ENTREPRENEURIAL PERSONALITY AND ENTREPRENEURIAL BEHAVIOUR

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Abstract: The paper presents a literature analysis concerning the concept of entrepreneurial personality. Several topics are discussed, such as: entrepreneurship, entrepreneurial personality, personality traits and factors associated with entrepreneurship, context variables influencing entrepreneurial behaviour, psychological explanations of entrepreneurial behaviour.

Key words: entrepreneurial personality, personality traits, Big Five, Big Three of entrepreneurship, entrepreneurship.

1. Entrepreneurship as a Study Field

The entrepreneurial behaviour has been considered to be an engine of economic and social development ever since Max Weber (1934), for whom 'the entrepreneurial spirit' was the direct result of the education derived from protestant ethics. Psychologists such as McClelland (1961) or Furnham (1990) developed this idea and looked for the determinants of entrepreneurial behaviour in the personality features modelled by protestant ethics. In a country such as Romania, where, for five decades, people were educated to consider entrepreneurship as a manifestation of dishonesty (the label of 'black marketer' was attached to the ones who tried to start what today we would call 'small business') under the circumstances of a society which forbade and punished such behaviour, the entrepreneurial spirit was blamed as being capitalist, suspect and a threat to the communist social order. After the 1989 Revolution, the mentalities started to change with the development of the private economic sector and with the apparition of a new social category—the businessmen.

The promotion of entrepreneurship started to be considered a priority in many countries, including Romania, due to the fact that, as Max Weber, McClelland (1961) and others sustained, it is a factor of economic development and a source of national wealth, as it creates jobs in different activity sectors and includes some disadvantaged social categories, such as different types of minorities, including women.

Entrepreneurship is relatively recent as a research domain, the first researches being mentioned in the 70's, present mostly in western countries, in faculties which offered specialisations in business administration. The entrepreneurship courses were initiated, however, long before that, after World War II (Cooper, 2005). Due to the multiplication

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of the research issue, journals, specialised conferences and research institutes appeared, and the domain has known a rapid growth in the last 30 years.

Entrepreneurship knows very diverse conceptual approaches, from economics, to management, sociology and finally psychology. The researches in the economic and management domains attempt to describe and explain the particularities of SME's (small and medium-size enterprises, presently considered a prototype for entrepreneurship, although all big companies started as SME's, initiated by one or more businessmen), the contribution that they bring to national wealth, the logistic and management aspects which running a business entail. While sociology studies the influence of social factors (values, norms, rules) in determining entrepreneurial behaviour, the psychological approach, which is relatively recent, aims at identifying the personality aspects of the businessmen and the psychosocial correlates of this type of behaviour.

Ever since 1985, Gartner noted that research in the domain of entrepreneurship is extremely heterogeneous and these different approaches lead to a diversity of theoretical models which could be reconciled through interdisciplinary research. Ireland and Webb (2007) conducted a trans-disciplinary exploration of entrepreneurial research and came to the conclusion that the main disciplinary approaches pertain to the economic disciplines—accountability, management, finance, marketing, but that there is a large number of researches from the perspective of political science, anthropology, sociology and psychology.

Bringing together a series of definitions of entrepreneurship, Chell (2008) observes that most of the definitions are centred on the process of development of an organisation of any type (in business, in the social domain), more precisely on the road from an idea, from the perception of an opportunity, to the development of an activity which brings profit (pp. 2-3). The main characteristics of the process are connected to the social and economic context where the organisation of an innovative, productive activity, which brings material, financial, human and social resources, takes place and risks are taken. The above mentioned definitions are given rather from a managerial perspective than from a psychological one.

Ardichvili, Cardozo & Ray (2003) note that, given the diversity of approaches, from the analysis of the concepts used in articles from different specialty journals result a multitude of concepts which are not very well articulated, resulting in numerous concept overlaps. In their treaty on the research in the domain of entrepreneurship, Acs and Andretsch (2005) present an interdisciplinary synthesis of the approaches: entrepreneurship as a process, the exploration of opportunities, the emergence of new organisations, the financial aspects, the social context, the impact of entrepreneurship on the economic growth, the public policies. The psychological approach of the entrepreneurial phenomenon is included in the dimension 'social context'

2. Who or what is an Entrepreneur?

One of the delimitation issues of the psychological perspective on entrepreneurship is the signification attached to the term of entrepreneur and to the term of entrepreneurial behaviour. What is, in fact, an entrepreneur? A person running small business and having the status of legal person? A person who runs a micro-company where at least one more person is hired? A family member who creates business where only family members are involved (the case of most independent agriculture producers)? A company owner who

developed the business from scratch and kept it running in spite of the difficulties on the market? Who could be considered the prototype of the entrepreneur? Steve Jobs, who not only created successful business, but also became a media star, the modest owner of a production company who advertises his business on the internet, the psychologist who opens a psychology cabinet and subscribed to LinkedIn, the plumber who advertises his work by putting flyers in the mailbox?

The definitions in the literature from the economic domain and from the social sciences domain vary from entrepreneur as the initiator of SME's (business) which brings value and creates new jobs, to broader definitions which include business that ensure every-day living and where one or more members can be involved, to even legal persons (working as freelancers). For example, Brandstätter (2011) defines the entrepreneur as the 'founder who manages his own small businesses'.

3. What is Entrepreneurial Personality?

The answers to the question are different: while the economic approach looks for explanations of the entrepreneurial behaviour and of the performance of a company in economic factors, while the psychological approach tries to identify the dispositional variables which differ the individuals sharing the same socio-economic context, at behavioural level. Under these circumstances, some individuals act business-wise, while others do not. Some dispositional factors, the personality traits, which have causal role in relation to behaviour, are partly held responsible for this. Are entrepreneurs different from the rest of the population due to stable internal characteristics equivalent to the personality traits? Could we talk about an entrepreneurial personality?

Among the internal determinants of entrepreneurial behaviour, the personality features constitute a research domain which is apparently very promising, starting from the need for achievement, considered by McClelland (1961) as being inextricably connected to the enterprising behaviour and continuing with Holland's enterprising personality (1985). Nonetheless, this approach of the entrepreneurial behaviour does not consider the contextual factors, such as the social environment, the entrepreneurial spirit as a relevant element of the local culture, the technological aspects which favour the development of a company, the opportunities at a given moment in the social environment (such as the development of the service sector), the social network in which the individual functions, the social support that he is given, the models to which he was exposed, the specific competences acquired due to education, the demographic variables. After all, it is obvious that not all the individuals who have entrepreneurial traits come to develop profitable business. Maybe the explanation is found in the relation between the dispositional factors, which clearly make the difference, and the other demographic and contextual factors.

The concept of entrepreneurial personality was subject to fierce critic from social psychology in general and from interactionism in particular. The main counterarguments for the existence of a set of time-stable, trans-situational features, valid in different domains of activity which could be called 'entrepreneurial personality' would be the following: different activity domains have different competence and personality requirements; the functioning of the individual in varied social networks in point of size and diversity, facilitates or, on the contrary, blocks the identification of opportunities, the mobilisation of resources, the successful implementation of a business idea, irrespective of the personality features; it is difficult to anticipate whether the same individual will act

according to the so-called entrepreneurial features or according to situational influences, in different moments and in different situations.

One could rather discuss on a complex person–situation interaction, which would have a causal role reported to the entrepreneurial behaviour. For this reason, Shaver (2005), considers that 'it is surprising that the myth of entrepreneurial personality survived for so long' (p. 342), given that from different other domains (especially the economic and management ones), the research of the entrepreneurial phenomenon was already implicitly oriented towards an interactionist approach. Many authors, among whom Llewellyn & Wilson (2003), bring into discussion the existence of an entrepreneurial personality, pre-existent to learning.

Although the characteristics of the individual who is considered an entrepreneur are easier to measure as compared to other variables involved in the process of creating a type of business, it is unfair to limit ourselves to a vision which only considers the person when discussing entrepreneurship. The development of business entails complex interactions between individual variables and variables external to the individual. Older psychological models of entrepreneurial activity (Gartner, 1985) suggest the integration of four dimensions: the characteristics of the individual who initiates the activity, the organisation thus created, the environment in which it functions; the process through which the activity is developed. Shaver and Scott (1991) suggest the consideration of the interaction between the person, the process and the decisions imposed by the activity, in other words, the cognitive processes through which the environment is interpreted and which lead to the behaviour per se.

4. Personality Factors and Traits Associated to Entrepreneurial Behaviour

The entrepreneurial activity has requirements which makes it different from other professional activities, such as the managerial activities, activities where there is responsibility involved for the property of the company, special requirements connected to seeing an opportunity and undergoing an innovative activity. There are aims, limited resources, few or even absent organisational coordinates, uncertainty as far as market and competitional evolution is concerned, decision making in risky situations, etc. In order to successfully face these challenges, the entrepreneur has to have personal characteristics different from the ones of a manager, not only at the level of domain–specific competences, but also at the level of personality traits, probably.

Tow meta-analyses conducted by Zhao & Seibert (2006) and Brandstätter (2011) indicates the predictive value of some personality factors measured in the Big Five model for the initiation of business and for its performance. When comparing the entrepreneurs to the managers of SME's, their intentions and entrepreneurial performances, Brandstätter noted that as compared to the managers of SME's, entrepreneurs display a lower level of neuroticism (N–), a high level of extraversion (E+), are more open towards experience (O+), display a higher level of consciensciousness (C+) and are less pleasant than managers (P–). Rauch & Frese (2007a) stated that the intensity of association between extraversion and business performance varies according to the domain of activity. A higher level of entrepreneurial motivation, which, according to Chan, Uy, Chernyshenko, Ho, & Sam (2015) explains the incremental variation of the factors from the Big Five model, is added to all these.

It is considered that the influence of 'general factors' measured by Big Five is a large, distal one, but that there are specific features with a proximal influence, being more fit to be included in the definition of entrepreneurial personality: need for achievement, innovative spirit, proactivity, self-efficacy, tolerance to stress, autonomy, internal locus of control, risk propensity, tolerance to ambiguity, which differentiate the entrepreneurs from the managers and non-entrepreneurs (Rauch & Frese, 2007a).

The need for achievement (the term was first used by H. Murray in 1938, in his theory on human motivation), was considered, ever since its conceptualisation by McClelland (1961), as a learned personality feature, involved in the orientation of the individuals towards activities which lead to performance, self-affirmation, social success. Given the fact that in the entrepreneurial activity the performances depend on the qualities of the individual and on his own efforts, it is expected that a high level of the need for achievement be associated with the orientation towards an entrepreneurial career. Among all the traits identified as differentiating for the entrepreneurial personality, the need for achievement was the most intensely studied. Recent researches (Kickul & Gundry, 2002; Fairlie & Holleran, 2012) indicate this trait as having a significantly higher level with entrepreneurs as compared to non-entrepreneurs, in association with other traits, such as autonomy, tolerance to ambiguity, moderate propensity towards risk, tolerance to risk.

The internal locus of control (concept from J. Rotter's theory on personality, 1966), was considered an important feature for success in the entrepreneurial activities, due to the fact that the conviction that the individual himself controls the effects of his actions has an important motivational role in sustaining the efforts to accomplish the objectives under uncertainty conditions. Many researches (Begley & Boyd, 1987; Crant, 1996; Kickul & Gundry, 2002; Zampetakis, 2008; Altinay, Madanoglu, Daniele, & Lashley, 2012) mention the association between the internal locus of control, the need for achievement and the type A behavioural pattern.

Risk propensity is considered an important personality feature in the initiation of business, because, under conditions of uncertainty specific to the entrepreneurial activity, the people who are predisposed to avoid risk will ruminate and will postpone decision making and taking action, missing opportunities and staying in a comfort zone which is not at all favourable to development. The initiation of business is only the beginning of a long interaction process between the individual characteristics, considered stable in time, and the socio-economic environment, which varies in situations, where there are risks which have to be taken, and successful business entails primarily surviving. Risk propensity, for example is positively associated with the entrepreneurial intention and negatively associated with the business performance, expressed in terms of survival and economic success (Zhao, Seibert & Lumpkin, 2010). A high level of risk propensity is rather associated to giving up on the business (Xu & Ruef, 2004; Caliendo, Fossen & Kriticos, 2010). Brandstätter (2011) states that risk propensity plays a mediator role between the personality variables such as tolerance of ambiguity, innovative spirit, need for achievement and family tradition.

Chell (2008) highlights the fact that the common core of many researches from the last decades is the Big Three of entrepreneurship, a set of three features considered as defining for entrepreneurial personality—high need for achievement, internal locus of control and moderate risk propensity (presented above). However, the researches were not limited to these variables, but included other personality traits considered to be associated with entrepreneurial behaviour.

Proactivity (Crant, 2000). The state of permanent alert for the identification of some opportunities which could be exploited by initiating business entails a structural predisposition of taking initiative. The concept of proactivity, initially brought forward by Bateman and Crant (1993) in order to explain the individual differences as far as organisational behaviour was concerned, was extended to the domain of entrepreneurship because, in an independent activity of starting business from scratch, this predisposition makes the difference between waiting, answering requests and solving current issues, or actively looking for new opportunities.

Creativity and innovation are indispensable for the identification of opportunities and the offering of new solutions which should ensure the differentiation of one's product from the product of the competition, or to identify a niche where the business should be successful (Ward, 2005; Weitzel, Urbig, Desai, Sanders & Acs, 2010). To these traits are added the intuitive cognitive style, entrepreneurial self-efficacy and entrepreneurial intentions (Barbosa, Gerhardt & Kickul, 2007; Prodan & Drnovsek, 2010), respectively independence and autonomy (Fisher & Koch, 2008).

Emotional intelligence was considered a compulsory personality trait for the activities which entail the interaction with other people and understanding them. Although there is an association between entrepreneurial behaviour, success in business and emotional intelligence, the relation is not very intense, Ahmetoglu, Leutner & Chamorro-Premuzic (2011) considering that the size of the effect is not concluding enough in this case.

The Passion for entrepreneurship, a concept introduced by Cardon, Gregoire, Stevens, & Patel (2013), delimits a specific motivational factor from the category of entrepreneurial interests, having four dimensions specific to the domain: the innovation, foundation and development of a company to which is added the central character of the entrepreneurial activity reported to the self-identity of the individual. The passion for entrepreneurship entails living positive affective experiences towards one's own activity. The concept partially overlaps entrepreneurial motivation, which is broader.

Ireland & Web (2007) state that the entrepreneurial traits which ensure success could differ from one domain of activity to another and it is therefore difficult to delimit a type of personality with an acceptable degree of generality.

Rauch and Freese (2007b) suggests an explanation of entrepreneurial behaviour defined as the creation of business and ensurance of its success starting from large personality traits, as they are proposed in the Big Five model (Costa & McCrae, 1992) which influence on the one hand specific personality features such as the need of achievement, risk taking, the innovative spirit, autonomy, internal locus of control, self-efficacy, and on the other hand the way in which the knowledge, aptitudes and abilities, which in their turn, influence the life vision of the individual and the stating of his development objectives, are managed. The authors highlight a distinction which is imposed between the studied personality traits: the large ones, such as the personality factors measured by Big Five, influence the behaviour and success in entrepreneurial activities through specific traits. In the model proposed by the authors, other individual variables are included (knowledge, aptitudes, abilities), as well as variables which pertain to the social environment (domain of activity, organisational differences and life cycle of the individual) and influence (proximally) both the setting of development aims and their transposition into business and its success (p. 47). Older studies, such as the one of Begley and Boyd (1987) mention a 'threshold effect' for most specific traits: up to a point, the economic performances of the company are positively associated with the level

of traits but, beyond this optimal point, a too high level of the trait becomes dysfunctional and is associated with low levels of performance. Recent works, such as the one of Leutner, Ahmetoglu, Akhtar & Chamorro-Premuzic (2014) suggest that the entrepreneurial traits with a lower degree of generality are better predictors of the entrepreneurial behaviour than large personality factors.

One of the questions deriving from the existence of entrepreneurial traits, considered to be evidence as far as individual differences are concerned, is whether these are learned or native traits. The answer to this question has larger implications, due to the social stakes, related especially to education and social policies. McClelland (1961) is in favour of learned traits: the traits are the result of the internalisation of values, norms and behavioural models furnished by a certain culture in a given psychosocial context. Chell (2008) considers that the entrepreneurial spirit is rather a social construct. Social factors which are related to the proximal environment of the individual and which contribute to the entrepreneurial success, such as the social capital and the social network to which he belongs (Ulhøi, 2005) are added to the entrepreneurial personality traits.

Many researches identify group differences between entrepreneurs and non-entrepreneurs at the level of personality traits, but since there is no data on the personality of the subjects before being or not being entrepreneurs, it is difficult to determine if they got to be entrepreneurs because they had entrepreneurial traits or if they acquired these traits while working as entrepreneurs (Chell, 2008, p. 92). Fisher & Koch (2008) sustain that these features are native, while others (Nicolaou & Shane, 2010; Zhang, Zyphur, Narayanan, Arvey, Chaturvedi, Avolio, Lichtenstein, & Larsson, 2009) assert that there is a broader native tendency to become a freelancer or an entrepreneur.

Among the demographic variables associated with entrepreneurial behaviour, gender seems to operate a clear selection: most established entrepreneurs are male, and the entrepreneurial interests of the females are more reduced as group average in most cultures (Wang & Wong, 2004; Gupta & Bhawe, 2007). Females see themselves as less skilled with business and are less tolerant towards risk taking (Verheul, Thurik, Grilo, & van der Zwan, 2012). The discussion of the nature of gender differences oscillates between the hormonal and the cultural perspective. In the first approach, the explanation of the fact that men are more fit for business is given reported to the level of testosterone, which mediates, through risk propensity, the interest for professional activities which presuppose initiative, combative spirit and taking risks in decision making (White, Thornhill & Hampson, 2006; White, Thornhill & Hampson, 2007). In the cultural approach, the explanation of the gender differences concerning the entrepreneurial interests is given by the differentiated education of the two sexes and by the values and social norms which favour entrepreneurial behaviour with men, but discourages it with women.

Doing research in the field of entrepreneurial personality not only contributes to the sound explanation of the entrepreneurial behaviour, but also clarifies the nature of some individual and group differences. Knowing the importance of entrepreneurial traits in determining the individual's behaviour helps, on the first hand, enhancing the content of entrepreneurial education, starting with the school age. On the second hand, studying the interaction between the personality traits and the demographic and situational factors can contribute to the design of educational and economic policies that can contribute to the changes of mentalities mainly in a country in need to build up and consolidate a tradition in entrepreneurship.

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References

- Acs, Z. J., & Andretsch, D. B. (Eds.). (2005). *Handbook of entrepreneurship research. An interdisciplinary survey.* Boston: Kluwer.
- Ahmetoglu, G., Leutner, F., & Chamorro-Premuzic, T. (2011). EQ-nomics: Understanding the relationship between individual differences in Trait Emotional Intelligence and entrepreneurship. *Personality and Individual Differences*, 51(8), 1028–1033.
- Altinay, L., Madanoglu, M., Daniele, R., & Lashley, C. (2012). The influence of family tradition and psychological traits on entrepreneurial intention. *International Journal of Hospitality Management*, 31(2), 489–499.
- Ardichvili, A., Cardozo, R., & Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing*, 18, 105–123.
- Barbosa, S. D., Gerhardt, M. W., & Kickul, J. R. (2007). The role of cognitive style and risk preference on entrepreneurial self-efficacy and entrepreneurial intentions. *Journal of Leadership and Organizational Studies*, 13(4), 86-104.
- Bateman, T. S., & Crant, M. J. (1993). The proactive component of organizational behavior: A measure and correlates summary. *Journal of Organizational Behavior*, 14(2), 103-119.
- Begley, T. M., & Boyd, D. P. (1987). Psychological characteristics associated with performance in entrepreneurial firms and smaller businesses. *Journal of Business Venturing*, 2(1), 79–93.
- Brandstätter, H. (2011). Personality aspects of entrepreneurship: A look at five meta-analyses. *Personality and Individual Differences*, 51(3), 222-230.
- Caliendo, M., Fossen, F., & Kriticos, A. (2010). The impact of risk attitudes on entrepreneurial survival. *Journal of Economic Behavior & Organization*, 76, 45–63.
- Cardon, M. S., Gregoire, D. A., Stevens, C. E., & Patel, P. C. (2013). Measuring entrepreneurial passion: Conceptual foundations and scale validation. *Journal of Business Venturing*, 28, 373–396.
- Chan, K. Y., Uy, M. A., Chernyshenko, O. S., Ho, M. H. R., & Sam, Y. L. (2015). Personality and entrepreneurial, professional and leadership motivations. *Personality and Individual Differences*, 77, 161–166.
- Chell, E. (2008). *The Entrepreneurial personality. A social construction* (2nd ed.). London: Routledge.
- Cooper, A. (2005). Entrepreneurship: The past, the present, the future. In Z. J. Acs, & D. B. Andretsch, (Eds.). *Handbook of entrepreneurship research. An interdisciplinary survey*. Boston: Kluwer, p. 21-36.
- Costa, P. T., & McCrae, R. R. (1992). Four ways five factors are basic. *Personality and Individual Differences*, 135, 653-665.
- Crant, J. M. (1996). The Proactive Personality Scale as a predictor for entrepreneurial intention. *Journal of Small Business Management*, 34(3), 42–49.

- Crant, J. M. (2000). Proactive behavior in organizations. *Journal of Management*, 26(3), 435-462.
- Fairlie, R. W., & Holleran, W. (2012). Entrepreneurship training, risk aversion and other personality traits: Evidence from a random experiment. *Journal of Economic Psychology*, 33, 366–378.
- Fisher, J. L., & Koch, J. V. (2008). *Born, not made. The entrepreneurial personality*. London: Praeger.
- Furnham, A. (1990). The Protestant work ethic. The psychology of work related beliefs and behaviours. London: Routledge.
- Gartner, W. B. (1985). A conceptual framework for describing the phenomenon of new venture creation. *Academy of Management Review*, 10(4), 696-706.
- Gupta, V. K., & Bhawe, N. M. (2007). The influence of proactive personality and stereotype threat on women's entrepreneurial intentions. *Journal of Leadership and Organizational Studies*, 13(4), 73-85.
- Holland, J. L. (1985). Making vocational choices: A theory of vocational personalities and work environments (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.
- Ireland, R. D., & Webb, J. W. (2007). A Cross-Disciplinary Exploration of Entrepreneurship Research. *Journal of Management*, *33*(6), 891-927.
- Kickul, J., & Gundry, L. K. (2002). Prospecting for strategic advantage: The proactive entrepreneurial personality and small firm innovation. *Journal of Small Business Management*, 40, 85–97.
- Leutner, F., Ahmetoglu, G., Akhtar, R., & Chamorro-Premuzic, T. (2014). The relationship between the entrepreneurial personality and the Big Five personality traits. *Personality and Individual Differences*, 63, 58–63.
- Llewellyn, D. J., & Wilson, K. M. (2003). The controversial role of personality traits in entrepreneurial psychology. *Education* + *Training*, 45(6), 341 345.
- McClelland, D. (1961). The achieving society. Princeton, NJ: D. Van Nostrand.
- Murray, H. A. (1938). Explorations in Personality: A clinical and experimental study of fifty men of college age. New York: Oxford University Press.
- Nicolaou, N., & Shane, S. (2010). Entrepreneurship and occupational choice: Genetic and environmental influences. *Journal of Economic Behavior & Organization*, 76, 3–14.
- Prodan, I., & Drnovsek, M. (2010). Conceptualizing academic-entrepreneurial intentions: An empirical test. *Technovation*, *30*, 332–347.
- Rauch, A., & Frese, M. (2007a). Let's put the person back into entrepreneurship research: A meta-analysis on the relationship between business owners' personality traits, business creation, and success. *European Journal of Work and Organizational Psychology*, 16, 353–385.
- Rauch, A., & Frese, M. (2007b). Born to be an entrepreneur? Revisiting the personality approach to entrepreneurship. In J. R. Baum, M. Frese, & R. A. Baron (Eds.), *The Psychology of entrepreneurship*. Mahwah, NJ: Lawrence Erlbaum, p. 41-65.
- Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, 80, 1-28.
- Shaver, K. G., & Scott, L. R. (1991). Person, process, choice: The psychology of new venture creation. *Entrepreneurship Theory and Practice*, *16*(2), 23-45.
- Shaver, K. G. (2005). The social psychology of entrepreneurial behaviour. In Z. J. Acs, & D. B. Andretsch (Eds.), *Handbook of entrepreneurship research. An interdisciplinary survey*. Boston: Kluwer, p. 331-357.

- Ulhøi, J.P. (2005). The social dimensions of entrepreneurship. Technovation, 25, 939–946.
- Verheul, I., Thurik, R., Grilo, I., & van der Zwan, P. (2012). Explaining preferences and actual involvement in self-employment: Gender and the entrepreneurial personality. *Journal of Economic Psychology*, *33*, 325–341.
- Wang, C. K. & Wong, P-K. (2004). Entrepreneurial interest of university students in Singapore. *Technovation*, 24, 163–172.
- Ward, T. B. (2005). Cognition, creativity, and entrepreneurship. *Journal of Business Venturing*, 19, 173–188.
- Weber, M. (1934/1993). *Etica protestantă și spiritul capitalismului* [The protestant ethic and the spirit of capitalism]. București: Humanitas.
- Weitzel, U., Urbig, D., Desai, S., Sanders, M. & Acs, Z. (2010). The good, the bad, and the talented: Entrepreneurial talent and selfish behavior. *Journal of Economic Behavior & Organization*, 76, 64–81.
- White, R. E., Thornhill, S., & Hampson, E. (2006). Entrepreneurs and evolutionary biology: The relationship between testosterone and new venture creation. *Organizational Behavior and Human Decision Processes*, 100, 21–34.
- White, R. E., Thornhill, S., & Hampson, E. (2007). A biosocial model of entrepreneurship: the combined effects of nurture and nature. *Journal of Organizational Behavior*, 28, 451–466.
- Xu, H., & Ruef, M. (2004). The myth of the risk-tolerant entrepreneur. *Strategic Organization*, 2(4), 331-355.
- Zampetakis, L. A. (2008). The role of creativity and proactivity on perceived entrepreneurial desirability. *Thinking Skills and Creativity*, *3*, 154–162.
- Zhang, Z., Zyphur, M. J., Narayanan, J., Arvey, R. D., Chaturvedi, S., Avolio, B. J., Lichtenstein, P., & Larsson, G. (2009). The genetic basis of entrepreneurship: Effects of gender and personality. *Organizational Behavior and Human Decision Processes*, 110, 93–107.
- Zhao, H., & Seibert, S. E. (2006). The Big Five personality dimensions and entrepreneurial status: A meta-analytical review. *Journal of Applied Psychology*, 91, 259–271.
- Zhao, Z., Seibert, S. E., & Lumpkin, G. T. (2010). The relationship of personality to entrepreneurial intentions and performance: A meta-analytic review. *Journal of Management*, 36(2), 381-404.