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Are Entrepreneurial Cognitions Universal? Assessing Entrepreneurial Cognitions Across Cultures

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In this study we examine three research questions concerned with entrepreneurial cognition and culture: (1) Do entrepreneurs have cognitions distinct from those of other business people? (2) To what extent are entrepreneurial cognitions universal? and (3) To what extent do entrepreneurial cognitions differ by national culture?

These questions were investigated in an exploratory study using data collected from 990 respondents in eleven countries. We find, in answer to question one, that individuals who possess "professional entrepreneurial cognitions" do indeed have cognitions that are distinct from business non-entrepreneurs. In answer to question two, we report further confirmation of a universal culture of entrepreneurship. And in answer to question three, we find (a) observed differences on eight of the ten proposed cognition constructs, and (b) that the pattern of country representation within an empirically developed set of entrepreneurial archetypes does indeed differ among countries. Our results suggest increasing credibility for the cognitive explanation of entrepreneurial phenomena in the cross-cultural setting.

To what extent are entrepreneurial cognitions similar or different across cultures? On one hand, entrepreneurs engaged in solving similar problems and faced with an increasingly similar global environment of business may be developing a common entrepreneurial culture around the world, suggesting, as noted by Mitchell, Smith, Seawright, and Morse (2000), that some part of entrepreneurial thinking may indeed be "universal." On the other hand, because of the pervasive influence of local culture, generalized values and norms of entrepreneurship "within" countries/cultures (Busenitz, Gomez, & Spencer, 2000) may dramatically impact any "universal" values and norms that may exist. As a result, both culture homogenization and cultural clashes (King & Craig, 2002) are expected to affect the development and ultimate outcome of a new "globalization system" (Friedman, 2000) where entrepreneurship is the primary driver of new infrastructure, technology, and job creation (Arzeni, 1998; Bates & Dunham, 1993; McDougall & Oviatt, 1997).

Recent research suggests that entrepreneurial cognitions (ways of thinking) explain important phenomena in global entrepreneurship (Busenitz & Lau, 1996; Busenitz et al., 2000; McDougall & Oviatt, 2000, p. 905; Mitchell et al., 2000; Stevenson & Jarillo, 1990). Drawing on the cognitive perspective and methodology, and constructs proposed by Mitchell et al., 2000, we conducted an exploratory study involving 990 respondents in eleven countries to examine the links between entrepreneurial cognition and culture. Specifically, we investigated three research questions: (1) Do entrepreneurs have cognitions distinct from those of other business people? If so, (2) To what extent are entrepreneurial cognitions universal? And (3) To what extent do entrepreneurial cognitions differ by national culture.

LITERATURE REVIEW AND HYPOTHESES

The cognitive view sees entrepreneurship as a "way of thinking" (Meyer, Gartner, & Venkataraman, 2000; Stevenson & Jarillo, 1990; Venkataraman, 1997), and advances a fundamental theoretical assertion that entrepreneurial cognitions (as independent variables) are associated with various outcomes of interest (dependent variables). Entrepreneurial cognitions have been shown to be useful in explaining (nonexhaustively): differentiation between entrepreneurs and non-entrepreneurs (Baron, 1998); systematic variation of cognition by type of entrepreneurial involvement rather than by culture (McGrath & MacMillan, 1992; McGrath, MacMillan, & Scheinberg, 1992); opportunity identification (Krueger, 2000); optimistic perception of opportunity outcomes (Palich & Bagby, 1995); success in the start-up process (Gatewood, Shaver, & Gartner, 1995); and making the venture-creation decision (Mitchell et al., 2000).

In this study, we further focus on the relationship between cognitions and the venture-creation decision following the approach suggested by Busenitz and Lau (1996) and Mitchell et al. (2000). Building on Busenitz and Lau, Mitchell's group found cross-cultural support for a model in which the decision to create a new venture, the dependent variable, was influenced by three sets of cognitions as independent variables: arrangements cognitions, willingness cognitions, and ability cognitions. The venture-creation decision is an appropriate and useful dependent variable because it captures decision making at a point in time when cognitive scripts have had a chance to form: between intention to venture and venture creation itself. Further, it occurs regardless of the location, type of industry, or the nature of the venture. Finally, the venture-creation decision is useful in our research design because it is sufficiently explicit that hypotheses surrounding it can be effectively specified in cross-sectional exploratory research.

Like Mitchell et al., we utilize the general theories of social cognition, information processing, and expertise as foundations for conceptualization of the independent variables. We accept Neisser's definition of cognitions as all processes by which sensory input is transformed, reduced, elaborated, stored, recovered, and used (Neisser, 1967). We also utilize the Mitchell et al. (2000) definition and independent variable conceptualization as follows: arrangements cognitions are the mental maps about the contacts, relationships, resources, and assets necessary to engage in entrepreneurial activity; willingness cognitions are the mental maps that support commitment to venturing and receptivity to the idea of starting a venture; ability cognitions consist of the knowledge structures or scripts (Glaser, 1984) that individuals have to support the capabilities, skills, knowledge, norms, and attitudes required to create a venture (Mitchell et al., 2000). These variables draw on the idea that cognitions are structured in the minds of individuals (Read, 1987), and that these knowledge structures act as "scripts" that are the antecedents of decision making (Leddo & Abelson, 1986, p. 121). While the relationship between these variables and the venture-creation decision has now been documented, we

seek to extend and dimensionalize this relationship to address the three research questions that motivate this study.

Entrepreneurs and Nonentrepreneurs

Individuals in decision-making situations draw upon scripts or knowledge structures to make decisions to act. Some of these scripts are well developed (expert scripts) while others (novice scripts) are not as fully developed (e.g., Glaser, 1984), resulting in information processing-based thinking errors (Walsh, 1995).

It has been known for some time that common cultural cognitions may arise in a group of people simply because they face common problems with only a limited number of known responses (Kluckhohn & Strodbeck, 1961). Because entrepreneurs, regardless of culture or geographical location, share common experiences in the conceptualization, start-up, and growth of ventures, it seems reasonable to expect that they might share a similar knowledge structure or script regarding new venture formation that novices, even business manager non-entrepreneurs, would not share.

Prior research suggests that cognitive constructs are useful in differentiating entrepreneurs and non-entrepreneurs (Baron, 1998; Mitchell, 1994; Mitchell et al., 2000; Simon, Houghton, & Aquino, 2000). Thus, both logic and the literature lead us to expect that dissimilar actors (in a cultural sense) involved in similar undertakings (e.g., entrepreneurship) will have developed a consistent mental knowledge, or effectively, a universal culture of entrepreneurship. Accordingly we expect that,

H1: Arrangements, willingness, and ability cognitions will differ between entrepreneurs and business non-entrepreneurs irrespective of country of origin.

Entrepreneurial Cognitions and Cognitive Archetypes

While members of the entrepreneur group may be cognitively similar, we would not necessarily expect their cognitions to be homogeneous. For example, within the range of common experience lie different motivations for starting a new venture; some people start new ventures out of necessity because of lost employment, others to pursue opportunity, or others still, because they prefer the independence (Vesper, 1996). Finding systematic differences within the culture of entrepreneurship may help us to explain many of the pressing questions within the entrepreneurship literature, such as: To what extent is development within a given country tied to the opportunity identification process? Is the nature and type of entrepreneurship that is most effective related to the stage of economic development at which a country finds itself? What are the most effective ways for the public policy of a nation to facilitate adaptation on the part of ventures as the economic development process unfolds? (Morris, 2001, p. v).

There is reason to expect that such patterns exist, because in past research—at least domestically (e.g., Stevenson, Roberts, & Grousbeck, 1994; Vesper, 1996)—it has been suggested that entrepreneurial archetypes are present in the empirical world. The foregoing authors, and others, have suggested that the experiences of entrepreneurs are both unique and extensive, such that, while being distinct from those of business non-entrepreneurs, they might nevertheless contain within them a degree of variety sufficient to produce consistent and significantly distinguishable patterns of cognitions (cognitive subgroups within the entrepreneur group). We therefore need: (1) a new archetypal analysis derived from cognition research-based empirical results, where (2) data from the global setting are applied to test such a model.

The empirical and theoretical foundation for a cognitively based archetypal framework that might be useful in the newly emerging global entrepreneurship literature

begins with the finding (Leddo & Abelson, 1986) that there are two parts to the cognitive scripts of experts: entry and doing. Because entry depends upon arrangements—"having the objects in question" (p. 121)—we expect that the prospective entrepreneur would first concentrate on arrangements: be looking for a supportive environment in relation to an opportunity. More specifically, prospective entrepreneurs seek to organize resources from that environment such as capital, social networks, plant and equipment, labor, etc. (Vesper, 1996) that would enable them to capitalize on the opportunity. Once entry into entrepreneurship through making venturing arrangements has been accomplished, then, theory suggests, the "doing" portion of the script follows.

According to Leddo and Abelson (1986), "Doing presupposes the actor's willingness and the ability to carry out the action serving the main goal of the script" (p. 121). For an entrepreneur who has already "entered," and who has therefore already developed and utilized arrangements cognitions, this would mean possessing two further cognitions: those that support willingness and those that apply ability. Willingness cognitions focus on readiness to commit (Ghemawat, 1991; Hisrich & Jankowicz, 1990), motivation to seek opportunity (Kirzner, 1982; Krueger & Brazeal, 1994), and eagerness to act versus miss opportunity (McClelland, 1968; Sexton & Bowman-Upton, 1985). Ability cognitions focus on the skills needed to recognize, capture, and protect opportunity (Stevenson et al., 1994).

Eight theoretical cognitive archetypes may be imputed from the Leddo & Abelson framework, and we present our suggestions for the identification of each in Figure 1. Noteworthy in Figure 1 is the division between the cognitive archetypes of entrepreneurs (those who have venturing arrangements cognitions; Cells 1-4), and non-entrepreneurs (those who do *not* have arrangements cognitions, and who are therefore less likely to have "entered" the venturing script; Cells 5-8). As illustrated in Figure 1, four categories of thinking among entrepreneurs with high arrangements cognitions are expected: (1) dangerous cognitions, where individuals with arrangements and willingness cognitions are under-prepared (are lower in ability cognitions), and thus in danger of failure; (2) professional cognitions, where individuals have high levels of arrangements, willingness, and ability cognitions, and are thus more likely to repeatedly (professionally) function with higher relative levels of expertise; (3) arrangements only cognitions, where low levels of both of the "doing" cognitions exist; and (4) conservative cognitions, where individuals have relatively higher levels of arrangements and ability cognitions, but lower willingness cognitions.

Thus, we expect an examination of cognitions among entrepreneurs from a variety of countries around the globe to permit us to identify four archetypal groups that would differ significantly by the cognitive pattern of "doing" to be observed (consistent with Cells 1-4 in Figure 1). Given high arrangement cognitions (the respondents are entrepreneurs), we expect to find all four archetypes in each country, and therefore expect the following:

H2: Entrepreneurs will be differentiated systematically by their ability and willingness cognitions in identifiable archetypes.

National Culture[1] and Entrepreneurial Cognitions

While commonalities in entrepreneurial cognitions are expected across countries,

[1] A limitation of this study is that we assume a single homogeneous national culture. This is obviously not true for many countries (e.g., Canada); however this limitation results, we believe, in a conservative test of hypothesis 3 (following), the only hypothesis affected by this measurement shortcoming. By adopting this convention, we do not intend to suggest that country and national culture are interchangeable. But, when necessary, we refer to country as a surrogate for culture in those circumstances where we are citing a specific

Figure 1

Expected Entrepreneurial Cognitions Archetypes

		Doing I: Lower Ability	Doing I: Higher Ability
Doing II	Higher Arrangements and Higher Willingness	1. Dangerous Cognitions	2. Professional Cognitions
	Higher Arrangements and Lower Willingness	3. Arrangements only Cognitions	4. Conservative Cognitions
Entry	Lower Arrangements and Higher Willingness	5. Willingness only Cognitions	6. Incubation Cognitions
	Lower Arrangements and Lower Willingness	7. Nonventurer Cognitions	8. Ability only Cognitions

country-specific differences are also expected (e.g., Busenitz & Lau, 1996). Concepts from the cultural anthropology literature inform the conceptualization of relationships that we might expect.

The cultural anthropological perspective argues that culture is a collective mental knowledge developed by a group of people exposed to a similar context (Geertz, 1973; Reckwitz, 2000; Schatzki & Natter, 1996). This collective mental knowledge relates to the way societies organize knowledge and social behavior (Kroeber & Kluckhohn, 1952) into a fairly consistent set of cognitive orientations that reflect "a broad tendency to prefer certain states of affairs over others" (Hofstede, 1980, p. 19). In this sense, collective mental knowledge within a national culture may be viewed as problem-solving cognitions (Kluckhohn, 1951; Rokeach, 1972) that will reveal differences that depend upon the manner in which a given society has chosen to address particular problems.

Further, culture is thought to exist at multiple levels, ranging from national culture to group or organizational cultures that span national boundaries (Gobbicchi, 1991; Sen, 2000). At sub-cultural levels, individual members (entrepreneurs, for example) share a significant core of behaviors but are also integrated into, and participate in, special portions of the other cultural levels (Pothukuchi, Damapour, Choi, Chen, & Park, 2002;

study, or in the hypothesis, where country is a proxy for the multitude of social, cultural, economic, and political differences that may have bearing on the cognitions of entrepreneurs.

Steward, 1963, 1986). The concept of levels of sociocultural integration (Steward, 1986) suggests that local cultures reflect particular ethnic, social, economic, ecological, and political complexities in which individuals are immersed. Thus, sociocultural levels of integration encompass forces of unification, but also of fragmentation. So while we expect a common culture of entrepreneurship to exist, we also expect to observe within-group differences: that the entrepreneurial sub-cultures within each country will also be congruent with the national culture, and thus distinct (though perhaps observable only at a more fine-grained level of examination).

Entrepreneurship research supports the premise that factors that influence the venture-creation decision vary somewhat across countries (Muzka, de Vries, & Ullmann, 1991; Shane, Kolvereid, & Westhead, 1991). Just as national cultures have unique values and norms about venture creation (Busenitz et al., 2000), new venture subscripts, which are subsets of the major cognitive categories—arrangements, willingness, and ability cognitions—are expected to be culturally specific at the national level (Morse, Mitchell, Smith, & Seawright, 1999). Thus, insofar as cultural differences exist between countries, we would expect that there should also exist "between country" differences within any universal culture of entrepreneurship. Accordingly in our study we expect that,

H3: There are country-based differences in the script content of the arrangements, willingness, and ability cognitions of entrepreneurs.

National Culture and Entrepreneurial Cognitions Archetypes

While cognitively based entrepreneurial archetypes are expected to be observed across national cultures (hypothesis 3), the pattern or prevalence of these archetypes may differ by country. The concept of sociocultural integration (Steward, 1986) suggests that entrepreneurs act within and are bound by several complex sociocultural levels of understanding. Differences in sociocultural context may, for example, influence the status of entrepreneurs and entrepreneurial archetypes within different countries. While it is beyond the scope of this study to explicitly test a model that includes a more extensive set of the factors incident to national culture (e.g., political, social, legal, economic, ethnic realities, etc.), we might nevertheless expect that these factors shape the sub-cultures of entrepreneurship within countries. We reason that since systematic cognition types are expected to exist within any universal culture of entrepreneurship (hypothesis 2) and since cultural contexts are expected to shape entrepreneurial cognitions (hypothesis 3), one might also expect national cultural forces to influence the nature or prevalence of entrepreneurial sub-cultures within countries. That is, national cultural forces should yield a proportion of individuals possessing some entrepreneurial cognition archetypes that is greater in some countries than in others. Thus, we expect that:

H4: The proportion of individuals populating a given archetype will differ by country.

METHODS

Sample

A purposeful sample of entrepreneurs and business managers in a wide range of country cultures, which includes the G7 countries (the United States, Canada, The United Kingdom, Germany, France, Italy, and Japan) as well as the Pacific Rim countries of Australia, Chile, Mexico, and China, was employed to empirically test the hypotheses

suggested by theory. A purposeful sample is appropriate at this early stage of theory testing and development since the sampling frames required to generate probability samples in international entrepreneurship research are not available (McDougall & Oviatt, 1996). The countries listed above provide an appropriate empirical context: they are culturally heterogeneous, while having recognizable economic importance. This purposeful approach relied on the combined judgment of the research team and local assistants to select, within countries, respondents who reflected a range of business experiences, industries, education, and ages. Respondents were identified through local chambers of commerce, small business development centers, and contacts provided by local business schools.

Data were collected from 990 respondents in the eleven countries (see Table 6). Of these, 418 were entrepreneurs who had either: (a) started three or more businesses, at least one of which is a profitable ongoing entity; or (b) started at least one business that has been in existence for at least two years. The other 572 respondents were business professionals who had not made the venture-creation decision and who were employed in a variety of industries and in a variety of levels and positions within their organizations.

A pre-tested, self-administered, structured survey was personally delivered and retrieved from all participants by local assistants. This personal approach resulted in a 98% usable response rate. In countries where English is not the usual language of business, the survey instrument was translated, first by a bilingual native of the country who was guided in understanding each question by a member of the research team, and then back into English by an independent bilingual speaker. Discrepancies were reconciled in a meeting of both translators and a member of the research team.

Statistics describing the entrepreneur and business non-entrepreneur samples and country sub-samples are found in Table 6. The entrepreneur respondents were significantly older ($p < .001$) than the business non-entrepreneur respondents (a mean age of 42 years v. 35 years) and included fewer women than business non-entrepreneur respondents (81% male v. 68% male). Although age is not theoretically linked to venturing scripts or venture creation (Reuber & Fischer, 1994), age was included as a covariate in the analysis to partially account for differences in business experience, which could be a confounding factor in the study. Although not identical, entrepreneur respondents were quite similar in demographic characteristics across the countries considered in the study, and reflect the broad cross section of industry experiences that is suitable to address our research questions—at least in an exploratory fashion. Because there were insufficient cases for meaningful comparisons, the entrepreneur respondents from Chile, Australia, China, and Japan were removed from the analysis when conducting between-country tests of entrepreneurial cognition.

Measurement

Arrangements, willingness, and ability scripts appropriate for venture creation were measured indirectly, following an accepted script-scenario construction model proposed by Read (1987) and adopted by Mitchell et al. (2000). In this approach, the existence and degree of mastery of scripts is inferred based on selection by respondents from paired response choices: one that represents expertise or mastery and one that does not. Experts, when presented with problems within their domain of expertise, are expected to access their knowledge structures/cognitive scripts to select the response choice (cue) consistent with that script (Glaser, 1984, p. 99). Non-experts, being unable to access an appropriate cognitive script, are more likely to choose a socially desirable (Crowne & Marlowe, 1964) distracter cue. Thus, entrepreneurs who have appropriate arrangements, willingness, or ability cognitions are expected to more consistently recognize and select state-

ments that evidence expert entrepreneurial scripts. Business people who have not started ventures are expected to more consistently select the distracter cue. The cues are not the cognitive scripts, but cue recognition is evidence that the cognitive scripts exist. Thus items consisting of paired script recognition and distracter cues (coded "1" when recognized and "0" when not) are used as formative indicators of an underlying cognitive script construct and summed into interval scales (Nunnally, 1978) indicating the likelihood or strength of script possession.

The script recognition and distracter cues used in the study to measure key arrangements, willingness, and ability cognitions were adopted from Mitchell et al. (2000) and are available from the authors upon request. These items were originally developed using expert panels, a review of the empirical entrepreneurship and expert theory literature, and interviews with practicing entrepreneurs and business non-entrepreneurs. Other variables were captured in the study for descriptive purposes. Age was measured with an interval scale. Sex was measured with a dichotomous scale. Education was measured with a seven-point categorical scale capturing levels of formal education. Two psychographic variables, Attitude Towards Venturing and Venturing Likelihood, were measured with one- and nine-point anchored continuous scales.

Since formative indicators are independent, additive components of a construct, they may not be highly correlated. Consequently, it is inappropriate to expect unidimensionality at the construct level (e.g., Arrangements Cognitions), and it is inappropriate to assess reliability at the item level (e.g., items relating to Venture Diagnostic Ability) with Cronbach's alpha, which is based on inter-item correlation (Howell, 1987, p. 121). It is, however, appropriate (Pedhazur & Schmelkin, 1991, p. 54), to use principal components factor analysis to confirm the hypothesized dimensionality of each of the formative cognition constructs. This was done with the entrepreneur sub-sample using criteria of a minimum Eigenvalue of 1, and varimax rotation and support (available from the authors upon request) was generally found for the conceptualized dimensions of the cognitive scripts.

Three of the four conceptualized Arrangements cognitions dimensions were evident in the data: Protectable Idea, Resource Access, and Venture Specific Skills. Venture Network was not an observed factor: one item, "I could: a) raise money for a venture if I didn't have enough; or b) provide an investor with a lot of very good ideas for a new venture" loaded highly on Resource Access. The other item, "I: a) can often see opportunities for my plans to fit with those of other people; or b) rarely find that results match what I expect" did not load highly on any factor and was removed from the analysis. All three of the conceptualized Willingness cognitions dimensions were observed in the data: Seeking Focus, Opportunity Motivation, and Commitment Tolerance. Similarly, the Ability cognitions dimensions of Venture Situational Knowledge, Ability/Opportunity Fit, and Venturing Diagnostic Ability were also observed, plus a fourth factor consisting of the item "I often: a) see ways in which a new combination of people, materials, or products can be of value; or b) find differences between how I see situations and others' perspective." This fourth factor was labeled "Opportunity Recognition."

Data Analysis

Hypothesized relationships were tested in an exploratory manner using a MANOVA, discriminant analysis, and cluster analysis. These first-generation analytic tools are appropriate for theory development where research questions are more concerned with the existence of effects than with the relative strength and causality of relationships, and are robust with respect to the assumption of normally distributed observations (Pedhazur & Schmelkin, 1991).

RESULTS AND DISCUSSION

Entrepreneurs v. Business Non-Entrepreneurs

The hypothesis that Arrangements, Willingness, and Ability cognitions differ between entrepreneurs and business non-entrepreneurs across countries (H1) was tested using MANOVA, with age as a covariate (Table 1). The mean scores of entrepreneurs and business non-entrepreneurs are found to be significantly different at the .05 level or lower with respect to Ability/Opportunity Fit, Venture Diagnostic Ability, and Opportunity Recognition (three of the four Ability scripts), Seeking Focus (one of the three Willingness scripts), and Protectable Idea, Resource Access, and Venture Specific Skills (all three of the Arrangement scripts). These results provide some evidence, albeit mixed, in support of hypothesis 1. However, only three of the cognitive script constructs, Venture Diagnostic Ability, Opportunity Recognition, and Resource Access help distinguish entrepreneurs and business non-entrepreneurs. Together these results suggest that across eleven countries, entrepreneurs and business non-entrepreneurs do differ in their ability to recognize appropriate cognitive script cues. This finding provides support for earlier research (Mitchell, 1994), which predicted that successful entrepreneurs possess a unique form of expertise. It is also well accepted that opportunity recognition, diagnostic ability, and resource access cognitions are linked to differences between entrepreneurs and non-entrepreneurs (Gaglio, 1997; Kirzner, 1997; Vesper, 1996).

Entrepreneurial Cognitive Archetypes

The hypothesis that entrepreneurs share similar cognitive structures (archetypes)

Table 1

Cognitions: Entrepreneur vs. Business Non-Entrepreneurs

	MANOVA[a]			Discriminant	
	Means				
	Business Non-entrepreneurs	Entrepreneurs	p Value	Standardized Function Coefficient	p Value
Ability Cognitions					
Situational Knowledge	.60	.62	.617		
Ability/Opportunity Fit	.75	.83	.027		
Venture Diagnostic Ability	1.01	1.28	.000	.325	.000
Opportunity Recognition	.55	.67	.000	.268	.000
Willingness Cognitions					
Seeking Focus	1.46	1.64	.001		
Commitment Tolerance	1.43	1.51	.239		
Opportunity Motivation	.67	.68	.666		
Arrangement Cognitions					
Protectable Idea	.58	.72	.003		
Resource Access	1.31	1.84	.000	.826	.000
Venture Specific Skills	.32	.39	.006		

Note: [a]Controlling for Age as a covariate. Age was not significantly related to any of the dependent variables at the .05 level. The Canonical correlation of the significant discriminant function was 0.31

across countries (H2) was examined in an exploratory fashion using cluster analysis and one-way ANOVA to analyze the entrepreneur sub-sample. First, K-means cluster analysis was used to group entrepreneurs based on similarities and differences in their scores on the 10 cognitive script constructs (Table 2). Two-, three-, four-, and five-cluster solutions were examined for interpretability with respect to three commonly used criteria (Malholtra, 1999, p. 621): (1) theoretical, conceptual, or practical considerations; (2) the point where the plot of cluster number v. ratio of within-group to between-group variance bends sharply; and (3) the relative size of cluster membership. A four-cluster solution (Table 2) was found to be consistent with theory and easiest to interpret, the point where a sharp bend occurred in the variance plot, while still having meaningful cluster sizes. Thus, while cluster analysis is highly subjective, four entrepreneurial archetypes were observed in the data consistent with hypothesis 2. Interestingly, all four

Table 2

Cluster Analysis Results

	Final Cluster Centers			
	Cluster 1	**Cluster 2**	**Cluster 3**	**Cluster 4**
Ability Cognitions				
Situational Knowledge	**.98**	.60	.45	.41
Ability/Opportunity Fit	**1.09**	.73	.79	.72
Venture Diagnostic Ability	**1.99**	.55	1.05	1.61
Opportunity Recognition[a,b]	**.75**	.67	.56	.65
Willingness Cognitions				
Seeking Focus	**2.21**	**2.41**	.58	.89
Commitment Tolerance	**2.06**	1.30	.99	1.68
Opportunity Motivation	**.84**	.66	.77	.37
Arrangements Cognitions				
Protectable Idea	**1.25**	.41	.77	.54
Resource Access	2.10	1.89	.65	**2.55**
Venture Specific Skills[a,b]	.43	.36	**.87**	.40
Cases in Each Cluster	110	114	102	92
Cluster Label	Professional	Dangerous	Arrangements Only	Conservative
Descriptive Statistics				
Age[a]	43	42	42	43
Sex (% male)	80	86	73[c]	87
Education	4.4[d]	3.7	3.5	3.5
Attitude Towards Venturing	7.0	7.0	5.5[e]	6.8
Venturing Likelihood	6.8	6.8	5.7[e]	7.0

[a] Non-significant differences of means at the .05 level when assessed using ANOVA.

[b] Opportunity Recognition and Venture Specific Skills are non-significant variables in discriminating the four clusters. To assist in interpretation, higher values are bolded and lower values are underlined.

[c] Significantly lower than clusters 2 or 4.

[d] Significantly higher than all of the other clusters.

[e] Significantly lower than all other clusters.

archetypes are observed in all of the countries in the sample except for Japan, which had a very low sub-sample size.

Cluster 1 describes 110 respondents who fit the "Professional" cognitive profile. These respondents are observed to have the highest or very high script cue recognitions relating to all of the Arrangements, Willingness, and Ability constructs, with the exception of Venture Specific Skills. The Professional cognitions cluster identifies individuals with well-tuned venturing scripts who are likely those who persistently venture with success.

Cluster 2 describes 114 respondents who generally fit the criteria for possessing "Dangerous" entrepreneurial cognitions. These respondents are observed to have very high Seeking Focus cognitions, and higher Resource Access cognitions, but low Ability cognitions (the lowest Venture Diagnostic Ability and Ability/Opportunity Fit cognitions). Thus they have the resources and desire to venture but without the ability cognitions. This is what makes the venture-creation decision relatively more dangerous to the financial well-being of members of this cluster.

Cluster 3 describes 102 respondents who fit most closely the "Arrangements only" box in Figure 1. They are observed to have low Ability cognitions, particularly relating to Situational Knowledge and Opportunity Recognition, low Willingness cognitions, except for moderate Opportunity Motivation cognitions, but moderate to high Arrangements cognitions, having the highest Venture Specific Skills cognitions and the second highest Protectable Idea cognitions. These respondents are likely to be entrepreneurs who possess a protectable niche, but are not actively seeking other opportunities.

Cluster 4 describes 92 respondents who are observed to have moderate Ability cognitions (the second highest Venture Diagnostic Ability cognitions and moderate Opportunity Recognition cognitions), moderate Willingness cognitions (the second highest Seeking Focus but lowest Opportunity Motivation), and the highest Resource Access cognitions. While interpretation of this profile is not exactly clear-cut, it was labeled "Conservative" (Figure 1) because midrange Ability cognitions accompanied low Opportunity Motivation cognitions but with high Resource Access cognitions. This label is consistent with entrepreneurs who have arrangements and some ability, but are more careful in their orientation toward taking opportunities.

One-way analysis of variance was used to identify cluster differences (see Table 2 (Descriptive Statistics) and Table 3). No significant differences ($p < .05$) are observed among the four entrepreneur clusters with respect to Opportunity Recognition and Venture Specific Skills. Significant differences are observed, however, between many of the cluster groups with respect to the other eight constructs. The Professional Cognitions cluster, in particular, is observed to differ significantly from the other three groups on all of the cognition constructs (Table 3) except Opportunity Motivation where Professional cognitions are found to be significantly higher than only Conservative cognitions. Eight of the ten scripts (Situational Knowledge, Ability/Opportunity Fit, Venture Diagnostic Ability, Seeking Focus, Commitment Tolerance, Opportunity Motivation, Protectable Idea, and Resource Access scripts) are also found in stepwise discriminant analysis (not illustrated) to be significant in discriminating cluster membership (Venture Specific Skills, and Opportunity Recognition were not).[2]

No differences are observed in the mean age of cluster members (Table 2). The Arrangements Only cluster (cluster 3) is found to include a significantly lower proportion of men than either the Dangerous or Conservative clusters. Members of the Arrangements Only cluster report less likelihood of persistent venturing and a less positive attitude towards venturing than the other clusters. Also, the Professional Cognitions cluster has greater formal education than entrepreneurs in other clusters.

[2] These discriminant results are available from the authors upon request.

Table 3

Cluster Differences

	Cluster Means				
	1	2	3	4	5[a]
Situational Knowledge	.98	.60	.45	.41	.60
Cluster 1 = Professional		***	***	***	***
Cluster 3 = Arrangements					*
Cluster 4 = Conservative	***	*			***
Ability/Opportunity Fit	1.08	.73	.79	.72	.75
Cluster 1 = Professional		***	***	***	***
Venture Diagnostic Ability[a]	1.99	.54	1.04	1.61	1.01
Cluster 1 = Professional		***	***	***	***
Cluster 2 = Dangerous	***		***	***	***
Cluster 4 = Conservative				***	***
Seeking Focus	2.21	2.41	.86	.89	1.46
Cluster 1 = Professional		**	***	***	***
Cluster 2 = Dangerous	**		***	***	***
Cluster 3 = Arrangements	***		***	***	***
Cluster 4 = Conservative	***	***			***
Commitment Tolerance	2.06	1.30	.99	1.68	1.43
Cluster 1 = Professional		***	***	**	***
Cluster 3 = Arrangements	***	**		***	***
Cluster 4 = Conservative	**	**	***		***
Commitment Tolerance	.84	.66	.77	.37	.67
Cluster 1 = Professional					*
Cluster 4 = Conservative	***	**	***		***
Protectable Idea	1.25	.41	.65	.54	.58
Cluster 1 = Professional		***	***	***	***
Cluster 2 = Dangerous	***		*		*
Resource Access	2.10	1.89	.87	2.55	1.31
Cluster 1 = Professional		*	***	***	***
Cluster 2 = Dangerous	*		***	***	***
Cluster 3 = Arrangements	***	***		***	***
Cluster 4 = Conservative	***	***	***		***

Note: [a]Business non-entrepreneurs—this group was included in the ANOVA after the analysis was first conducted on expert clusters only. Business non-entrepreneurs were also found to be significantly lower than clusters 1 and 2 in opportunity recognition.

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

Arrangements refers to the Arrangements Only cluster.

The four entrepreneurial cognitions clusters were also compared to the business non-entrepreneurs (Tables 5 and 6). Members of the Professional cognitions cluster are found to have significantly higher cognitive script scores than business non-entrepreneurs on all of the cognition constructs except Venture Specific Skills (Table 3) and on all of the cognition constructs except Opportunity Motivation after controlling for the effects of age (Table 4). Seven of the 10 cognition constructs also significantly distinguish Professional cognitions entrepreneurs and business non-entrepreneurs. These results provide strong support for a more specific version of hypothesis 1: Arrangements, willingness, and ability cognitions differ between professional entrepreneurs and business non-entrepreneurs across countries.

Table 4

Cognitions: Professional Entrepreneur vs. Business Non-Entrepreneurs

	MANOVA[a]			Discriminant	
	Means				
	Business Non-Entrepreneurs	Professional Entrepreneurs	p Value	Standardized Function Coefficient	p Value
Ability Cognitions					
Situational Knowledge	.60	.98	.000	.141	.044
Ability/Opportunity Fit	.75	1.08	.000	.153	.028
Venture Diagnostic Ability	1.01	1.99	.000	.508	.000
Opportunity Recognition	.55	.75	.000		
Willingness Cognitions					
Seeking Focus	1.46	2.21	.000	.324	.000
Commitment Tolerance	1.43	2.06	.000	.243	.000
Opportunity Motivation	.67	.84	.083		
Arrangements Cognitions					
Protectable Idea	.58	1.25	.000	.446	.000
Resource Access	1.31	2.10	.000	.279	.000
Venture Specific Skills	.32	.43	.010		

Note: [a]Controlling for Age as a covariate. Age was not significantly related to any of the dependent variables at the .05 level, except Seeking Focus (p = .015). Professional Entrepreneurs refers to the cluster of respondents with professional cognitions. The Canonical correlation of the significant discriminant function was 0.56.

* Not significant at the .05 level.

Interestingly, we notice that the pattern of Cluster Means describing the cognitions of business non-entrepreneurs generally fits the profile of "Willingness Only" cognitions (Figure 1)—lacking both Arrangements and Ability cognitions. This pattern of cognitions, however, is only strikingly distinct from those of professional entrepreneurs, as the cognition scores of business non-professionals are found to be both above and below those of other entrepreneurial archetypes.

These findings are particularly interesting when considered in light of one of the major problems that has for years hampered entrepreneurship research—that entrepreneurs cannot consistently be distinguished from managers (business non-entrepreneurs) on the basis of attributes (in this case non-cognitive attributes such as risk taking, achievement motivation, or high locus of control (e.g., see Brockhaus, 1980; Brockhaus & Horowitz, 1986; Sexton & Bowman-Upton, 1991). Consistent with the ongoing problem of defining entrepreneurship, which has generated extensive discussion (e.g., Baumol, 1993; Brazeal & Herber, 1999; Bull & Willard, 1993; Bygrave & Hofer, 1991; Gartner, 1990; Stevenson & Gumpert, 1985; Van de Ven, 1993; Venkataraman, 1997), we find that the cognitive scripts of business non-entrepreneurs are only definitively unique from the professional cognitions archetype. This helps us in interpreting previously uninterpretable results where "entrepreneurs" were not first separated into archetypes. It also suggests a need for a better understanding of entrepreneurial archetypes and

Table 5

One-way ANOVA: Entrepreneurial Cognitions by Country

	Mult. Sig.	Univariate Significance						
		US	Canada	Mexico	Italy	UK	Germany	France
Ability/Opport. Fit	0.018							
Mexico >		.005	.003		.022	.001		.001
Seeking Focus	0.000							
US >				.048	.008	.000	.000	.002
Canada >						.001	.001	
Mexico >		.048				.004	.005	
Commitment Tolerance	0.000							
US >				.002		.002	.000	.000
Canada >				.046		.046	.003	.000
Italy >							.016	.002
France <		.000	.000	.039	.002			
Opportunity Motivation	0.001							
Mexico >		.021	.002		.018	.000	.016	.000
France <		.036						
Protectable Idea	0.002							
Mexico >		.004	.001		.029	.001		
UK >		.020	.006					.007
Italy >			.048					.044
Resource Access	0.000							
US >				.003	.001		.000	.000
Canada >				.000	.000		.000	.000
Mexico >		.003	.000				.000	.016
Italy >							.007	
UK >					.015		.000	.000
Venture Specific Skills	0.002							
Mexico >		.000	.011				.001	.001
UK >		.006					.015	.015

Note: > indicates that mean scores were significantly greater, < indicates that mean scores were significantly lower. Country main effects were not significant at the .05 level for Situational Knowledge ($p = .064$), Venture Diagnostic Ability ($p = 270$), and Opportunity Recognition ($p = .070$). Age was included in the analysis as a covariate.

a focus on professional entrepreneurs when differentiating entrepreneurs and non-entrepreneurs.

National Culture and Entrepreneurial Cognitions

A one-way ANOVA using data from the 374 entrepreneurs from the G7 countries (Table 5) was used to test the hypothesis (H3) that there are country-based differences in Arrangements, Willingness, and Ability cognitive scripts. After controlling for Age, significant multivariate F tests ($p < .05$) indicate that differences were observed for all of the cognition constructs except Situational Knowledge ($p = .064$), Venture Diagnostic Ability ($p = .270$) and Opportunity Recognition ($p = .070$). The finding of statistical equality in the cognitive script mean scores relating to Situational Knowledge, Venture Diagnostic Ability, and Opportunity Recognition among these countries indicates an important similarity in entrepreneurial cognitions. On the other hand, the significant univariate F tests indicate that at least two of the country-based groups of entrepreneurs differ with respect to the other seven cognitive script constructs. Post-hoc

Table 6

Descriptive Statistics and Archetypes by County

	U.S.	Canada	Mexico	Chile	Australia	China	Japan	Italy	U.K.	Germany	France	Total
Business Non-Entrepreneurs (N)	66	69	80	22	46	36	47	53	49	52	52	572
Mean Age	31	27	30	37	37	31	43	37	41	45	38	35
% Male	73	67	58	68	67	78	94	70	63	62	64	68
Entrepreneurs (N)	53	70	67	10	12	15	6	43	49	46	47	418
Mean Age	40	48	34	46	40	35	48	44	44	45	44	42
% Male	85	91	73	70	83	100	100	79	84	78	70	81
Entrepreneur Archetype												
Cluster #1	**20**	17	**27**	4	3	1	2	**13**	10	7	6	110
Cluster #2	16	**28**	16	1	2	7	4	6	10	10	14	114
Cluster #3	6	6	18	4	3	4	0	**16**	5	**23**	17	102
Cluster #4	11	19	6	1	4	3	0	8	**24**	6	10	92

Note: A linkage between Country and Archetype is evidenced by the Pearson chi-square statistic which is significant at the .000 level when all countries are included in the cross-tab *and* when only the countries with sample sizes over 40 are included (where the assumptions of cross-tab analysis are satisfied with respect to cell sizes).

tests (Table 5) indicate numerous country differences, most of which relate to differences between the United States and the European countries, Canada and the European countries, Mexico and the European countries, and among Canada, the United States, and Mexico. For example, entrepreneurs in the United States are observed to have higher Seeking Focus and Commitment Tolerance cognitions then entrepreneurs in Mexico, the United Kingdom, Germany, or France, and greater Resource Access cognitions than entrepreneurs in Mexico, Italy, Germany, and France. Other country differences are presented in Table 5.

Collectively, these results provide evidence in support of hypothesis 3—that there are country-based differences in Arrangements, Willingness, and Ability cognitive scripts. These results complement the finding of similarities and differences in Arrangements, Willingness, and Ability cognitive scripts among countries grouped by Hofstede's individualism and power-distance culture constructs (Mitchell et al., 2000). Together, these results provide further support for the idea that culture does indeed matter in entrepreneurship. Perhaps as importantly, they also reinforce the notion of a universal culture of entrepreneurship—defined by commonality in the centrality of higher-order constructs such as Arrangements, Willingness, and Ability cognitive scripts, and some of their key dimensions, yet capturing cultural and country differences in the existence, nature, and relative importance of specific cognitions.

Cognitive Archetypes by Country

The incidence of entrepreneurial archetypes by country (H4) was examined in an exploratory manner using cross-tab analysis (Table 6–Archetypes). A significant relationship ($p < .000$) is observed between Country and Cluster—suggesting that the pattern of entrepreneurial archetypes does indeed differ among countries. Because the subsamples are purposeful and relatively small, some caution is warranted in making generalizations. However, in this sample, entrepreneurs from the United States are observed to possess mainly Professional or Dangerous cognitions. The Canadian sub-sample consists predominately of individuals with Dangerous cognitions. There is a higher proportion of Professional cognitions in the Mexican sub-sample, Conservative cognitions in the United Kingdom sub-sample, and Arrangements Only cognitions in the Germany sub-sample. Interestingly, all four entrepreneurial archetypes are found in all countries, except Japan, which (as noted previously) had a very low sample size. These results provide some evidence in support of H4, and suggest that country-level culture is indeed related to entrepreneurial cognitions. This is important for prospective international entrepreneurs, since understanding the dominant entrepreneurial archetypes within a country would be helpful in managing stakeholder relationships in alliances or partnership contexts.

Limitations

We have tried to note throughout the possible limitations and qualifications that the reader should keep in mind as these results are presented. Essentially, due to the nature and stage of development of cross-cultural research in the field of entrepreneurship, we have encountered several realities we believe the reader should consider. First, our sample is a purposeful sample, and in some cases due to the difficulties in the collection of primary data, the sample size is small. These facts bear upon assessments of external validity.

Second, the study is limited by the early stage of development of theory and measures, and we look forward to the time when measures of cognitive constructs will have

improved to the point that, for example, research using script cue-based instrumentation will develop such that construct equivalency procedures similar to those set forth in Riordan & Vandenburg (1994) might be followed.

Finally, although we believe that our findings provide a foundation for further examination of the content and structure of new venture expert scripts, a detailed examination and interpretation of differences (e.g., at the country and sub-scale level) is an ongoing enterprise, and this study does not claim to have fully met this challenge. We acknowledge that the use of cluster analysis is highly interpretive and that accordingly, the entrepreneurial archetypes presented in the results are not definitive at this stage of the research. We do, however, empirically demonstrate that it is likely that archetypes such as this do exist, and further, that there is a subset of entrepreneurs who have Professional cognitions. In this study, we have also attempted to shed further light on the content and structure of global entrepreneurial expert scripts by a relaxation of the restrictive focus on culture-based groups of countries in an earlier project (Mitchell et al., 2000), which limited our ability to make within- and between-country comparisons. However, we are not yet satisfied that we have been able in our present research design or operationalization to capture all the variance that we suspect is actually explainable.

These limitations and qualifications notwithstanding, however, we do believe that we have, through the gathering and analysis of primary data from a theoretically interesting set of respondents, and according to an accepted theoretical frame, been able to shed light on the research questions posed at the beginning of this study. We conclude our report with an analysis of our answers to these questions, and with the further implications these answers suggest.

CONCLUSION AND IMPLICATIONS

In this study, we set out to answer three research questions concerning entrepreneurial cognition and culture. In response to the recent call for continuing refinement of definitional rigor within international entrepreneurship research (McDougall & Oviatt, 2000, p. 906), our task has been to demonstrate the extent to which entrepreneurial cognitions across cultures evidence both similarities (are universal), and differences (are permeated by culture). We believe the result of this effort is to give insight to fundamental constructs in the study of global entrepreneurship. Our approach to this objective has been to attempt to empirically tease apart and to clarify some of the elements of the seminal theoretical model first introduced into the literature in 1996 by Busenitz and Lau. Essentially this model suggests that cross-cultural entrepreneurial outcomes, such as start-up intention and the venture-creation decision, depend upon cognitive structure and cognitive process, which in turn depend upon a variety of variables grouped under the headings social context, cultural values, and personal variables (Busenitz & Lau, 1996, p. 27).

Our question one, "Do entrepreneurs have a set of cognitions distinct from those of other business people?" was intended to help isolate the key cognitions of interest in this model: entrepreneurial cognitions in the global setting. In testing H1, we found some mixed evidence suggesting support; and then—as an unanticipated but helpful consequence of testing H2—we were able to establish that indeed members of our Professional cognitions cluster do have higher cognitive script scores than business non-entrepreneurs (Table 5), thus providing additional post hoc support for our initial but more tentative confirmation of the hypothesis. This has obvious implications for researchers trying to say meaningful things about entrepreneurs: we must be more diligent in selecting our samples if we wish to develop theory that can be truly regarded as consequential.

Our research question two, "To what extent are entrepreneurial cognitions univer-

sal?" prompted the further analysis and description of cross-cultural cognitions, which address the 1996 call by Busenitz & Lau for research that explains how culture is related to the dimensions of cross-cultural cognitive schemas (1996, p. 35). Hence, we wondered: Do entrepreneurs across cultures therefore share a number of common cognitive constructs? Until now, while it has been well accepted that cultural values are an antecedent to human thought and behavior (Berry, Poortinga, Segall & Dasen, 1992; Schweder, 1990), it has not been clear whether or not the so-called "entrepreneurial way of thinking" (Meyer et al., 2000; Stevenson & Jarillo, 1990; Venkataraman, 1997) might represent a culture unto itself. In earlier research, we raised the possibility of a cognitively based global culture of entrepreneurship (Mitchell et al., 2000). Our descriptive analysis adds credence to this notion, and provides a foundation for continuing such research, beginning with our use of these results within this study as the basis for our own tests of H4. Results herein provide further evidence in support of this idea.

We deem this further confirmation of a universal culture of entrepreneurship to be important because it gives researchers, practitioners, and policy makers a common framework and language for discussion. Additionally, these findings are a beginning point for the more thorough examination, identification, and understanding of the cognitions held by successful entrepreneurs, which in turn lead to new methods for training and practice. Successfully implemented, this sort of training could have dramatic implications for policy makers seeking to understand what exactly to encourage, and how to go about doing so.

We also believe that the answer to our research question two is important to the further dimensionalization of this increasingly well-documented, world-spanning culture of entrepreneurship. From the outset, we supposed that a two-part test would be necessary to affirm this conceptualization: first, to find evidence, globally, that entrepreneurs think differently from non-entrepreneurs, and second, to establish that entrepreneurs possess similar patterns of cognitive structure regardless of country of origin. Finding evidence of the existence of four conceptualized global entrepreneurship cognitive archetypes lends credence to the assertions of Busenitz et al. (2000, p. 1000) that conceptualization of underlying (more general) global frameworks should be highly useful as a backdrop for understanding the institutional profiles of entrepreneurs by country. We believe that our results amplify the cognitive dimensions of the country institutional framework idea that these authors have suggested (Busenitz et al., 2000, pp. 998, 1000).

Research question three, "To what extent do entrepreneurial cognitions differ by national culture?" moves the discussion into the cultural portion of the Busenitz and Lau (1996) model. As reported above, we find that there are: (1) country-based differences in Arrangements, Willingness, and Ability cognitive scripts, and (2) also some similarities (i.e., circumstances where no differences are observed). As noted above, these results provide further support for the idea that culture does indeed matter in entrepreneurship—not that this should be a tremendous surprise to anyone. But since, within a global context of entrepreneurship, we still have a very limited understanding of the extent of culture's influence, this confirmation (especially as it relates to the veracity of Busenitz and Lau's 1996 model) continues to more accurately situate the cornerstones of such research.

In this regard, we have found country-level culture to be related to entrepreneurial cognitions, supporting H4. This finding is useful in answering more general questions about the role of individuals from various countries as they relate to the dynamics of global opportunity seeking as posed by Autio, Sapienza, and Almeida (2000, p. 921). These authors have suggested further examination of the relationship between individual characteristics and opportunity-seeking propensities. We believe that the question might be more precisely framed as an investigation of the relationship between cognitions and opportunity-seeking propensities. Certainly we have found that the process of individual

opportunity actualization (script "doing" in our parlance) is founded in willingness and ability cognitions, and that the relative levels of these scripts have a dramatic impact upon the types of opportunities sought and taken—as summarized by the empirically supported global entrepreneurial cognitions archetypes that we introduce in this article.

Our findings represent solid progress in the continuation of a research agenda in which we have identified the need to, and have set out to determine and to report, the impact of cognitions in explaining entrepreneurial phenomena. Stinchcombe (1968, p. 20) offers three levels of increasingly strong research descriptors by which we gauge our progress in constructing social theory: (1) credible, (2) substantially more credible, and (3) much more credible; depending upon whether: (1) one implication of theory is confirmed, (2) several similar implications of theory are confirmed, or (3) several different implications of theory are confirmed (respectively).

Beginning with Mitchell (1994), the first implication to be confirmed was that cognitions are associated with new venture formation. Since then, several similar implications have been confirmed, adding credibility to the fundamental theoretical assertion of the cognitive view of entrepreneurship: that cognitions (as independent variables) are associated with various entrepreneurial outcomes of interest (dependent variables). In 1995, we replicated the 1994 study in Mexico and Russia (Mitchell & Seawright, 1995). Following this, the fundamental cognitive assertion was further grounded in two qualitative studies (Mitchell, 1996; Morse, 1998). In 1998, 1999, and 2000 we began to explore the impacts of multiple cultures on the theory (Mitchell, Morse, Smith, & Seawright, 1998; Mitchell et al., 2000; Morse et al., 1999).

In this stream of work we were able to answer parts of the question: how do cognitions explain entrepreneurship? We were able to assert that recognizable cognitive constructs are associated with the venture-creation decision across cultures, but at that stage of the research we had to leave certain parts unanswered, e.g., are there both similarities and differences in the cognitions associated with the venture creation decision? In this study, we were able to dimensionalize more fully both similarities and differences. But some questions from prior research still remain unanswered. We are indebted to one reviewer of this paper who notes: "in the Mitchell et al. (2000) article there is evidence that elements of national culture (i.e., Individualism and Power Distance) influence new venture creation. It would be interesting in your discussion to see if these variables, in a post hoc fashion provided additional insight. In this vein, it might be possible that the Uncertainty Avoidance of a national culture could influence the willingness script" (Anonymous Reviewer 2). We agree that there are many such questions that prior research enables us to now pose. We see tremendous opportunity during these exploratory stages of cognitions-based cross-cultural entrepreneurship research for creative and cross-disciplinary work that can extend and amplify the fundamental assertions of the cognitive view.

We think then that the results in our research agenda confirm a set of similar implications (using Stinchcombe's 1968 terminology). Elsewhere within the entrepreneurial cognitions stream we see that different implications are also being confirmed (e.g., Baron, 1998; Busenitz & Barney, 1997; McGrath & MacMillan, 1992; McGrath, MacMillan, & Scheinberg, 1992; Simon, Houghton, & Aquino, 2000). So at this state in the research, we are pleased to report that the cognitive explanation is becoming increasingly credible. What does this now mean for global entrepreneurship research?

In 1998, Hitt, Keats, and DeMarie suggested that the technological revolution and increased globalization have defined a new competitive landscape for business (Hitt, Keats & DeMarie, 1998). Friedman (2000) intimates that, as a result, we are in a time of global cognitive peril. No one, he argues, fully understands the new system of globalization; and yet individuals—who are "super-empowered" by the raising of informational connectivity and the lowering of political barriers—now freely interact far

beyond previously acceptable relationship boundaries: with nation-states, and within world markets, without clearly understanding how both culture clashes and cultural homogenization affect their actions (2000, pp. xxi, 14-15). Thus, a better understanding of the relationship between national culture and both: (1) the entrepreneurial "way of thinking" (Meyer et al., 2000; Stevenson & Jarillo, 1990; Venkataraman, 1997), and (2) entrepreneurial outcomes such as the making of the venture creation decision, is critical for developing the expertise necessary to accelerate the creation of successful new transactions anywhere on the globe. We hope that this study contributes to meeting this objective.

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