

A COMPARATIVE STUDY OF MOTIVATION AND ENTREPRENEURIAL INTENTIONALITY: CHINESE AND AMERICAN PERSPECTIVES

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In this paper, we compare the intentionality of students in graduate business programs in the United States and China toward becoming entrepreneurs. We utilize Amabile's Work Preference Inventory (WPI) to examine the motivational dimension of entrepreneurial intentionality and the Theory of Planned Behavior (TPB) to compare the impact of gender and family history of self-employment on employment intentionality. Our results suggest there is a positive relationship with entrepreneurial intent in both the intrinsic challenge characteristic and extrinsic compensation characteristic. Results also suggest the intrinsic enjoyment characteristic and extrinsic outward characteristic are negatively correlated to self-employment. In addition, the study found that males in China exhibited a significantly greater intentionality toward self-employment than females did. We also found that entrepreneurial intentionality is stronger in the U.S. study group than in the China group for those with prior self-employment experience, as well as when they have a background that includes a family history of self-employment. However, when there is no family background of self-employment, the Chinese show greater intentionality to become self-employed than the group located in the United States.

Keywords: Entrepreneurship; self-employment; China; Work Preference Inventory.

1. Introduction

The entrepreneurial intentionality of individuals has been the subject of a significant amount of research covering a broad spectrum of approaches. These include the study of personality traits (Begley and Boyd, 1987; Chell *et al.*, 1991; Barrick and Mount, 1991; Milner, 1997; Krueger, 2003; Ciavarella *et al.*, 2004; Baum *et al.*, 2007), cognitive abilities (Hunter and Hunter, 1984; Hunter, 1986; Robinson *et al.*, 1991), entrepreneurial antecedents (Krueger and Brazeal, 1994), the theory of planned behavior (Ajzen, 1991, 2002;

Kolvereid, 1996a,b; Tkachev and Kolvereid, 1999), a theory of entrepreneurial careers (Dyer, 1994), cultural aspects of employment intentionality (Kirby and Fan, 1995; Busenitz and Lau, 1997; Mitchell *et al.*, 2002), the influence of role models (Scherer *et al.*, 1989; Van Auken *et al.*, 2006) and the link between creativity and entrepreneurial intentions (Zampetakis and Moustakis, 2006).

This paper focuses on entrepreneurial intentionality across cultures, which we define as the intent of an individual to establish their own business entity. Specifically, we have attempted to gain insights into the following questions: Are students in graduate business programs based in the United States more inclined toward becoming entrepreneurs than those located in China? Further, do factors such as gender, prior entrepreneurial experience, or exposure to self-employment by virtue of family background play a significant role in the individual's decision to start their own business?

In the remaining sections of the paper, we first present an overview of the state of entrepreneurship in China. This is followed by the theoretical framework through which the study is performed. Section four details the study methodology, while section five presents the statistical analysis. Finally, the conclusions are presented.

2. China's Entrepreneurial Environment

The growth of China's economy has attracted the attention of scholars, and an emergent literature in the domain of Chinese entrepreneurship has developed. Kirby and Fan (1995) attempted to explore the linkages between Chinese cultural values and entrepreneurship. Stating that there is no adequate definition for Chinese entrepreneurship, they strove to examine if Chinese entrepreneurs possessed "certain unique, different attributes to those of their western counterparts." Their assessment was based on the presumption that there are three elements to the modern Chinese cultural system: the traditional culture predominantly based on Confucianism, communist orthodoxy, and western values; however, their work only focuses on the first of these elements. In their study, they compiled 59 cultural values and compared these to 90 attributes of entrepreneurs originally compiled by Gartner (1992) for western entrepreneurs and duplicated in a study by Ray and Wong (1992) with a sample population from Asia. Their results indicated that the values placed on interpersonal relations, especially family relations, are key to achieving an understanding of Chinese organizational structures and, as a consequence, their formation. The identification of specific attribute sets was inconclusive, but the paper showed the difficulty of measuring the impact of cultural factors on economic activities.

The characteristics of Chinese female entrepreneurs have been the subject of studies by Chu and Siu (1993). In Chu (2000), there is an acknowledgement that it is not possible to create a singular profile to represent an entrepreneurial personality. Chu undertook a multidimensional analysis using Hisrich and Brush's instrument (Hisrich and Brush, 1986) together with semi-structured interviews of entrepreneurs in Hong Kong. Chu and Siu (1993) also examined three dimensions of personality: personal achievement, family request, and contextual necessity, together with an examination of motivation, finding that Chinese females have different reasons for becoming entrepreneurs than males. In terms of

motivation, females indicated security and family-oriented reasons as most important, while males stressed financial reward. The study showed that the personality profiles of the female subjects in Hong Kong were closer to their male counterparts in the same industry than female entrepreneurs in other industries, and 'less like female entrepreneurs in the U.S. study' of [Hisrich and Brush \(1986\)](#). However, from a motivational perspective, Hong Kong females stressed intrinsic motivation as more important than extrinsic factors. This was consistent with studies performed over data sets of females located in the United States. Their findings "reconfirm that cultural differences are more salient than industrial sector or gender." It should be noted that the context of Hong Kong as a laboratory needs to be considered carefully in comparison to mainland China. [Yu \(2000\)](#) discusses the 'little tradition' of Hong Kong against the 'large tradition' of the mainland and indicates that the culture created during the British period of control fed the entrepreneurial nature of the province ([Yu, 2000](#)).

In summary, the emergent literature on Chinese entrepreneurship indicates that the socio-economic culture of the country remains a barrier to widespread adoption of entrepreneurship as a career path, yet although there are risks to new venture creation, the potential rewards remain high. The characteristics, stressed in the literature as important to entrepreneurial success in China, include both family support and an extended societal network or 'guanxi.' The literature also reveals that the motivational aspects of the Chinese personality are an area worthy of further consideration, especially in relation to the motivational levels of comparative subjects in other countries or cultures.

3. Theory Development

3.1. Cross-cultural entrepreneurial intentionality

A major catalyst motivating researchers is the question "why is one culture capable of producing more entrepreneurs than another?" Culture has been defined by Hofstede as "the collective programming of the mind which distinguishes the members of one group or category of people from those of another" ([Hofstede, 1991](#)). Increasingly, cross-cultural comparisons pertaining to the multiple dimensions of the entrepreneurship endeavor are being made as it has been recognized for a substantial period of time that cultural values drive behavior ([Berry et al., 1992](#), [Busenitz and Lau, 1997](#)). The motivating rationales for the studies in entrepreneurship include attempts to identify universalities, the impact of specific cultural dimensions, the impact of regulatory policy, as well as historical influences. The geographic dimension upon which the studies are performed range from "micro" entrepreneurial zones within metropolitan divisions to multi-nation comparisons.

The research literature on culture is extensive and includes the developing literature on the linkage between entrepreneurial activities and the cultural dimensions of personality. Hofstede's research on cultural dimensions has been a catalyst for several subsequent studies ([Hofstede, 1980](#)). [McGrath et al. \(1992\)](#) considered Hofstede's dimensions in relation to entrepreneurs and non-entrepreneurs and identified support for four of their five research hypothesis: that entrepreneurs shared a predictable set of values, that they do not mind social inequality, that they favor independent action, that they have a higher tolerance

to risk than non-entrepreneurs, and that they are more highly motivated to obtain economic and recognition rewards than non-entrepreneurs (McGrath, MacMillan and Scheinberg, 1992). Building upon this work, Busenitz and Lau proposed a cross-cultural cognitive model of new venture creation (Busenitz and Lau, 1997). Their model considers cultural values, social context and personal variables in relation to an individual's cognition and develops five propositions related to entrepreneurial intentionality. The Busenitz and Lau model was then used as the basis for a cognitive model of venture creation by Mitchell (Mitchell *et al.*, 2000). They examined the question of how venture scripts relate to the venture creation decision across cultures. Their exploratory study involved participants from seven countries (USA, Canada, Mexico, Japan, China, Australia and Chile) and indicated that there was support for differences between the arrangement scripts of entrepreneurs against non-entrepreneurs, but not for willingness scripts; and that culture does affect cognitive script processing. However, further research is needed to clarify and extend this study and its results.

Thomas and Mueller addressed the question of entrepreneurial attribute universality across cultures (Thomas and Mueller, 2004) through the consideration of four traits: innovation, risk-propensity, internal locus of control and energy level. The study was conducted across the populations of nine different countries: USA, Singapore, Croatia, Slovenia, Canada, Ireland, Belgium, Germany and China. A modified JPI (Jackson, 1994) was used to measure innovativeness, risk-taking and energy level while an adapted Rotter IE scale was used to measure locus of control. The study examined these attributes in relation to their cultural distance (CD), from the United States, following Kogut and Singh (1988). Thomas and Mueller showed there to be 'no statistically significant difference in the likelihood of innovation, as CD from the United States increases.' But that the internal locus of control decreases as the CD from the United States increases while risk taking propensity and energy decreases.^a A study of role model behavior on career intentionality in Mexico and the United States indicated that role models in the United States are more influential than in Mexico. Role models in the United States who have owned a business being the most influential, no significance was found in the Mexican data set (van Auken *et al.*, 2006).

Tan investigated whether the cultural or national effects have a stronger influence on entrepreneurs' perception of the environment and their strategic orientations, and drew samples from three populations: mainland Chinese, Chinese Americans and Caucasian Americans. Drawing from Gartner (1992) and the research of Low and MacMillan (1988), Tan defined an entrepreneur as an 'individual who initiated an entrepreneurial event and started a venture.' Tan's study (Tan, 2002) indicates that the perceptions of mainland Chinese differ significantly along four dimensions: competitors, suppliers, consumerism and regulators, from those of the other two populations, but do not differ in terms of innovation, proactiveness, or aggressiveness. The mainland Chinese also had a higher propensity to take risks than the other two groups. Tan concludes that 'national differences have a more significant impact than cultural differences on entrepreneurial beliefs' and that

^aThomas and Mueller suggest that the study of energy and distance may have been overly influenced by the nature of the questionnaire and need to be reexamined.

'culture alone, therefore, may not be the only cause of certain entrepreneurial activities; it may be necessary, perhaps, but not in itself sufficient.' However, Tan drawing from [Ralston et al. \(1996\)](#) notes there are differences across the six regions of China and that the mainland China data set is subject to the limitations of being drawn from one region, the municipality of Tianjin.

[Baughn et al. \(2006\)](#) undertook a study examining the willingness of students in three countries, China, Vietnam and the Philippines, to become entrepreneurs. They used six scales, drawing from the work of [Krueger et al. \(2000\)](#) for the measurement of entrepreneurial interest, the normative scale of [Busenitz et al. \(2000\)](#) and the social support scale of [Davidsson and Honig \(2004\)](#). The China data set indicated a significantly lower entrepreneurial interest than Vietnam or the Philippines. The study also showed that males are more inclined to have entrepreneurial interest than females in China and Vietnam and that family support is more significant in the Philippines than in China. The authors felt that Xi'an was a 'reasonable' representative city of China because it is the capital of Shaanxi province and a sub-provincial city.

In summary, the prior research in the area of cross-cultural entrepreneurial intentionality is driven by two divergent theories. The underlying precept of the first theory is that 'cultural values drive behavior' ([Thomas and Mueller, 2000](#)) and those populations in differing geographic regions will have differing propensity to traits such as risk and internal locus of control. Their second position posits that 'national differences have a more significant impact than cultural differences on entrepreneurial beliefs' ([Tan, 2002](#)). In this study, we examine these two theories in relation to populations through two lenses: the theory of planned behavior and Amabile's work preference inventory.

3.2. The theory of planned behavior and self-employment intentionality

The first of our lenses, the theory of planned behavior, extends the work of [Tkachev and Kolvereid \(1999\)](#) and [Kolvereid \(1996b\)](#), in which the theory of planned behavior (TPB) was applied to the study of employment intentions in Scandinavia. In [Kolvereid \(1996a\)](#), the study used a data set of 128 Norwegian undergraduate business students and tested two hypothesis examining the family background and TPB as pertaining to self-employment intentionality. [Tkachev and Kolvereid \(1999\)](#) used 512 Russian students to further examine the TPB and role models. This built upon the work of [Scott and Twomey \(1988\)](#) who performed a three country study comprised of three variable types: predisposing factors, e.g., role models; triggering factors, e.g., being unemployed; and aspirational factors, e.g., having a good idea. Scott and Twomey identified three relationships: first, that 'children of self-employed parents as role models have a much higher propensity to become self-employed themselves'; second, that subjects who search for employment were more likely to consider self-employed status; and third, that having an entrepreneurial idea was a catalyst for self-employment. The international conclusions were opaque because of the demographic profiles of the subjects.

In [Matthews and Moser's \(1995; 1996\)](#) studies of how the family background, gender and work experience impact the interest of individuals toward small firm ownership and

employment, they posed three hypotheses: first, they examined the intentionality to self-employment in relationship to the parent's background; second, they examined the intentionality against the TPB; and third, they examined employment intentionality with an instrument that combined family background and the TPB. Tkachev and Kolvereid found similar results to their prior study. The authors conclude that the TPB is a strong predictor of employment choice intentionality. They note in their studies that future research should consider including demographic measures and tracking models to further establish if a relationship exists in differing environments, and encourage "replication of their analysis using other data" (1999).

Studies that focused on gender issues pertaining to entrepreneurial intentionality have been performed. Although much of the early research is anecdotal and case-based, Neider's study (1987), which used Rotter's Locus of Control Scale and the EPPS, found support for the hypothesis that female entrepreneurs have a lower internal locus of control score than the mean for the general population of females, and that the EPPS scores for entrepreneurial women indicate high scores in endurance, dominance, achievement and autonomy. Scherer *et al.* (1989) showed that there was no difference between genders in terms of educational background, but that males had a greater expectancy that they would pursue entrepreneurial careers; males also had higher self-efficacy levels than females (Scherer *et al.*, 1990). Sexton and Bowman-Upton (1990) utilized Jackson Personality Inventory (JPI) and the Personality Research Form-E (JPF-E) (Jackson, 1974, 1994) to compare nine traits by gender. They found significant differences in four traits. Females exhibited lower energy levels, and a lower propensity toward risk taking, but higher degrees of autonomy and preference for change.

A study by Veciana *et al.* (2005) utilized TPB to examine the attitude of two sets of university students toward entrepreneurship. The students, located in Catalonia (Barcelona) and Puerto Rico, were considered to be culturally similar because the cities share a common Latin tradition. Their study indicated that students considered it desirable to create a new firm. Although entrepreneurial interest had grown, the students' perceptions of the difficulty of achieving success had also increased over the ten-year period, prior to the study. In Catalonia, the male students' perceptions of entrepreneurial desirability were statistically more significant than in female students. No statistical evidence was found for the hypothesis that having an entrepreneurial family background positively influenced the students' intention to become entrepreneurial.

The effectiveness of the theory of planned behavior has been contrasted against Shapero's model (1975) of the Entrepreneurial Event by Krueger *et al.* (2000). Their study showed 'significant, although not complete, support for the TPB' because the social norms component was not significant, while for Shapero's model, full support for the entrepreneurial event was found. For both models, intentions were predicted significantly by global perceived project feasibility. The authors call for further study of the social norms component and the cultural norm dimension of the entrepreneurial event.

Taormina and Lao (2007) examined entrepreneurial motivation in three groups of Chinese subjects: subjects who did not want to start a business; subjects who were planning to set up a business; and subjects who had already started a business. They assessed three

psychological/behavioral variables: achievement striving, social networking/Guanxi and optimism, with one environmental variable: the perceived importance of a favorable business environment. Findings included that achievement striving, social networking, optimism and perceived importance as 'highly and positively correlated with the motivation to start a business.' Their study shows psychological characteristics and the factors pertaining to the business environment are both contributors to entrepreneurial motivation.

In summary, prior research using the TPB has shown mixed results in several areas pertaining to entrepreneurial intentionality and requires clarification. First, what is the impact of having a family background in entrepreneurship on intentionality? Second, what role does gender have upon intentionality? And third, what is the importance of prior self-employment experience? Thus, from our first hypothesis:

H1: Intentions to be self-employed^b is the same for the students studying in the United States and in China.

We can then examine the environmental and contextual factors further through sub-hypotheses, testing for the impact of gender, the impact of being from a family with or without a background in small business ownership (SBO), and the impact of prior or the absence of self-employment experience (SEE). Following this analysis, we will utilize Amabile's Work Preference Inventory (WPI) to examine the motivational factors of the subject groups.

4. Methodology

The questionnaire created to measure the theory of planned behavior was based on that developed and used by Kolvereid (1996a; Tkachev and Kolvereid, 1999) and the motivational-creativity dimension was measured through Amabile's WPI instrument (Amabile *et al.*, 1994). Universities in two major metropolitan areas were then utilized for collection. In China, subjects were drawn from Wuhan University, a premier research institution consistently ranked in the top ten of Chinese universities. The City of Wuhan located in Hubei province has a population of 7.81 million people; 4.9 million of which are located in the urban center, and has an industrial base to its economy. In the United States, the survey was administered to a student group at the University of Miami, which in 2009 was ranked 50th among research universities in the nation, and is located in Coral Gables, within Miami-Dade County. The county has a population of 2.2 million of a multi-ethnic composition. It has a diversified economy, which includes manufacturing, service, trade, financial, agriculture, real estate and construction; each sector having a significant base of entrepreneurs.

The instrument was then translated by a native Chinese linguist. This was then presented to two Chinese faculty members in the United States and one at Wuhan University in China for informal feedback so any idiomatic or grammatical issues could be identified and amendments made as necessary. The prototype paper was then presented to 28 Chinese executive MBA students at Wuhan University and 81 executive MBA students at a

^bAs measured through Amabile's Work Preference Inventory.

university in the United States received the English language version. An analysis of the survey was performed and the survey was amended to accommodate minor presentational changes. The amended survey was translated by a professional translation service company, who notarized the translated document. This company was authorized by the University of Miami to provide translation services and was a required facet of the university’s institutional review board policy for protocol approval. The final version of the survey was presented to MBA students in both universities during a two week period. In China, a 100 percent response rate was achieved on 101 surveys; however, only 87.1 percent were complete and usable. In the United States, a 100 percent response rate was achieved on 95 surveys and 97.9 percent were usable. Table 1 provides a breakdown of the data set and the demographics of the subjects.

Table 2 provides a summary of Cronbach’s α for Amabile’s instrument; results from the use of the instrument in the United States are close to Amabile’s original alphas. The results for the instrument used in China are slightly lower than what the pilot study predicted. Table 3 shows the alphas for employment status intentions as well as the TPB, and are aligned to the values found by Tkachev and Kolvereid (1999).

5. Results and Analysis

The consolidated results of the survey are presented in Table 4, refined category level data is presented by country in Table 5 and two tail T-test results are presented in Table 6.

Table 1. Data set details and demographics.

	Responses			Gender		Age Range				
	Total	Spoiled	Useable	Male	Female	20–24	25–29	30–34	35–29	> 40
China	101	13	88	59	29	1	46	32	9	0
USA	95	2	93	54	39	38	45	7	3	0

Table 2. Cronbach α : Amabile’s WPI.

	Amabile	China (n = 88)	USA (n = 93)
Intrinsic Motivation (IM)	0.79	0.603	0.717
Extrinsic Motivation (EM)	0.78	0.509	0.648
Enjoyment	0.74	0.642	0.615
Challenge	0.71	0.577	0.746
Outward	0.71	0.444	0.622
Compensation	0.78	0.534	0.677

Table 3. Cronbach α : Takachev and Kolvereid’s Instrument.

	Takachev and Kolvereid	China	USA
Index of Employment Status	0.83	0.746	0.888
Perceived Behavioral Control	0.75	0.632	0.774

Table 4. Consolidated results of WPI and TPB.

	Male			Female			Combined		
	\bar{x}		p*	\bar{x}		p*	\bar{x}		p*
	China	USA		China	USA		China	USA	
IM	2.94	3.04	0.100	3.03	2.98	0.510	2.96	3.02	0.210
EM	2.87	2.73	0.020	2.86	2.74	0.098	2.85	2.73	0.010
Enjoyment	2.99	3.08	0.177	3.11	3.06	0.596	3.03	3.08	0.362
Challenge	2.85	2.94	0.282	2.75	2.81	0.676	2.82	2.89	0.346
Outward	2.77	2.53	0.001	2.82	2.57	0.004	2.79	2.55	0.000
Compensation	3.05	3.13	0.404	2.84	3.08	0.052	2.98	3.11	0.093
IES	4.69	4.88	0.473	3.82	4.30	0.185	4.41	4.64	0.286
SN	6.88	7.59	0.812	7.28	12.10	0.302	7.01	9.48	0.328
PBC	4.29	4.92	0.000	3.92	4.73	0.000	4.17	4.84	0.000

* $\alpha = 0.01$, IES = Index of Employment Status, SN = Subjective Norm, PBC = Perceived Behavioral Control.

Table 5. Mean scores of WPI and TPB by category and country.

	China						USA					
	+SBO		-SBO		+SEE and -SEE		+SBO		-SBO		+SEE and -SEE	
N	54	34	63	25	46	16	64	29	24	69	20	26
IM	2.92	2.93	2.94	2.94	2.94	2.91	3.00	3.06	3.03	3.01	3.05	3.08
EM	2.86	2.82	2.82	2.85	2.86	2.80	2.76	2.68	2.77	2.72	2.82	2.71
Enjoyment	3.01	2.95	3.02	2.98	3.02	2.88	3.07	3.09	3.08	3.07	3.11	3.11
Challenge	2.74	2.90	2.78	2.86	2.78	2.98	2.84	2.99	2.95	2.86	2.95	3.00
Outward	2.81	2.73	2.77	2.70	2.82	2.66	2.56	2.51	2.51	2.56	2.57	2.55
Compensation	2.96	3.00	2.92	3.14	2.94	3.09	3.15	3.01	3.28	3.04	3.34	3.02
IES	4.28	4.73	3.95	5.57	3.81	5.40	4.93	3.98	5.39	4.38	5.40	3.86
SN	6.18	10.00	3.79	16.32	4.64	15.44	13.70	0.17	15.75	7.30	19.15	1.54
PBC	4.13	4.33	4.00	4.67	4.02	4.65	5.11	4.23	5.22	4.70	5.36	4.23

+SBO = with a family history of Small Business Ownership, -SBO = without a family history of Small Business Ownership, +SEE = With Self-Employment Experience, -SEE = without Self-Employment Experience.

Consolidated results by nation and gender are presented in Table 7 and Table 8 shows correlations for a combined data set.

The data shows that for H1, there is no significant difference in the intentionality to become self-employed by the total populations of two groups ($p = 0.286$ at the 0.01 level). There was also no significant difference between the male intentionality in the two samples ($p = 0.473$ at the 0.01 level) nor in the female samples ($p = 0.185$ at the 0.01 level). Analyzing the data sample by category within the WPI allows a series of hypothesis to be tested:

H1a: The intention to be self-employed is the same for students in the United States and in China whose family members have a history of small business ownership (SBO).

Table 6. A 2 Tail T-Tests of WPI and TPB results for USA/China.

	p*					
	+SBO	-SBO	+SEE	-SEE	+SEE and +SBO	-SEE and -SBO
IM	0.696	0.109	0.359	0.330	0.341	0.086
EM	0.048	0.077	0.302	0.085	0.643	0.362
Enjoyment	0.916	0.119	0.685	0.260	0.607	0.046
Challenge	0.417	0.450	0.250	0.999	0.291	0.876
Outward	0.000	0.027	0.001	0.100	0.010	0.379
Compensation	0.063	0.950	0.003	0.379	0.005	0.597
IES	0.006	0.048	0.000	0.000	0.001	0.001
SN	0.006	0.015	0.010	0.031	0.002	0.007
PBC	0.000	0.622	0.000	0.873	0.000	0.119

* $\alpha = 0.01$.

Table 7. Consolidated results by nation and gender.

	China			USA		
	\bar{x}		p*	\bar{x}		p*
	Male	Female		Male	female	
IM	2.94	3.03	0.156	3.04	2.98	0.572
EM	2.87	2.86	0.995	2.73	2.74	0.067
Enjoyment	2.99	3.11	0.142	3.08	3.06	0.283
Challenge	2.85	2.75	0.369	2.94	2.81	0.708
Outward	2.77	2.82	0.553	2.53	2.57	0.009
Compensation	3.05	2.84	0.046	3.13	3.08	0.079
IES	4.69	3.82	0.004	4.88	4.30	0.205
SN	6.88	7.28	0.924	7.59	12.10	0.148
PBC	4.29	3.92	0.027	4.92	4.73	0.020

* $\alpha = 0.01$.

Table 8. Pearson correlations all data China and USA (n = 181).

	IM	EM	E	Ch	O	C	IES	SN
EM	0.081							
Enjoyment	0.855**	0.091						
Challenge	0.667**	0.023	0.184*					
Outward	0.079	0.849**	0.145	-0.058				
Compensation	0.033	0.601**	-0.048	0.132	0.088			
IES	0.012	-0.155	-0.031	0.068	-0.246**	0.156*		
SN	0.099	-0.041	0.074	0.082	-0.100	0.074	0.544**	
PBC	0.091	-0.046	0.025	0.138	-0.215**	0.240**	0.561**	0.468**

* $p < 0.05$ (2-tailed), ** $p < 0.01$ (2-tailed).

H1b: The intention to be self-employed is the same in students in the United States and in China whose family members do not have a history of SBO.

H1c: The intention to be self-employed is the same in students in the United States and in China who have already had prior experience of self-employment (SEE).

The results show that for H1a, the null hypothesis can be rejected ($p = 0.006$) and that there is support at the 0.05 level such that intentionality to be entrepreneurial is higher in the United States than in China when students come from a family with a history of small business ownership ($p = 0.003$). The null hypothesis of H1b is also rejected at the 0.05 level ($p = 0.048$) such that entrepreneurial intentionality is higher in the United States than in China where students have prior experience of self-employment ($p = 0.024$). It is also the case that the students in the United States have higher intentionality when both of these conditions have been met by the individual ($p = 0.000$), again rejecting the null hypothesis of H1c ($p = 0.000$).

H1d: The intention to be self-employed is the same in students in the United States and in China without SEE.

H1e: The intention to be self-employed is the same in students in the United States and in China with both a family background in SBO and who also have SEE.

H1f: The intention to be self-employed is the same in students in the United States and in China without a family background in both SBO and SEE.

In the cases of H1d, H1e and H1f where tests were made to examine students backgrounds, Chinese students show greater intentionality than students in the United States at the 0.01 level rejecting each null hypothesis (for H1d $p=0.001$, H1e $p=0.001$, H1f $p=0.001$). There is support at the 0.01 level such that Chinese students show greater entrepreneurial intentionality in the cases where the subject has no self-employment experience ($p=0.000$); when they come from families with small business ownership ($p=0.000$) and where the subjects come from a background without both a family-based exposure to small business ownership and no prior self-employment experience. This suggests that students in China who may previously have been denied access to entrepreneurial careers are more intent to pursue that path than students in the United States who had access to a free market economy. However, students in the United States who had prior exposure to an entrepreneurial environment had more intent to continue on that path than students in China.

H1g: The intention to be self-employed is the same in male students in China than in female students in China.

H1h: The intention to be self-employed is greater in male students in the United States than in female students in the United States.

Interestingly, H1h is supported such that males and females in the United States show equal intentionality to be entrepreneurial ($p = 0.205$) while in China, there is support ($p = 0.000$) that indicates males have a greater entrepreneurial intentionality than females rejecting the null hypothesis of H1g ($p = 0.004$). The data for the U.S. confirms [Scott and Twomey's \(1988\)](#) hypothesis that children of parents that have been self-employed are more likely to become self-employed; however, the reverse was shown to be the case in the China data.

6. Structural Analysis

The correlation sets also indicated that some interesting inter-relationships exist between the motivational factors composing WPI and the TPB. To consider the factors further, a combined correlation set was produced (Table 8). Again, the correlations between the two factors exist and were significant.

To investigate the relationships H2 and H3 were developed:

H2: The Intrinsic Motivation (IM) is the same for all the students.

H3: The Extrinsic Motivation (EM) is the same for all the students.

The combined data set was created and exploratory Structural Equation Modeling (SEM) was utilized to test the hypotheses. This approach was taken because of the technique's ability to facilitate path analytic modeling with latent or unobserved variables, in this case intrinsic and extrinsic motivation. These two variables were chosen to help address the theoretical gap raised by Gartner and others, that of considering the impact of cultural factors on economic activities. For example, would students in an established free market economy be more motivated by intrinsic or extrinsic factors than their counterparts in a state regulated market? Although concerns have been raised by Marcoulides and Saunders (2006) over data set sizes necessary to overcome standard error problems, the data set was large enough ($n = 181$) to allow factor loadings of 0.7 and inter-correlation factors of 0.3 to achieve a reliability power of 0.80 with normally distributed data assuming there are no missing values, which was the case with our data set.

Two four-factor confirmatory factor analyses were created, one for the intrinsic factors and one for the extrinsic factors, with TPB in each analysis. Fit indexes in the IM model analysis indicated the data is suitable for the model: Normed Fit Index = 0.73, Non-Normed Fit Index (NNFI) = 0.83, Comparative Fit Index (CFI) = 0.85, Incremental Fit Index (IFI) = 0.85, overall the Goodness of Fit Index (GFI) = 0.83. For the EM model analysis (Fig. 4), the Fit indexes were also created: Normed Fit Index (NFI) = 0.78, Non-Normed Fit Index (NNFI) = 0.90, Comparative Fit Index (CFI) = 0.91, Incremental Fit Index (IFI) = 0.91, overall the Goodness of Fit Index (GFI) = 0.85; again these were found to be adequate and the structural equation models were developed (Figures 1 and 2)^c.

The SEM illustrated in Figure 1 tested the following three sub-hypotheses:

H2a: Subjects who display heightened PBC values have higher WPI values.

H2b: Subjects who display heightened intrinsic 'enjoyment' characteristics have higher WPI values.

H2c: Subjects who display heightened the intrinsic 'challenge' characteristics have higher WPI values.

It shows at the 0.01 level that H2a is supported, $r = 0.94$, H2b is negatively correlated, $r = 0.02$, while H2c is also weakly supported, $r = 0.05$. Therefore, the data leads us to

^cThe observed variables are represented by rectangular boxes, latent variables by ovals, arrows represent regressions while short arrows represent error terms (residual variability).

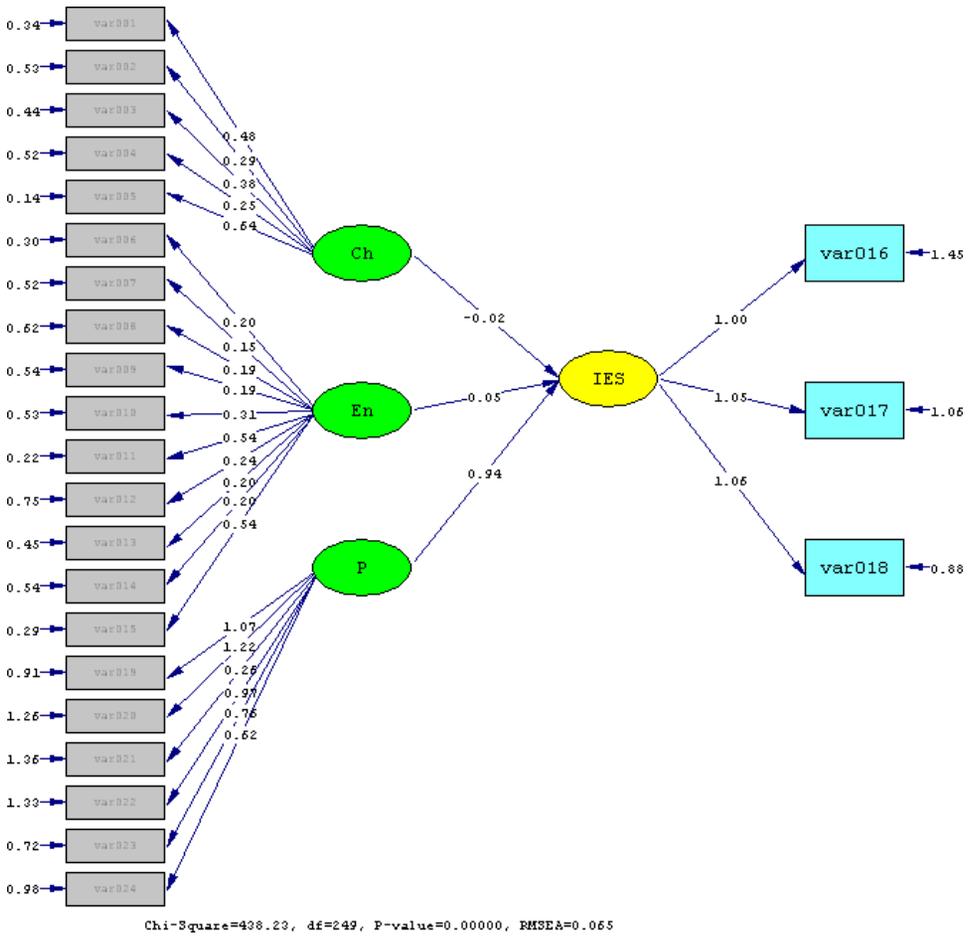


Fig. 1. Intrinsic subscales SEM.

conclude that enterprising individuals (leadership orientated) are highly motivated by the intrinsic value of the ‘challenge’ of the task rather than the ‘enjoyment’ associated with its undertaking, but they also desire a high degree of personal control over the tasks they undertake.

The SEM illustrated in Fig. 2 tested the following two sub-hypotheses:

H3a: Subjects who display heightened extrinsic ‘outward’ characteristics have higher WPI values.

H3b: Subjects who display heightened the extrinsic ‘compensation’ characteristics have higher WPI values.

It shows that H3a is negatively correlated, $r = 0.09$ while H3b is supported, $r = 0.09$ also at the 0.01 level. An examination of the Pearson correlations (Table 9) also confirms the relation between the WPI and the extrinsic subscales. This leads us to conclude that

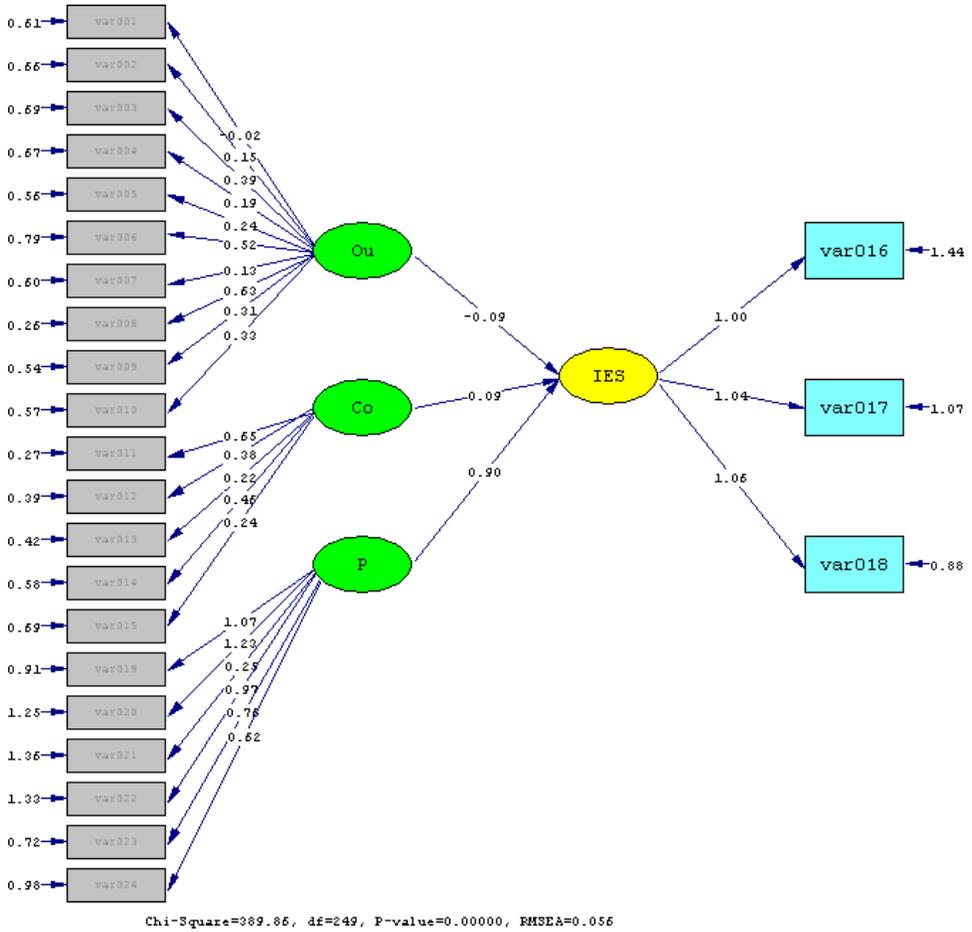


Fig. 2. Extrinsic subscales SEM.

enterprising individuals are also outwardly motivated. Amabile (1994) describes this as being “orientated towards the recognition and dictates of others”; similarly, they are also highly motivated by the extrinsic value of compensation, the monetary reward that is seen as accompanying successful self-employment.

Overall, the models show that the groups’ work preferences are for an environment that offers a sense of challenge, a high degree of recognition and is highly rewarding. However, they also want to have control over their environment and do not mind if the task does not offer high degrees of intrinsic enjoyment.

7. Conclusion

The study set out to add to the emergent literature on cross-cultural entrepreneurship by employing two instruments, the theory of planned behavior and Amabile’s WPI to examine the intentionality of students in graduate business programs. The intentionality of

subjects in the United States and China toward becoming entrepreneurs was used as a data set that would provide the first steps toward a better understanding of the question whether 'cultural values drive behavior' or whether 'national differences have more significant impact than cultural differences on entrepreneurial beliefs.' Second, the study also aimed to extend the work of Tkachev and Kolvereid (1999), by reexamining the cultural norm dimension of the entrepreneurial event across the two data sets, which extends the work of Kruger and others (2003; 1994; 2000).

The analysis has shown that although there is no significant difference in the two groups as a whole, there are subtle differences within the populations. First, males in China have a significantly higher WPI value toward self-employment than females. Second, entrepreneurial intentionality is stronger in the U.S. group than the China group for those who have had prior self-employment experience and when their background includes a family history of self-employment. However, when there is no history of family self-employment, the Chinese showed greater intentionality toward entrepreneurship. This suggests there is potential for growth in the number of entrepreneurs within the Chinese environment and for a greater self-determination of career path. The intentionality across the genders shows no difference in the U.S. group, but in China, the males had greater entrepreneurial intent.

When considering the motivational dimension of entrepreneurial intentionality, there was a correlation between heightened perceived behavioral control levels and higher entrepreneurial intentionality. The analysis also showed there was a positive relationship between intrinsic challenge characteristic and entrepreneurial intent and a negative relationship with enjoyment. For extrinsic motivation, a positive relationship was found between the compensation characteristic and entrepreneurial intent, while the outward characteristic is negatively correlated.

In conclusion, we can state that each economy is generating a group of entrepreneurs and that their intentionality is very similar. However, there are still cultural and environmental aspects to the decision-making process in each location. Further longitudinal research is needed to see how the intentionality changes over time as Chinese regulations and society change to permit more self determination, while those based in the United States already have the opportunity to move away from corporate employment and create their own businesses in the future. This study aims to provide a step toward showing that instruments from the literature of planned behavior can be usefully combined with those from the creativity literature to provide insights into the intentionality of subjects across cultures, and that the relationship between these two branches of the social science literature are worthy of further consideration within the context of entrepreneurship. We believe the techniques of this pilot study can be usefully deployed in other cross-cultural contexts and populations. This would enable a determination of the separation between the intentionality of groups and the influence of cultural-societal contexts within which the groups operate.

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