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**IN SEARCH FOR THE HEFFALUMP: AN EXPLORATION OF
THE COGNITIVE STYLE PROFILES AMONG ENTREPRENEURS**

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ABSTRACT

In this article we reopen the search for those features that distinguish entrepreneurs from non-entrepreneurs. Because the trait psychology approach failed to fulfill this promise the cognitive psychology approach was adopted. The exploration of cognitive styles among 497 entrepreneurs and 521 non-entrepreneurs in Flanders distinguishes six profiles: omnipotent thinkers, lazy thinkers, pacesetters, experts, inventors, and implementors. A comparison of both groups yields differences in the prevalence of inventors and implementors. We find significantly more inventors in the group of entrepreneurs and significantly more implementors in the group of non-entrepreneurs. Finally, the results of this study also indicate that entrepreneurs may differ in the cognitive style profiles they hold.

Keywords: cognitive styles, entrepreneurs, non-entrepreneurs, cluster analysis

INTRODUCTION

Since entrepreneurship has entered the academic stage, a group of scholars have devoted themselves to answer the following query: 'Who is an entrepreneur?' (Mitchell *et al.*, 2002). In their quest to answer this question, academics relied and borrowed different concepts from the trait psychology model. Although this model has been one of the earliest and most frequently visited domains in the young history of entrepreneurship (Landström, 1999), it failed to answer this key question (Gartner, 1988, 2004). For instance, several studies about personality features yielded equivocal findings (e.g., Brandstätter, 1997; Chell, Haworth & Brearley, 1991; Miner & Raju, 2004; Stewart & Roth, 2001, 2004) and therefore have been an excellent matrix for raising doubts in the explanatory power of the trait psychology approach.

Despite researchers' disillusionment with the trait psychology approach in entrepreneurship, cognitive psychology has brought a refreshing change. The cognitive view of entrepreneurship - with its emphasis on detecting knowledge structures that entrepreneurs use to make assessments, judgements, or decisions involving opportunity evaluation, venture creation, and growth - provides alternative lenses to explore entrepreneurship related phenomena (Mitchell *et al.*, 2002). In this article, we focus on cognitive styles, a concept borrowed from cognitive psychology, which has been underaddressed in entrepreneurship literature to date (Sadler-Smith, 2004). In adopting this cognitive style approach we reopen the hunt for the Heffalump (i.e. Who is an entrepreneur?). The Heffalump is a character from Winnie-the-Pooh that has been hunted by many individuals using various ingenious trapping devices, but no one has succeeded in capturing it so far. All who claim to have caught sight of it report that it is enormous, but they disagree on its particularities. Not having explored his current habitat with sufficient care, some hunters have used as bait their own favourite dishes and then tried to persuade people that what they caught was a Heffalump. However, very few are convinced, and the search goes on (Steyaert, 2004). Through exploration of the cognitive style profiles of entrepreneurs we are convinced that will open new and exciting doors for future entrepreneurship research.

The reasons to adopt the cognitive style approach are threefold. First, people's cognitive styles influence their preference for different types of learning, knowledge gathering, information processing, and decision making, which are all key actions or tasks an entrepreneur is confronted with daily (Leonard, Sholl & Kowalski, 1999). Second, several venture capitalists confirm that how a potentially successful entrepreneur thinks is a critical

condition for granting financial resources (Rock, 1999). Finally, entrepreneurs are daily confronted with a pervasive sense of uncertainty due to dramatic increases in competitiveness and technological turbulence. Consequently, gaining insight into the entrepreneurial mindset can help capture how these uncertainties can be turned into benefits and an ability to continuously identify and exploit high potential opportunities (McGrath & MacMillan, 2000).

Throughout this paper we will give (1) a short synopsis of the cognitive styles' literature, (2) a description of the method and instrument used to gather and analyze the data, (3) and a conclusion with comprehensive discussion of the cognitive style profiles found among entrepreneurs and non-entrepreneurs.

SYNOPSIS OF COGNITIVE STYLES' LITERATURE

Numerous definitions

Witkin, Moore, Goodenough and Cox (1977) define cognitive styles as individual differences in the way people perceive, think, solve problems, learn, and relate to others. Messick (1984) defines cognitive styles as consistent individual differences in ways of organizing and processing information and experience. Tennant (1988) defines a cognitive style as an individual's characteristic and consistent approach to organizing and processing information and experience. Cognitive style is defined by Hunt, Krzystofiak, Meindl, and Yousry (1989) as the way in which people process and organize information, and arrive at judgements or conclusions based on their observations. Sadler-Smith and Badger (1998) state that a style may be thought of as a qualitatively different way of organizing and processing information, with the 'best' style being determined by the demands of each particular task, problem, or situation. In the light of these definitions, we define a cognitive style as the way an individual perceives environmental stimuli, and organizes and uses information (Van den Broeck, Vanderheyden & Cools, 2003). A cognitive style influences how people look at their environment for information, how they organize and interpret this information, and how they use these interpretations for guiding their actions (Hayes & Allinson, 1998).

Cognitive style dimensions

Numerous cognitive style dimensions have been identified by researchers over the years, ranging from the well-known 'field dependent' versus 'field independent' (Witkin, 1962), and 'serialist' versus 'holist' (Pask & Scott, 1972) constructs, through 'levelers' versus

‘sharpeners’ (Gardner, Holzman, Klein, Linton & Spence, 1959) and ‘reflection’ versus ‘impulsivity’ (Kagan, 1965) to ‘convergers’ versus ‘divergers’ (Guilford, 1967) and ‘adaptors’ versus ‘innovators’ (Kirton, 1976).

According to Hodgkinson and Sadler-Smith (2003) this basic lack of agreement over nomenclature, accompanied by a dearth of reliable and valid instruments suitable for the assessment of cognitive style in applied settings has threatened the viability of the construct for academics and practitioners alike. Drawing upon the work of a number of theorists and empirical researchers who have argued that the numerous dimensions of cognitive style can be ordered within a unitary framework, Allinson and Hayes (1996) reported the development and validation of a new instrument, the Cognitive Style Index (CSI) explicitly designed to address these concerns. Based on research with the CSI Allinson, Chell and Hayes (2000) found that people showing entrepreneurial behavior tend to score high on the intuition pole of the intuition-analysis dimension. Recent findings, however, question the unitarist view of the CSI and add support to multidimensional theories (Hodgkinson & Sadler-Smith, 2003).

Several researchers developed a cognitive style model with multiple dimensions (e.g., Leonard, Scholl & Kowalski, 1999; Herrmann, 1994; Riding & Cheema, 1991; Rowe & Mason, 1987). Based on Leonard and Straus (1997) we distinguish the following two basic dimensions: analytical versus holistic thinking, and conceptual versus experiential thinking. According to this first dimension, an individual can be either an analytical (rational, logical, critical, tending to retain facts and details) or a holistic thinker (intuitive, synthetic, creative, open to experience, able to integrate several simultaneous inputs). The second dimension differentiates between conceptual thinkers, who like to think on a more abstract and conceptual level, and experiential thinkers, who like to think on a more pragmatic and experiential level. Van den Broeck, Vanderheyden and Cools (2003) combined both dimensions into four basic cognitive styles: the knowing style, the planning style, the creative style, and the cooperating style. We describe these styles in the following section.

A basic cognitive style typology

Individuals who utilize a knowing style (analytical and conceptual) look for facts and data. They want to know exactly the way things are, and tend to retain many facts and details. They are task-oriented and accurate, and like complex problems if they can find a clear and rational solution. The planning style (analytical and experiential) is characterized by a need for structure. Planners like to organize and control, and prefer a well structured environment.

They attach great importance to preparation and planning to reach their objectives. They tend to be risk averse. They strongly want other people to respect rules and agreements. The creative style, by contrast, is characterized by holistic and conceptual thinking. Individuals who utilize this style tend to be creative and like experimentation. They tend to see opportunities and challenges. They do not like rules and procedures, and like uncertainty and freedom. They are ambitious and achievement oriented. The fourth cognitive style is the cooperating style (holistic and experiential style). Cooperating people attach great importance to communication and interpersonal relationships. They prefer to think on a pragmatic and experiential level. They take people into account whenever they make decisions. They assemble information by sensing, listening, and interacting with others. They like teamwork and attach great importance to team spirit and cooperation.

According to Herrmann (1994) people do not necessarily have one dominant cognitive style. They may combine different styles. Therefore, we explore whether entrepreneurs exhibit a specific cognitive style profile in comparison to non-entrepreneurs as there are several indications to assume that entrepreneurs combine different cognitive styles. Some authors (Block & MacMillan, 1999; McGrath & MacMillan, 2000) state that successful entrepreneurs have an entrepreneurial mindset, which combines the planning and the knowing style. This type of entrepreneurs are especially good at developing successful business plans and strategies. Besides this observation several entrepreneurs seem to hold a creative style. This type of entrepreneurial minded people tend to have more originality than others and are able to produce solutions that go against established knowledge. Creative thinking also facilitates the recognition of business opportunities (Bridge, O'Neill & Cromie, 2003). Finally, some senior managers think team-oriented to get full support of their team in exploiting opportunities. For example, McGrath and MacMillan (2000) observed that entrepreneurs involve many people in their pursuit of an opportunity. They create and sustain networks of relationships rather than going it alone, using the most of the intellectual and other resources people have to offer. These entrepreneurs hold a cooperating style. Furthermore, Moss Kanter (1982) argued that there is a strong association between accomplishment in innovation and the employment of a participative-collaborative management style.

METHOD

Participants and data collection

Participants were 1,067 respondents to a large-scale career investigation in Vacature.com, a Flemish magazine specialized in recruitment communication and job advertising. After cleaning the dataset for missing values, response patterns and outliers a total of 1,028 responses were involved in the analyses. The total sample covered 497 entrepreneurs (founders, owner-managers) and 531 non-entrepreneurs (blue and white collars). Demographics of respondents revealed the following characteristics. Sixty-one percent were men and 39 percent were women. Approximately one percent of respondents were younger than 20 years, 16 percent were aged between 20 and 25 years, 29 percent between 26 and 35 years, 32 percent between 36 and 45 years, 20 percent between 46 and 55 years, and two percent were over 55 years. The 1,028 respondents worked in more than 20 different sectors (e.g., telecommunications, IT, wood- paper- and graphics industry, retail sector, construction industry, pharmaceutical industry, car industry, energy- and water supply sector etc.).

The data were gathered via an internet survey and hence it is difficult or impossible to assure whether the sample of entrepreneurs and non-entrepreneurs are representative for their populations. Although a frequent critique on online surveys is coverage error, the web has become an important tool to reach certain occupational groups (e.g. entrepreneurs) much easier. According to Stanton and Rogelberg (2002) the internet appears to be a very promising new media for the delivery of surveys.

Instruments

Based on existing cognitive styles' literature (Herrmann, 1994; Riding & Cheema, 1991; Rowe & Mason, 1987), an instrument was developed to gauge the knowing, planning, creative and cooperating style. Twenty-five items were generated and administered to 15,616 participants of a large scale work values study. To test the reliability and factorial validity we computed the Cronbach alpha coefficients and conducted an exploratory factor analysis (PCA) to determine whether the dimensional nature of the questionnaire reflected the four styles. The results of the reliability analysis indicated that the planning style scale ($\alpha = 0.77$; 6 items) and creative style scale ($\alpha = 0.80$; 6 items) met the 0.70 threshold (Nunnally, 1978). The two other scales had a coefficient of 0.62 (knowing style, 7 items) and 0.59 (the cooperating style, 6 items) respectively. In assessing the dimensional nature of the scale, a factor analysis

was conducted and a four factor solution was retained based upon the scree test. The knowing style scale and cooperating style scale contained several ambiguous items (high loadings on different factors) and items with very low factor loadings. Based on the deficiencies emerging from this pretest we adjusted the questionnaire in several subsequent studies.

The final version of the questionnaire administered to our sample of entrepreneurs and non-entrepreneurs (N = 1,067) involved 26 items. Reliability analysis on the four adjusted scales yielded satisfying results: knowing style ($\alpha = 0.74$; 4 items), planning style ($\alpha = 0.79$; 7 items), creative style ($\alpha = 0.79$; 7 items), and cooperating style ($\alpha = 0.79$, 8 items). Confirmatory factor analysis (CFA) using AMOS 5.0 (Arbuckle, 1997) was conducted to determine the homogeneity of the four scales. This analysis revealed that the retention of four factors was the most appropriate solution. A low nonsignificant χ^2/df is suggestive of a good fit. Although $\chi^2/df = 4.86$ was significant ($p < 0.001$), the low value indicated a good fit (Kline, 1998). The Jöreskog-Sörbom GFI also indicated a good fit (GFI = 0.90). Two other widely used indices – RMR and RMSEA – showed that the fit in our CFA model was satisfactory (RMR = 0.04; RMSEA = 0.06). The factor loadings for the 26 items are presented in Table I.

Insert Table I About Here

Data analysis

To explore the cognitive style profile among entrepreneurs we performed cluster analysis. Cluster analysis refers to a group of multivariate techniques whose primary purpose is to group objects on the basis of characteristics they possess (Hair, Anderson, Tatham & Black, 1998). It is a deterministic method that unambiguously assigns objects to clusters (rather than probabilistic methods that assign probabilities of belonging to a group). Despite the lack of clear statistical inference criteria inherent to this method (Dess & Davis, 1984), we wanted to assure our cluster solution was valid. A recommended approach to increase the generalizability of cluster solutions, is to cluster analyze separate samples and to compare the correspondence between the cluster solutions (Hair *et al.*, 1998). Because this approach can be impractical in terms of time or cost constraints or the unavailability of participants for multiple cluster analyses, we randomly splitted our total sample (N = 1,028) in approximately equal samples. Cluster analysis was then conducted on both samples and the results were compared.

Following the established practice in cluster analysis, our cluster variables (knowing style, planning style, creative style and cooperating style) were first transformed into standardized z-scores. Because cluster analysis is very sensitive to outliers all cases with values exceeding + 3.0 SD and – 3.0 SD were excluded. This procedure resulted in sample 1 containing 527 responses (245 entrepreneurs and 282 non-entrepreneurs) and sample 2 containing 501 responses (252 entrepreneurs and 249 non-entrepreneurs).

A two-stage cluster analysis that combines hierarchical clustering with k-means clustering was used. In order to optimize the clusters, the cluster centres identified by the hierarchical method were then used as initial seed points in a k-means clustering procedure. Ward's method was chosen as the hierarchical clustering algorithm. In Ward's method the distance between two clusters is the sum of the squares between the two clusters summed over all variables. At each stage in the clustering procedure, the within-cluster sum of squares is minimized over all partitions (the complete set of disjoint or separate clusters) obtainable by combining two clusters from the previous stage (Hair *et al.*, 1998). This method is said to be the most likely method to discover any underlying cluster structures and follows a similar logic to that of k-means clustering. The squared Euclidean distance was chosen as distance measure, because this is the recommended distance measure for Ward's clustering method (Hair *et al.*, 1998).

After retaining a cluster solution, one-way ANOVAs and post-hoc tests (Scheffé-test) were performed to facilitate the interpretation and labeling process of each cluster.

Finally, crosstabs were performed in both samples to compare the distribution of the cognitive style profiles within the group of entrepreneurs versus non-entrepreneurs.

RESULTS

Descriptive statistics

Table II presents the means expressed as average response per item, standard deviations, and correlations of the knowing style scale, planning style scale, creative style scale, and cooperating style scale. The correlations range between .18 and .50. Because these correlations are moderate the danger for multicollinearity is limited (Hair *et al.*, 1998).

Respondents in the total sample (N = 1,028) scored high on the four basic cognitive styles (see Table II). Independent sample t-tests were calculated to discover significant differences on the basic cognitive styles between entrepreneurs and non-entrepreneurs. The entrepreneurs scored significantly higher on the knowing style ($t(1026)=-4.47$, $p<.001$; $M =$

3.97, SD = 0.59 (entrepreneurs) versus M = 3.81, SD = 0.59 (non-entrepreneurs)) and creative style ($t(1026)=-4.42$, $p<0.001$; M = 4.09, SD = 0.49 (entrepreneurs) versus M = 3.95, SD = 0.52 (non-entrepreneurs)) when compared to the non-entrepreneurs.

Insert Table II About Here

Cluster analysis

Analysis sample 1. According to Hair *et al.* (1998) it is best to compute a number of different cluster solutions and then decide among the alternative solutions based on practical judgment, common sense, or theoretical foundations. As evidenced by examining the dendrogram and agglomeration coefficients the hierarchical cluster analysis revealed a solution between four and eight clusters. Thereupon k-means clustering was performed for four, five, six, seven, and eight clusters. After investigating the cluster centers we decided to retain a six cluster solution (see Table III).

Insert Table III About Here

Analysis sample 2. In order to crossvalidate and examine the robustness of the obtained six-cluster solution in sample 1 we performed the two-stage cluster procedure on a second parallel sample. In this sample we also found that a six-cluster solution was the most appropriate one, supporting the findings in sample 1. The cluster centers for sample 2 exhibited the same pattern as the cluster centers in sample 1 (see Table III).

The six cognitive style profiles: labeling of cluster centers

We initially studied the cluster centers followed by an examination of post-hoc tests (see Table III), so that we could label the six profiles. According to Milligan and Cooper (1987) a minimum requirement for the validity of clusters is that the clusters differ significantly on the cluster variables, which were used to derive the typology. Therefore, Scheffé-tests were performed. After a careful examination of the data we decided to call the six profiles: omnipotent thinkers (cluster 1), lazy thinkers (cluster 2), pacesetters (cluster 3), experts (cluster 4), inventors (cluster 5), and implementors (cluster 6).

Omnipotent thinkers are the most flexible thinkers of all types we discovered. They score highest on the knowing style, planning style, creative style, and cooperating style. They can be very progressive, conservative, holistic, individualistic, risk-seeking, risk-avoidant, rational, intuitive, accurate, and chaotic at the same time. Because they are able to combine the holistic side of the creative style with the experiential component of the cooperating style they are real energizers. Furthermore it is possible that omnipotent thinkers are rather reserved and conservative when they combine the knowing style with the planning style. Due to the combination of the knowing style with the creative style, omnipotent thinkers are also sensitive to new opportunities.

Lazy thinkers are the complete opposite of omnipotent thinkers. This type scores lowest on the four basic cognitive styles. In consequence, the actions and attitudes of this type are presumably far less driven by their way of thinking in comparison to the five other types. Instead of believing to control their own behaviour they probably tend to attribute their actions to the environment and luck.

The third large group are pacesetters, which combine the creative style and cooperating style. Contrary to the omnipotent thinkers this type does not engage in the knowing style and the planning style. Pacesetters like to be creative in team. They do not tend to exhibit following behavior and they can be very critical and demanding toward others. This group also gets easily tired by facts and figures. Although pacesetters have a healthy portion of ambition to realize things, they do not put their own career and power at the highest spot. A meaningful contribution to the bigger whole is more important than individual prestige. Because of their divergent way of thinking and focus on feelings they have an empathic ability. Just like inventors they are restless minds and full of energy.

The fourth type are experts. Experts can be considered as the opposite of pacesetters. They attach great importance to the knowing and planning style but score rather low on the progressive, proactive, and holistic dimension of the creative and cooperating style. Experts are very strong in analyzing facts and figures, anxious for details, and driven to gather exact knowledge of facts. They organize information, they hold a methodical working procedure and execute work into detail. Experts do not seek risks, prefer to play safe, and are considered as serious by others. Their communication style is characterized by a waiting attitude. Before sharing their own opinion, experts first gather enough information. They are goal-oriented and have a need for clarity. Experts are the modern prototypes of 'Mr Spock' as rationality in their view always wins the battle against emotion.

The fifth type are inventors. Inventors combine a sense for analysis (the knowing style) with a sense for an own vision (the creative style). They enjoy innovation and discover opportunities based upon exact knowledge. This type is out for an adventure and does not evade risk. Innovators are quick thinkers, like to solve difficult problems, and are good at it, because they master the art to unravel bottlenecks and divergent thinking. They are not afraid to question prevailing beliefs, norms and customs. They hold progressive opinions and do not give up their sleep because others do not share their ideas. Work that is purely administrative is not their game. They prefer to leave the implementation of details to others.

The counterparts of inventors are the implementors, who score low on the knowing and creative style. Implementors also score moderately on the planning and cooperating style. Implementors prefer a pragmatic way of handling things, and like to realize previous agreements. They are rather following and not innovative at all. This type is rather conservative and prefers certainty over adventure. Implementors are not at all risk seekers and pay a lot of attention to past experiences. They are very disciplined in their work.

A comparison of the cognitive style profile distribution between entrepreneurs and non-entrepreneurs

In Table IV the percentages of the six types are presented for the group of entrepreneurs and non-entrepreneurs in both samples. A first noteworthy finding is that entrepreneurs differ from non-entrepreneurs regarding the prevalence of the six identified cognitive style profiles (sample 1: $\chi^2(5) = 16.89$, $p < 0.01$; sample 2: $\chi^2(5) = 27.30$, $p < 0.001$). The comparison of sample 1 with sample 2 yields similar distributions. In both samples the implementors and omnipotent thinkers are the largest groups, followed by inventors. The least represented type in sample 1 and 2 are the experts. The most interesting finding is that there are more implementors among non-entrepreneurs than among entrepreneurs (sample 1: non-entrepreneurs 23.8% versus entrepreneurs 13.9%; sample 2: non-entrepreneurs 32.9% versus entrepreneurs 15.9%) and, on the contrary, more inventors among entrepreneurs than among non-entrepreneurs (sample 1: non-entrepreneurs 12.4% versus entrepreneurs 24.1%; sample 2: non-entrepreneurs 11.6% versus entrepreneurs 19.8%). Finally, sample 2 shows that there are more experts among entrepreneurs (13.5%) than among non-entrepreneurs (6.8%).

Insert Table IV About Here

GENERAL DISCUSSION

Concluding remarks

As far as we know this inquiry is the first study conducted in Flanders to present an empirically derived cognitive style profile of entrepreneurs and non-entrepreneurs. By adopting a cognitive style approach to entrepreneurship research, our findings provide insight into the reason why academics disagreed on the particularities of the Heffalump (i.e., Who is an entrepreneur?). Our findings suggest that entrepreneurs not only differ from non-entrepreneurs, they also differ mutually. A possible explanation why previous research failed to detect those distinguishing entrepreneurial traits is because they emphasized different types of entrepreneurs and in consequence produced equivocal findings.

Especially interesting is that the six cognitive style profiles were replicated in a second sample and therefore provide strong evidence for the validity of these profiles. We also believe our study contributes to the unitarist and multidimensional cognitive styles' view debate. Because the empirically derived types combine at least two basic cognitive styles (knowledge, planning, creative, and cooperating style) we found support for the more complex multidimensional approach as opposed to the unitarist approach (Herrmann, 1994; Hodgkinson & Sadler-Smith, 2003; Sternberg, 1997). In our view people do not necessarily have one dominant cognitive style, they might combine several basic cognitive styles.

Also of interest is that, although some similarities were found between our group of entrepreneurs and non-entrepreneurs, there was evidence that both groups differ. The evidence highlights differences in the knowing style and creative style. Entrepreneurs score significantly higher on both styles in comparison to their non-entrepreneurial counterparts. In addition, our data showed a higher prevalence of inventors among entrepreneurs and a lower prevalence of implementors in comparison to non-entrepreneurs. This is not a surprise as inventors enjoy the discovery of opportunities, innovation and risk-taking, all features that characterize successful entrepreneurs. Furthermore, a considerable number of scholars (e.g. Agor, 1986; Mintzberg, 1994; Sinclair, Ashkanasy, Chattopadhyay & Boyle, 2002) stressed the necessity of integrating analytic (knowing style) and intuitive (creative style) processing styles in managerial work. According to Hodgkinson and Sparrow (2002) a combination of both styles is required to process information, if individuals and organizations are to prosper and minimize the dangers of cognitive biases identified by behavioral decision researchers.

Limitations and suggestions for future research

Due to the data collection method, the major weakness of this study is that we cannot totally assure whether our samples are representative for their populations. Whereas this coverage problem is inherent to online surveying, several researchers from their part welcome the internet as a convenient means of accessing large sample populations (Pettit, 1999; Schmidt, 1997). In addition, internet surveys lead to similar response rates, higher response speed and higher response completeness in comparison to their post-mailed equivalents (Mehta & Sivadas, 1995; Truell, Bartlett & Alexander, 2002). Our sampling procedure does not make the distinction between small business owners, habitual entrepreneurs, novice entrepreneurs, intrapreneurs, founders, etc. Therefore, a first recommendation is to examine whether the six profiles we discovered also reoccur in aforementioned populations.

As our findings yielded several cognitive style profiles it is important for future research to focus on particularities that exist among entrepreneurs instead of regarding them as a homogeneous population in which no differences emerge.

Meanwhile our research continues, we believe we introduced an instrument and typology that is a welcome addition to the variety of instruments available for the assessment of individual differences and prediction of future behavior in organizations. Our questionnaire, which needs some further validation, might be very useful for practitioners as an additional selection and assessment instrument, as it is easy to administer and interpret. However, further research on the relationship between cognitive style profiles and performance criteria might first be necessary.

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TABLE I**Factor loadings Cognitive Style Inventory**

Items	Factor 1	Factor 2	Factor 3	Factor 4
I want to have a full understanding of all problems.	0.647 ^a			
I like to analyze problems.	0.633			
I make detailed analyses.	0.617			
I study each problem until I have understood the underlying logic.	0.673			
Developing a clear plan is very important to me.		0.677		
I always want to know what should be done when.		0.570		
I like detailed action plans.		0.738		
I prefer clear structures to do my job.		0.623		
I prefer well prepared meetings with a clear agenda and strict time management.		0.510		
I make definite engagements, which I follow up meticulously.		0.526		
A good task is a well prepared task.		0.545		
I like to contribute to innovative solutions.			0.674	
I like to look for creative solutions.			0.472	
I am motivated by ongoing innovation.			0.608	
Variation in life is important to me.			0.506	
New ideas attract me more than existing solutions.			0.728	
I like to extend the boundaries.			0.683	
I try to avoid routine.			0.426	
I pay a lot of attention to how other people react to proposals.				0.491
I put a lot of energy into respecting other people's personal feelings and opinions.				0.519
Collaboration with others gives me energy.				0.540
I like to help others.				0.614
I realize that everyone wants to be considered as unique.				0.452
Resolving problems should be a consultative process.				0.577
I like meeting other people.				0.604
I like working with other people.				0.720

^a Only factor loadings ≥ 0.40 are displayed.

TABLE II**Means, standard deviations and correlations (N=1,028)**

	M	SD	Knowing style	Planning style	Creative style
Knowing style	3.89	0.59			
Planning style	3.81	0.57	0.501***		
Creative style	4.02	0.51	0.298***	0.178***	
Cooperating style	4.11	0.47	0.248***	0.332***	0.458***

*** p<.001

TABLE III**Cluster centers**

Sample 1 (N = 527)							Post-hoc comparison ^b
	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	
Knowing style	.851 ^a	-.994	-.744	.351	.573	-.488	lowest 2=3/ 3=6/ 4=5/ 5=1 highest
Planning style	1.053	-.894	-.956	.396	-.206	.004	lowest 3=2/ 5=6/ 4/ 1 highest
Creative style	.841	-.998	.588	-1.205	.283	-.566	lowest 4=2/ 6/ 5=3/ 3=1 highest
Cooperating style	.872	-1.468	.554	-.703	-.553	.186	lowest 2/ 4=5/ 6/ 3=1 highest
Sample 2 (N = 501)							Post-hoc comparison
	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	
Knowing style	.829	-1.028	-.936	.887	.547	-.415	lowest 2=3/ 6/ 5=1/ 1=4 highest
Planning style	.903	-.936	-1.119	.911	-.231	.004	lowest 3=2/ 5=6/ 1=4 highest
Creative style	.825	-1.081	.733	-.688	.533	-.540	lowest 2/ 4=6/ 5=3=1 highest
Cooperating style	1.034	-1.290	.475	-.361	-.455	-.032	lowest 2/ 5=4/ 4=6/ 3/ 1 highest

^a Calculated on Z scores.^b Scheffé test was used. Comparisons were based on raw mean scores.

TABLE IV**Comparison distribution cognitive style types in group of entrepreneurs and group of non-entrepreneurs**

	Sample 1 (N=527)			Sample 2 (N=501)		
	Non-entrepreneurs (N=282)	Entrepreneurs (N=245)	Total	Non-entrepreneurs (N=249)	Entrepreneurs (N=252)	Total
Omnipotent thinkers	24.8%	24.9%	24.9%	21.7%	25.8%	23.8%
Lazy thinkers	11%	11%	11%	14.9%	12.3%	13.6%
Pacesetters	16.7%	15.9%	16.3%	12.0%	12.7%	12.4%
Experts	11.3%	10.2%	10.8%	6.8%	13.5%	10.2%
Inventors	12.4%	24.1%	17.8%	11.6%	19.8%	15.8%
Implementors	23.8%	13.9%	19.2%	32.9%	15.9%	24.4%