findings by Hypothesis**

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Findings</th>
</tr>
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</table>
| Hypothesis 1: Based on these distinctions, it is hypothesized that college students in the U.S. will possess stronger entrepreneurial attitudes than their peers in China. | - U.S. students were found to have stronger attitudes than Chinese students for entrepreneurial achievement  
- U.S. students were found to have stronger attitudes than Chinese students for entrepreneurial innovation  
- Chinese students were found to have stronger attitudes related to entrepreneurial personal control  
- Chinese students were found to have stronger attitudes related to entrepreneurial self-esteem |
| Hypothesis 2: It is expected that Chinese students will have significantly less previous entrepreneurial exposure than do U.S. students. | - U.S. students were found to have been significantly more likely to have worked for a small business in the past  
- U.S. students were found to have been significantly more likely to have a small family business  
- Very few students from either country indicated having owned their own small business |
| Hypothesis 3: Past entrepreneurial exposure will interact with country of origin impacting entrepreneurial attitudes. | - For entrepreneurial achievement, a significant interaction was found between country and the presence of a family owned business, but not between country and having worked for a small business  
- For entrepreneurial innovation, a significant interaction was found between country and the presence of a family owned business, but not between country and having worked for a small business  
- No significant interaction effects were found for entrepreneurial personal control or entrepreneurial self-esteem |

**Discussion**

As was expected, differences did exist in the strength of entrepreneurial attitudes of students in the U.S. and China; however, the differences were not all in the direction hypothesized. Whereas students from the U.S. did have stronger entrepreneurial achievement and entrepreneurial innovation attitudes, Chinese students displayed stronger entrepreneurial control and entrepreneurial self-esteem. Although the reasons for this are not evident from the current study, a few areas may be examined.
One factor which may contribute to distinctions in entrepreneurial attitudes is the amount of previous exposure to entrepreneurial attitudes. In the current sample, U.S. students were significantly more likely to have both worked for a small business in the past and to have a small family business. Because attitudes are frequently influenced by previous life experiences, it seems reasonable to assume that this past exposure has in some way impacted the attitudes of students from the U.S. Indeed, it appears to influence both attitudes toward entrepreneurial achievement and entrepreneurial innovation. While not examined directly in this study, it does not seem far-fetched to theorize that attitudes related to obtaining concrete results associated with the start-up of a business (achievement) and feeling capable of acting on business activities in novel ways (innovation) would stem from having seen and learned from others working in a small business enterprise. Prior research has shown that past work experience in a small business or family business setting can improve an individual’s business skills and desirability to start a new venture (Gatewood & Shaver, 1991; Reitan, 1997; Peterman & Kennedy, 2003). Consistent with this, it would be expected that in the future, as China continues to place a greater emphasis on small and medium-sized enterprises, future generations will be exposed to more family businesses, and that this experience will help with the maturation of the Chinese entrepreneurial environment.

As an extension of the finding that U.S. students had greater exposure to entrepreneurial activities, our results indicated that exposure via a family owned small business interacted with students’ country of origin. The fact that students from the U.S. with exposure from a family owned business had the strongest levels of both attitudes is not surprising, whereas for those students from the U.S. who did not have exposure via a family owned business, their attitudes highly similar in strength to their Chinese counterparts. Previous research suggests that as the degree of exposure increases from working with a small business, to working within a family business, to owning your own business,
entrepreneurial attitudes will be impacted as one’s level of direct involvement increases (Harris and Gibson, 2007).

One way to possibly offset a lack of experience is to expose Chinese students to entrepreneurship courses. Research has shown that students who participate in entrepreneurship courses have a greater tendency to start a business at some point in their professional career (Galloway & Brown, 2002; Ibrahim & Soufani, 2002). Officials at Chinese universities seem to be aware of this need and have placed a greater emphasis on entrepreneurship education within the overall curriculum (Li, Zhang & Matlay, 2003). This trend is supported by the fact that more individuals in the 25-34 years age bracket in middle-income countries, like China, seem interested in new venture creation (e.g. early stage startup) and that individuals with post-secondary and graduate school experience are more likely to engage in entrepreneurial activities (Minniti, Bygrave & Autio, 2005). This makes it even more critical for colleges and universities to offer entrepreneurship education programs since many young adults interested in business ownership may actually attend these institutions.

However, past experience with entrepreneurship via exposure does not account for the fact that Chinese students possessed stronger attitudes related to entrepreneurial personal control and entrepreneurial self-esteem. An examination of the findings from the Global Entrepreneurship Monitor’s 2005 Executive Report may provide insight into this distinction in entrepreneurial attitudes, positing that the driving forces behind the entrepreneurial process are coming into play. In middle-income countries, entrepreneurs are more necessity-driven, while opportunity-driven entrepreneurs are more prevalent in high-income countries. This offers insight into the willingness of nascent entrepreneurs to actually start a business venture. As pointed out in the report, this indicates that more people in middle-income countries are driven to start a business under adverse conditions, and are less sensitive to the chance of failure. Contrarily, individuals in high-income countries are less likely to engage in entrepreneurial
activities in unfavorable conditions, preferring to wait for the right opportunity. Douglas and Shepherd (2002) argue that risk, independence and income are critical factors when evaluating the viability of self-employment. Since prospective entrepreneurs in middle-income countries are less constrained by the possibility of failure, perhaps they must be more confident in their abilities and possess higher levels of entrepreneurial self-esteem in order to bounce back from any setbacks.

An analog of this relates to the “newness” of entrepreneurship as a viable career option in China. Traditionally, China has placed a great emphasis on large, state-owned firms as a primary employment option. However, as previously noted, this is changing as small and mid-size enterprises continue to play an important role in the nation’s explosive growth. Research has shown that Chinese students are interested in entrepreneurship because it can provide opportunities for greater independence and innovation (Moy, Luk & Wright, 2003). This interest will hopefully become a reality as the Chinese government continues to emphasize a socio-economic strategy that encourages entrepreneurial activities and small business development in both urban and rural areas (Li, Zhang & Matlay, 2003).

Shaver, Gatewood, and Garnter (1991) suggest that the motivation to start a new business venture is frequently personal, and personal motives are related to independence to the extent that an individual derives satisfaction from the ability to make self-centered decisions. As such, in China, where starting a new business may be a response to necessity (versus the U.S. where such decisions are much more likely to be business-oriented and related to opportunity), and more personal in nature, the attitudes of both entrepreneurial personal-control and self-esteem may be strengthened by the changing economic environment. Our findings indicate that Chinese students have entrepreneur-like attitudes and will hopefully serve as an important catalyst in this transformation.
Future Research

Although findings were not fully as anticipated, the current study sets the stage for future research, which may enable us to further compare the entrepreneurial attitudes of students in the U.S. with those from other countries. The small business sector is likely to be a primary source of future employment growth not only in China, but in other countries as well. An examination of the numerous factors associated with entrepreneurship, including attitudes, will therefore be vital to the promotion of a healthy world economy.

The current study is not without constraints, which ideally, will be addressed with future research. For example, the cultural relativism of the EAO cannot be assured at this time. The instrument was developed and normed using a U.S. sample population. The attitudes which it measures may not manifest themselves in the same manner within a highly collectivist nation that does not yet have a strong history of entrepreneurship.

The current study makes use of students as its population of interest. Although future research that examines the attitudes of current entrepreneurs and compares this with the current data is an obvious goal, there is inherent value in specifically studying students. While it is acknowledged that students’ attitudes may not equate to the attitudes of active entrepreneurs in these countries, they are arguably an appropriate population of interest. First, the current study focuses on the attitudes of individuals, and attitudes are known precursors of intentions, which frequently lead to later behaviors (Ajzen, 1991). An understanding of the attitudes of those who are students now can provide us with insight as to those who will become future small business owners and allows for the development of education and other interventions that can promote the success of nascent entrepreneurs. In addition, because of the relative newness of individually owned businesses in China, the current generation of students may well represent the first generation of future entrepreneurs receiving university-based
instruction in the entrepreneurial arena (Li, Zhang & Matlay, 2003). Lastly, as entrepreneurial activities are anticipated to continue to be a primary source of economic growth, not only in the U.S. and China, but in many developing nations, it seems appropriate to study those who will be responsible for driving the economy in coming decades.

As this entrepreneurial spirit continues to flourish, an understanding of those factors that promote it is necessary. An examination of the current college generation’s attitudes toward entrepreneurship is one small part of this equation.
References


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