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Creativity and Entrepreneurship: The role of Gender and Personality

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ABSTRACT

Purpose

This study examines the relationship between personality traits and creative behaviour, in an entrepreneurial environment. Moreover, an attempt was made to define the effect of gender on creative behaviour.

Design/methodology/approach:

Even though there are more women than men in Europe, female entrepreneurs represent only a third of the EU's self-employed. Additional factors, such as reconciling business and family, make entrepreneurship a less attractive option for them than for men. In order to achieve the objectives of this study research was conducted with the use of a structured questionnaire, during the months of February and March of 2017. The final sample size consists of 180 small and medium enterprises, from the region of North Greece. The instrument for content and construct validity was examined. Then, the hypotheses were examined using ANOVA, Correlation and Regression analysis.

Findings:

The results showed that "Agreeableness", "Openness to Experience", "Conscientiousness", and "Extraversion" are positively related with "creative behaviour" of entrepreneurs. However, there is no strong evidence to predict the level of creativity by the personality traits. On the other hand, "Neuroticism" is negatively correlated with creativity, but this relation is not significant. The results also indicate a statistically significant but not strong relation among the traits "Agreeableness", "Openness to Experience" and the performance of the enterprise.

Research limitations/implications:

There are some limitations in the study that can be addressed in the future; primarily, the study used subjective measures of firm performance instead of objective measures. Moreover, the sample size was small. A number of policy implications arise from this study. There needs to be a stronger recognition that the stereotypical role of women as sole careers is preventing future growth in female entrepreneurship. If the objective of future policy is to increase the number of women entrepreneurs, particularly in the current climate of global financial crisis and economic recession, it is imperative that we take account of the motivations of women who become entrepreneurs. Once the potential role of personality traits has been more clearly established, this can be used to inform policy making and decision making.

Originality/value:

To the best of our best knowledge, this is the first attempt at estimating the effects of gender and personality on creativity and entrepreneurship in Greece.

Keywords:

Entrepreneurship, Personality,
Gender, Big Five Model

1. Introduction

Entrepreneurship is a construct that is seen by some people to relate to a set of personal characteristics, a set of behaviors by others and a combination of both of these possibilities by yet another group (Llewellyn and Wilson, 2003). Entrepreneurship means different things to different people. Conceptually and in practice, the

©Eastern Macedonia and Thrace Institute of Technology term hints of no stereotypical model (Babu, et al., 2013). Entrepreneurship can be defined as the process of creating value for business and social communities by bringing together unique combinations of public and private resources to exploit economic, social or cultural opportunities in an environment of change (Fillis, 2010). Amlanjyoti et al. (2008) define entrepreneurship as the professional application of knowledge, skills and competencies and/or of monetizing a new idea, by an individual or a set of people, by launching an enterprise

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de novo or diversifying from an existing one (distinct from seeking self employment as in a profession or trade), thus to pursue growth while generating wealth, employment and social good. According to Babu et al. (2013) from the perspective of economic functions, the three crucial characteristics of entrepreneurial activity are: risk taking, innovation and venturing into new business activities for profit.

A change in the economy has been identified recently, moving from knowledge-based activities to creativity, innovation, entrepreneurship and imagination (Van den Broeck et al., 2008; Oke et al. 2009). Increasing globalization and technology effects have resulted in more business opportunities but the marketplace has also become more crowded and competition has increased (McMullan and Shepherd 2006).

Entrepreneurship occurs in all types and sizes of organizations, from the domestic microenterprise to the global corporation (Fillis, 2010). Creativity is identified by the ability to create, bring into existence, to invent into a new form, to produce through imaginative skill, something new. Creativity is not the ability to create out of nothing, but the ability to generate new ideas by combining, changing, or reapplying existing ideas. Some creative ideas are astonishing and brilliant, while others are just simple, good practical ideas that no one seems to have thought of yet. Bilton (2007) said that creativity enables the entrepreneur to act on opportunities in ways that can result in competitive advantage for the organization. It can provide the basis for innovation and business growth, as well as generally impacting positively on society. In the middle of the last century personality traits became both fashionable and popular as an explanation of both entrepreneurial behaviors and intentions (Llewellyn and Wilson, 2003). Personality traits are constructs to explain regularities in people's behavior, and help to explain why different people react differently to the same situation (Cooper, 1998). Entrepreneurial personality is crucial for the individual decision to start up a business and the subsequent entrepreneurial activity. Schumpeter (1934), for example, identified entrepreneurs as extraordinary individuals defying conventions, originating innovations, and thus promoting creative destruction. Entrepreneurs recognize and exploit entrepreneurial opportunities (Kirzner, 1973) and they are willing to take risk and uncertainty (Knight, 1921). The degree to which entrepreneurship affects the economy depends on numerous factors, including the quality, gender composition, and type of entrepreneurial activity. Gender equality and female entrepreneurship are key factors in economic development. The number of female entrepreneurs across the world has been gradually growing in the recent years. Researchers and policy makers have been paying more attention to female entrepreneurship (Nedelcheva, 2012).

The Specific Objectives of the Study Are:

- Measurement of the impact of creativity in the success of enterprise;
- Assessment of the effect of personality traits in creative behavior;
- Evaluation of mediation effect of gender, in creative behaviors.

2. Literature Review and Research Hypotheses.

Innovation and creativity have become critical skills for achieving success in developed economies. While creativity is the ability to produce new and unique ideas, innovation is the implementation of that creativity - that's the introduction of a new idea, solution, process, or product (Sokolova, 2015).

Creativity and innovation within well-run companies have always been recognized as a sure path to success. Stimulating creativity and exploring completely new and unknown before territories results in an **increase in the productivity of the organisation**. Encouraging employees to think outside of the box and giving them time and resources to explore new areas for innovative ideas is the key to cost-effective business solutions. Creative ideas and innovative approaches can come from almost anywhere- from partners, customers, target groups, or employees (Sokolova, 2015). Researchers have predominantly agreed that creativity is a multidimensional construct, representing an individual's capacity to produce inventions, ideas, insights, restructuring, and products that can be evaluated as being aesthetic, social, scientific or technological value (Vernon, 1989).

Innovative entrepreneurial business people are increasingly integral to the stability and growth of developed economies. Many even say that the perpetuation of these developed economies depends on the success of their creative entrepreneurs (Adams, 2005).

The most productive businesses are those embracing creativity and inspire innovation. Incentivizing creative product and strategy development can help propel a business, with all employees actively seeking opportunities for further growth and innovation. Entrepreneurs should emphasize the importance of creativity and imagination (Adams, 2005). Thus, creativity may manifest itself in not just identification of opportunities but also in the implementation of those ideas. Generation of new ideas can thus be indicative of the individual's creativity. Individuals that can come up with new ideas for starting a business are more likely to have feasibility perceptions about opportunity recognition, and hence are likely to have greater entrepreneurial intentions (Duckworth et al., 2015).

Traditionally, it's argued that women have lower entrepreneurial intentions, but this study finds in the sample that creative women were more likely to have entrepreneurial intentions.

Understanding the pipeline of women entrepreneurs, through developing entrepreneurial intentions is important, and entrepreneurship education can play an important role in development of such intentions. Similarly, a bias remains about the creative abilities of women compared to men. In order to advance the involvement and engagement of women in the entrepreneurial process, an understanding of how entrepreneurial intentions are influenced by gender and creativity is critical. Thanks to two studies of undergraduate college students (one cross sectional and one three wave) (Sarfaraz et al., 2014), we see the role of both gender and creativity in predicting entrepreneurial intentions. The results show that while gender has no

direct effect on entrepreneurial intentions, it moderates the relationship between creativity and intentions, such that the relationship is stronger for women than for men (Duckworth et al., 2015).

The relationship between gender and creativity is unclear (Kaufman, et al., 2010; Stoltzfus et al., 2011). Yet, men continue to outnumber women in the domain of self-employment and entrepreneurship, where creativity can be essential in the entrepreneurial process.

Entrepreneurship is traditionally associated with masculine traits and image (Gupta, et al., 2009; Lewis, 2006), and such underlying stereotypes can influence entrepreneurial intentions among individuals (Gupta et al., 2008). Particularly, the dominance of a masculine stereotype associated with entrepreneurship may lead women to evaluate business opportunities less favourably (Gupta et al., 2014), as compared to men. This suggests that men with higher creativity perceptions will also have stronger feasibility perceptions about entrepreneurial careers, and thereby be more likely to perceive a strong congruence between their self-perception and an entrepreneurial role, making that option more desirable for men rather than for women.

Studies conducted in the majority of Western countries identify three main barrier-types to female entrepreneurship. First, the socio-cultural status of women, which identifies the primary role of women with family and domestic responsibilities and reduces the credibility of women intent on setting up businesses in a variety of ways. Then, the access to networks of information and assistance, which are often the main source of information and contacts, but which equally often comprise more or less overt mechanisms of gender exclusion (Aldrich et al., 1989). Finally, access to capital; whether women entrepreneurs apply to an institutional financier (a bank, a finance agency), a friend, a relative or even her spouse, they are likely to come up against the assumption that “women can’t handle money”. The relationship between gender and creativity is unclear.

The importance on focusing on personality factors in any comprehensive assessment of creative performance has been documented by several researchers (Feldhusen and Goh, 1995; Montgomery et al., 1992). Researchers in general agree that personality factors are related to performance on creative tasks (Runco and Albert, 1990; Mumford et al., 1993). Dacey (1989) identified multiple personality factors, such as flexibility, risk taking and tolerance to ambiguity related to creative performance. Several other researchers (Davis and Rimm, 1985; Woodman and Schoenfeldt, 1989) have extracted personality traits reflective of creativity as well.

From all the above-mentioned, the hypotheses defined are:

- H1:** There is a positive relationship among personality traits and creative behaviour;
- H2:** There is a positive relationship among personality traits and successful leadership;
- H3:** Creative behaviour positively affects the success of the enterprise;
- H4:** Women are more creative than men.

3 Research Methodology

3.1 Sample and Data Collection

In order to reach the objectives of this study, research was conducted during the months of February and March of 2017. A structured questionnaire was used as the research instrument. The target population of this study was Greek Enterprises and the final sample size consists of 180 small and medium enterprises, from the region of North Greece. 68% of the enterprises are very small (<10 employees), 24% are small (11-50 employees), while 8% are medium sized enterprises (51-250 employees). The 65% of entrepreneurs are males and 35% females. It is notable that 47% of entrepreneurs are university graduates and 41% hold postgraduate degrees. The biggest part of the enterprises (65%) is services, 18% commercials and 6% industrials.

3.2 Instrument Development

The instrument’s development was based on extensive literature review and all the items which have been used, from previous studies, relevant to our work, were adopted. It consists of four parts with 60 items. The first part refers to general information about the enterprises and entrepreneurs; type of business, size, gender, age. The second and most important part evaluates the personality of entrepreneurs. The questionnaire consists of fifty statements and is adopted from the work of Goldberg (1993). The types of personality are: “Extraversion”, “Agreeableness”, “Conscientiousness”, “Neuroticism” and “Openness to Experience”. All of them are the famous Big-Five factors and a five-point Likert scale was used for the 50 statements (1=Very Inaccurate through to 5=Very Accurate). The big five personality characteristics offer a parsimonious taxonomy by which personality can be consistently defined and measured. The third part consists of five statements, adopted from Open textbooks (2015) and refers to the level of creativity of entrepreneurs. An agreement scale with five levels was used (1=completely disagree, 2=disagree, 3=neither agree nor disagree, 4=agree, 5=completely agree). The statements are: “I feel that I am good at generating novel ideas”, “I am good at finding creative ways to solve problems”, “I feel comfortable trying out new ideas”, “I have opportunities to use my creative skills and abilities at work” and “My creative abilities are used to my full potential at work”. Finally, the last part refers to the performance of enterprises and consists of only one item (the last three years, the profitability of your enterprise: 1=decreased, 2=is the same, 3=increased).

3.3 Validity and Reliability of Research Instrument

The process of validation of research instrument consists of three steps. In the first step, the instrument for content validity was examined. Then, a confirmatory analysis of dimensionality was carried out and finally, in order to examine the reliability of the factors the Index of Composite Reliability was calculated.

Content Validity refers to the extent to which a measurement reflects the specific intended domain of content (Carmines & Zeller, 1991). As mentioned in the previous section all the variables, were gathered from the most relevant literature. After the construction of an initial pool of items, a pilot test involving a panel of experts (professors and professionals) was conducted and

after feedback, the necessary changes were made to reach the final questionnaire.

For the fifty items of personality, a confirmatory factor analysis was undertaken in order to confirm the dimensional structure of the model, as well as the internal consistency (Ping, 2004). The LISREL 8.80 statistical package was used and the factorial model was evaluated for Overall and Measurement model fit. A statistical non significant value of χ^2 - statistics (p-value > 0,05), a value of Root Mean Square Error of Approximation (RMSEA) less than 0,1 and a value of Comparative Fit Index (CFI) and Goodness of Fit Index (G.F.I) greater than 0,90 indicate a good overall fit of the data in the proposed model (Kline, 1998). Significant path coefficients, Composite Reliability (C.R) greater than the benchmark of 0.7 and Average Variance Extracted (A.V.E) higher than 0.5 (Fornell and Larcker, 1981) indicate good fit of the data in the measurement model.

RMSEA, GFI and CFI with values of 0,049, 0,93 and 0,98 respectively are sufficient. On the contrary, the value of χ^2 -statistics is significant (p-value=0,0001). However, because this happens almost always in big samples, the index χ^2 /df was used, the value of which (2,01) is bigger 1 and smaller 3, as proposed by Hair et al. (1995). All path coefficients are statistically significant and all C.R of constructs have a higher value than 0,7, indicating sufficient internal consistency. Furthermore, the A.V.E for all constructs is much higher than 0,5, the suggested minimum limit.

Table 1. Confirmatory Factor Analysis for Personality Traits

Personality Traits	C.R	A.V.E
Extraversion	0,900	52,1%
Agreeableness	0,885	50,1%
Conscientiousness	0,917	53,1%
Neuroticism	0,927	56,3%
Openness to Experience	0,906	51,2%

$$\chi^2 = 2341,65 df = 1165 \chi^2 / df = 2,101$$

$$R.M.S.E.A = 0,049$$

$$C.F.I = 0,93$$

$$G.F.I = 0,98$$

For the five items of creativity, confirmatory factor analysis indicated a very good fit of the data to the proposed model, as shown in table 2.

Table 2. Confirmatory Factor Analysis for Creative Behaviour

Creative Behaviour	C.R	A.V.E
Creativity	0,875	54,1%

$$\chi^2 = 5,35 df = 5 \text{ p-value} = 0,37343 \chi^2 / df = 1,071$$

$$R.M.S.E.A = 0,020$$

$$C.F.I = 0,99$$

$$G.F.I = 0,98$$

4 Results

4.1 Descriptive statistics

The means and standard deviations for all the variables used in the analyses are presented in table 3.

Table 3. Basic Measures

	Scale	Mean	Standard Deviation
Extraversion	1-5	3,55	0,7208
Agreeableness	1-5	4,21	0,5414
Conscientiousness	1-5	4,01	0,7098
Neuroticism	5-1	2,86	0,6568
Openness to Experience	1-5	3,67	0,5784
Creativity score	1-5	2,78	0,6234

Observing the results of the above table, it is understood that the entrepreneurs in the sample tend to be marginally “extroverts”, “open to experiences” and “neurotics”. On the other hand, they are characterized as “agreeable” and “conscientious”. The score of creativity is lower than the average score of three, indicating that the performance in creativity is not sufficient.

Table 4 presents the success of the enterprises in the sample. In the previous three years, 16% of them experienced a decrease in profitability, 39,5% experienced stability and 44,5% an increase in profitability.

Table 4. Success

Profitability	Percent %
Decreased	16,0%
Same	39,5%
Increased	44,5%
Total	100,0%

4.2 Testing of Hypotheses

From the analysis of the data it is understood that Gender is a factor of differentiation for the traits of Personality. There are statistically significant differences between males and females in “Extraversion”, “Agreeableness”, “Neuroticism” and “Openness to Experience”. In all these dimensions of personality the level of females are better than for males (Table 5).

Table 5. Analysis of Variance (Personality traits-Gender)

Personality traits	Gender		F	Sig.
	Male	Female		
Extraversion	3,43	3,67	5,004	0,027*
Agreeableness	4,11	4,40	11,690	0,001**
Conscientiousness	4,03	3,93	0,767	0,382
Neuroticism	3,05	2,50	32,899	0,000**
Openness to Experience	3,58	3,79	4,942	0,027*

*significant at 1% level. ** significant at 5% level.

In order to test the first hypothesis, a correlation analysis was performed. The results indicated that “Extraversion”, “Agreeableness”, “Conscientiousness” and “Openness to Experience”, are positively related with “Creative Behaviour”. In contrast, “Neuroticism” is not related with “Creative Behaviour” (Table 6). Thus, the first hypothesis is not fully supported.

Table 7. Correlations for Personality traits and Profitability

Personality Traits	Profitability
--------------------	---------------

Extraversion	0,119
	0,144
Agreeableness	0,346
	0,000*
Conscientiousness	0,105
	0,198
Neuroticism	-0,085
	0,301
Openness to Experience	0,181
	0,027**

*significant at 1% level. ** significant at 5% level

The third hypothesis was tested with the use of regression analysis where the dependent variable was "Success" and predictor variable "Creative behaviour".

Table 7. Regression Analysis

	B	Beta	t	Sig.
Constant	0,341		3,254	0,001*
Creative Behaviour	0,838	0,757	14,154	0,000

F = 200,338 Sig. = 0,000
R- square = 0,573 = 57,3%

Dependent Variable: Success (Profitability) *significant at 1% level.

Creative behaviour positively affects success (Beta=0,757 and sig.=0,000<0,05) and explains the 57,3% variance in success. Therefore, the third hypothesis is fully supported.

Finally, the fourth hypothesis, that women are more creative than men, was tested with analysis of variance (ANOVA). The results from ANOVA fully support the hypothesis, because the creative behaviour of females is significantly bigger than the creative behaviour of males (Table 8).

Table 8. Analysis of Variance (Creative Behaviour-Gender)

	Gender		F	Sig.
	Male	Female		
Creative Behaviour	2,60	3,28	15,004	0,001*

*significant at 1% level.

Table 9 presents a summary of all hypotheses which have tested.

Table 9. Hypotheses Testing Results

Hypotheses	Decision
H1: There is a positive relationship among personality traits and creative behaviour	Partially supported
H2: There is a positive relationship among personality traits and successful leadership	Partially supported

H3: The Creative behaviour affects positively the success of the enterprises	Fully supported
H4: Women are more creative than men.	Fully supported

5 Findings and Conclusions

5.1 Findings

The primary objective of this research is to define the impact of personality traits in entrepreneur's creativity, in organizational settings. The results confirmed some of the hypothesized relationships. The results particularly showed that "Agreeableness", "Openness to Experience", "Conscientiousness", and "Extraversion" are related positively with "creative behaviour" of entrepreneurs. However, there is no strong evidence to predict the level of creativity by the personality traits. On the other hand, "Neuroticism" is negatively correlated with creativity, but this relation is not significant. The results also indicated a statistically significant but not strong relation among the traits "Agreeableness", "Openness to Experience" and performance of enterprise.

5.2 Managerial Implications

A number of policy implications arise from this study. There needs to be a stronger recognition that the stereotypical role of women as seeking sole careers is preventing future growth in female entrepreneurship. The future policy objective is to increase the number of women entrepreneurs, particularly in the climate of the global financial crisis and economic recession, it is fundamental to take account of the motivations of women who become entrepreneurs. Once the potential role of personality traits has been more clearly established, this can be used to inform policy making and decision making.

5.3 Limitations and Proposals for further research

In spite of many useful findings, there are some limitations in the study that future researchers can address. Primarily, this study used subjective measures of firm performance instead of objective measures. Further, the authors used the convenient sampling technique for data collection due to which results cannot be generalized to the overall population. Moreover, the sample size was small. In the future, researches should undertake such studies with a large sample size and data should be collect from multiple cities across the country.

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