The Relationship between the Entrepreneurial Personality and the Big Five Personality Traits

Franziska Leutner[a]

Gorkan Ahmetoglu[b]

Reece Akhtar[a]

Tomas Chamorro-Premuzic [a]

[a] Department of Psychology, UCL, London, UK

26 Bedford Way,

London, WC1H 0AP, UK.

[b] Department of Psychology, Goldsmiths, University of London,

London, UK New Cross, London, SE14 6NW, UK.

Address correspondence to: Professor Tomas Chamorro-Premuzic, University College London, Department of Psychology, 26 Bedford Way, London WC1 (UK); t.chamorro@ucl.ac.uk +44 794 138 6220

1. The study builds upon recent papers that explore personality and entrepreneurship.

2. Structural equation modelling is used to test hypotheses.

3. Extraversion and Agreeableness predict entrepreneurial outcomes.

4. Narrow personality traits are better predictors of entrepreneurial outcomes.

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Abstract

Although meta-analyses show that the Big Five personality traits predict business intention, creation, and success (Brandstätter, 2011), they also indicate that narrow personality traits, such as innovativeness, predict these outcomes better than broad traits, such as Conscientiousness and Extraversion (Rauch & Frese, 2007). The current study extends previous research to examine the relationship between the Big Five and a wider range of entrepreneurial outcomes (e.g. founding charitable organisations, organising events, and changing organisational practices). Additionally, it establishes the incremental validity of a narrow measure of entrepreneurial personality over the Big Five (META, Ahmetoglu, & Chamorro-Premuzic, 2010). Both the Big Five and META significantly predict various forms of entrepreneurial success, though META does so more consistently. This suggests that narrow personality traits have incremental validity in predicting entrepreneurial success vis-à-vis the Big Five. Theoretical and applied implications are discussed.

Keywords: Big Five, Entrepreneurship, Personality, Entrepreneurial Success

The Relationship between the Entrepreneurial Personality and the Big Five

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Entrepreneurship is a major source of employment, economic growth, and technological progress (Kuratko, 2007; Reynolds, Bygrave, & Autio, 2004). Although recent years have witnessed an unprecedented interest in individual differences in entrepreneurship (Hisrich, Langan–Fox, & Grant, 2007), there is no consensus on how to define entrepreneurial success (Busenitz et al., 2003; Gartner, 1988). Most scholars simply equate entrepreneurship to business ownership (Gartner, 1988; Shane, 2008), but critics argue that this definition is too narrow (McKenzie, Ugbah, & Smothers, 2007). Shane, Nicolaou, Cherkas, and Spector, (2010) proposed that entrepreneurial success encompasses any behaviour that contributes to business innovation and growth (corporate entrepreneurship; see also Zampetakis, Beldekos, & Moustakis, 2009), or social welfare (social entrepreneurship; see also Mair & Marti, 2006; Tan, Williams, & Tan, 2005). More specifically, behaviours consistently identified in relation to individual differences in entrepreneurial success are *opportunity recognition, opportunity exploitation, innovation,* and *value creation* (Ahmetoglu, Leutner, & Chamorro-Premuzic, 2011; Shane & Venkataraman, 2000). In keeping with these findings, the present study defines entrepreneurship as behaviours that are related to the creation of value through the exploitation of opportunities in novel and innovative ways (Hisrich, Peters, & Sheperd, 2005).

Given that behaviour occurs in accordance with an individual's personality, it is plausible to expect individual differences in entrepreneurship to be, at least in part, a function of an individual‘s personality—regardless of whether that person is a

business owner, manager, student or employee (Ahmetoglu et al., 2011; Kuratko 2007).

Personality, Job Performance and Entrepreneurial Success

Personality is a valid predictor of employee job performance, as demonstrated extensively by criterion-related validity studies (e.g., Chamorro- Premuzic & Furnham, 2010; Ones, Dilchert, Viswesvaran & Judge, 2007). The personality-performance link is found across all occupational groups, managerial levels, and performance outcomes (Barrick & Mount, 1991, Barrick, Mount & Judge, 2001, Hurtz & Donovan, 2000). Whereas Conscientiousness and, to some degree, Emotional Stability, have been associated with higher job performance across most types of jobs, the relationship between other Big Five traits (e.g. Extraversion, Openness and Agreeableness) and job performance is more context-dependent (Barrick et al., 2001). For example, Extraversion predicts performance only in professions that involve social interaction, whereas Openness (Barrick & Mount, 1991) and Agreeableness (Salgado, 1997) only predict training proficiency but not subsequent job performance.

In contrast, there is little consensus about the importance of personality as a predictor of entrepreneurial success (Baron, Frese, & Baum, 2007). Although recent meta-analytic studies did highlight significant associations between personality and entrepreneurship (Brandstätter, 2011), these findings are limited to business performance (multiple R = .31; Zhao et al., 2010), entrepreneurial intentions (multiple R = .36; Zhao et al., 2010) and occupational status (multiple R = .37; Zhao & Seibert, 2006). For instance, when entrepreneurship is defined in terms of occupational status (i.e., business ownership), data indicates that entrepreneurs tend to score significantly higher on Conscientiousness and Openness and lower on

Neuroticism and Agreeableness than managers (Zhao & Seibert, 2006). Additionally, meta-analyses reveal that there is a particular personality profile associated with a person‘s willingness or intention to start a business (high Conscientiousness, Openness and Extraversion, and low Neuroticism; Zhao et al., 2010). In light of these findings, it could be suggested that the Big Five may also explain individual differences in entrepreneurial behaviours beyond business ownership or start up intention, such as opportunity recognition, opportunity exploitation, innovation, and value creation.

In the above examples, business owners score lower on Agreeableness than managers (Zhao & Seibert, 2006), but Agreeableness is not associated with the intention to start a business (Zhao et al., 2010). This illustrates the need to carefully define entrepreneurial outcomes (owning a business versus intending to start a business), as well as what it means to be an entrepreneur (having an occupational status versus engaging in behaviours that lead to value creation). Indeed, narrow traits matched to more specific entrepreneurial behaviours or outcomes produced higher correlations with business creation and success compared to broad, unmatched traits in Rauch and Frese‘s Meta-analysis (2007). In this study, narrow traits were matched based on an analysis of the knowledge, skills and abilities relevant in entrepreneurship. These traits included: need for achievement, self-confidence, innovativeness, stress tolerance, need for autonomy, and proactive personality (the average correlation between all narrow traits and both business creation and success was .25). Broad, unmatched traits included Conscientiousness, Extraversion, Optimism, Rigidity and Conformity (average correlation with business success .03, and with business creation .12). It is likely that the matched traits are more strongly related to entrepreneurial success because they rely on explicit descriptions that are

task specific (Barrick & Mount, 2005; Rauch & Frese, 2007). Additionally, matched traits produce distinct variance that contributes to the prediction of entrepreneurial success (Rauch & Frese, 2007; Tett, Steele, & Beauregard, 2003). Unfortunately, Rauch and Frese (2007) did not directly test the comparative predictive validity of the Big Five vis-à-vis narrow traits, as they only included Extraversion and Conscientiousness in their analysis.

Given the prevalent gaps in the literature relating to the narrow definition of entrepreneurship (Hisrich et al., 2007), and inconsistencies regarding the relationship between personality and entrepreneurship, the present study is an extension of previous literature through: a) the adoption of a comprehensive definition of entrepreneurship as behaviours relating to opportunity recognition, exploitation, innovation and value creation; b) its investigation into the Big Five's validity to significantly predict entrepreneurial success beyond business creation and success (e.g. organising events, creating charitable organisations, and changing organisational procedures), and c) its examination of whether narrow personality traits predict unique variance in entrepreneurial success outcomes after broad personality traits have been accounted for.

Narrow traits matched to the above entrepreneurship operationalisation are assessed with the Measure of Entrepreneurial Tendencies and Abilities (META, Ahmetoglu, et.al, 2011). META assesses entrepreneurial personality by measuring the degree to which individuals differ in their tendency to engage in entrepreneurial behaviours (*opportunity recognition, opportunity exploitation, innovation,* and *value creation*). It is based on the premise that entrepreneurship comprises of a set of behaviours, and that the tendency to engage in such behaviours is normally distributed across individuals. META has been shown to predict entrepreneurial

success beyond a number of broad personality traits, including core self-evaluations, emotional intelligence (Ahmetoglu, et al., 2011), vocational interests (Almeida, Ahmetoglu, & Chamorro-Premuzic, In Press), and dysfunctional traits (Akhtar, Ahmetoglu, & Chamorro-Premuzic, 2013). Given the arguments presented above, the following hypotheses were tested.

H1: The Big Five personality traits will predict a wide range of entrepreneurial success outcomes other than business creation and success.

H2: META will positively predict a wide range of entrepreneurial success outcomes other than business creation and success.

H3: META will demonstrate incremental validity over the Big Five in the prediction of entrepreneurial success outcomes and produce stronger effect sizes than the Big Five.

Method

Participants

A total of 670 participants (322 males and 348 females) were recruited online. The mean age of this group was 33 years (80.3% aged between 19 and 43; 2.6% 18 or below; 17.1% 44 or above). Forty-eight per cent of participants were employed, 7.6% were unemployed, 31.5% were students, and 27.5% were self-employed (multiple responses such as self-employed and student were possible).

Measures

Big Five Personality Factor Markers (Goldberg, 1992)

The Big Five were measured using a 50-item scale (10 items per dimension) from the International Personality Item Pool: Extraversion (_I talk to a lot of different people at parties‘), Agreeableness (_I am not really interested in others‘),

Conscientiousness (_I like order‘), Emotional Stability (_I am easily disturbed‘), and Intellect/Imagination (here referred to as Openness, _I am full of ideas‘). Answers are given on a five point Likert scale ranging from _very inaccurate‘ to _very accurate‘. Scores are obtained for each dimension. All dimensions demonstrated good reliability (see Table 1).

Measure of Entrepreneurial Tendencies and Abilities (META, Ahmetoglu & Chamorro-Premuzic, 2010)

META is a 44-item self-report scale measuring personality traits relevant in entrepreneurial success. META has four dimensions: Entrepreneurial Proactivity (EA; _I am quick to spot profitable opportunities‘), Entrepreneurial Creativity (EC; _In groups, I usually have the most innovative ideas‘), Entrepreneurial Opportunism (EO; _I try to take advantage of every profitable opportunity I see‘), and Entrepreneurial Vision (EV; _I want to make a difference in the world‘). Items are measured on a five point Likert scale from _completely disagree‘ to completely agree‘. An Oblimin rotated Principal Component Analysis revealed a four-factor structure of META with EA (11 items), EC (11 items), EO (11 items), and EV (11 items), which is in line with previous research (Ahmetoglu et al., 2011). META scales demonstrated good internal consistency (see Table 1).

Entrepreneurial Success (Ahmetoglu, et al., 2011)

Individual differences in entrepreneurial success were measured with 16 dichotomous items assessing past and present entrepreneurial success based on common themes in the entrepreneurship literature (Ahmetoglu et al., 2011). These themes address three types of entrepreneurial behaviour: corporate (improving organisational processes or products; _Have you in your past or current employment brought in new business within the existing organisation?‘), social (founding a

welfare business within the existing organisation, creating value for the community, or starting a student organisation; ‗In the past have you organised school-wide events?') and innovation entrepreneurship (patenting innovations, selling innovations; ‗Have you in the past patented an invention or original piece of work?'). Principal component analysis (Oblimin rotated) and scree plot revealed a three-factor structure. The factors Corporate (4 items), Social (5 items), and Invention (7 items) entrepreneurship had good internal consistency (see Table 1 for descriptive statistics and alpha levels).

Insert Table 1

Procedure

Participants were recruited through social media sites (such as LinkedIn, Facebook and Twitter), emails and posts in relevant forums. Participants provided biographical information, followed by the Big Five and META questionnaires. Dynamic feedback on entrepreneurship scores (META) was given upon completion.

Results

Descriptive statistics and internal consistency reliabilities are presented in Table 1, and bivariate correlations in Table 2. As expected, META correlated significantly with all entrepreneurial success outcomes as well as with each of the Big Five. The correlation between META and Total Entrepreneurial Activity (a combination of entrepreneurial success outcomes) was comparable to the correlation found in previous studies (r = .55 in this study, r = .50 in Ahmetoglu et al., 2011).

The Big Five also correlated significantly with several of the entrepreneurial success outcomes, most notably Social and Corporate entrepreneurship. Moderate correlations were found amongst the four META facets and amongst most of the entrepreneurial success outcomes.

To assess the incremental validity of the different traits in predicting entrepreneurial success Structural Equation Modelling (SEM; Amos 5.0 software, Arbuckle, 2003) was carried out.

Insert Table 2

Structural Equation Modelling

Given the inter correlations between the outcome measures of entrepreneurial success and between the META facets a parsimonious model was tested. In this model all four META facets were loaded onto a latent META total factor. Similarly, all entrepreneurial outcomes were loaded onto a latent Total Entrepreneurial Activity (TEA) factor. In this model, age, sex, and the Big Five were specified as exogenous variables, META as both exogenous and endogenous, and TEA and income as endogenous.

The model‘s goodness of fit was assessed via the χ^2 statistic (Bollen, 1989), the goodness of fit index (GFI; Tanaka & Huba, 1985; values close to 1 indicate good fit); the comparative fit index (CFI; Bentler, 1990; values above .96 are acceptable); the root mean square residual (RMSEA; Browne & Cudeck, 1993; values below .06 indicate good fit); and the expected cross-validation index (ECVI; Browne & Cudeck, 1993; smaller values indicate better fit). The hypothesised model did not fit

the data well (χ^2 (60) = 744.48; P = .000; GFI = .88; CFI = .75; RMSEA = .13; and ECVI = 1.34). Accordingly, steps were taken to identify misspecifications.

Modification indices, expected parameter change and standardised residuals were considered to evaluate whether paths should be deleted or added to the model. Only paths that made substantive sense in predicting outcomes were added to the model, and fit statistics were investigated after each addition. Paths from Emotional Stability, Openness, Conscientiousness and sex to TEA were non-significant and were deleted from the model. Paths were included from Extraversion and Agreeableness to Invention Entrepreneurship, from META to income, and from age to income, to Corporate Entrepreneurship, and to TEA. The final model as shown in Fig.1 fitted the data well (χ^2 (18) = 11.82; P = .87; GFI = .99; CFI = 1.00; RMSEA = 0; ECVI = .17).

In this model Extraversion and Agreeableness were the only Big Five dimensions that significantly predicted entrepreneurial success. Extraversion positively predicted TEA (path weight .26) and negatively predicted the Invention Entrepreneurship dimension of TEA (-.25). Agreeableness also negatively related to Invention Entrepreneurship (-.07), but failed to significantly predict TEA. None of the other Big Five dimensions significantly predicted entrepreneurial success when META and demographic variables were included in the model.

The best predictor of entrepreneurial success was META, with a strong path weight on TEA (.62) and a weaker path weight on income (.14). Age was the second strongest predictor of entrepreneurial success, with moderate path weights with TEA (.29), and strong path weights with income (.55) and Corporate Entrepreneurship (.24). AMOS-squared multiple correlations showed that META, age and Extraversion

together accounted for 66.8% of variance in TEA, and age and META for 34.5% of variance in income.

Insert Figure1 here

Discussion

Our results reveal that personality predicts entrepreneurial success outcomes beyond business creation and success, and that narrow personality traits are stronger predictors of these outcomes compared to broad traits. The importance of the findings is twofold. Firstly, it reveals that personality accurately predicts several entrepreneurial outcomes, thereby demonstrating personality‘s influence on entrepreneurial success. Given that the usefulness of personality traits as predictors of entrepreneurial success has been fiercely contested by some theorists (Chell, 2008; Hisrich et al., 2007), the findings yielded by the current investigation have theoretical and practical implications. Secondly, the findings establish that traits matched to the task of entrepreneurship have incremental validity above and beyond that of the Big Five.

Consistent with our hypotheses (H1 and H2) and previous literature on the relationship between personality, job performance (Barrick & Mount, 1991; Barrick et al., 2001), and entrepreneurship (Brandstätter, 2011), both the Big Five and META predicted a range of entrepreneurial outcomes. These outcomes relate to behaviours across the different types of entrepreneurship (social, corporate & invention) and include organising events, solving organisational problems, developing prototypes and seeking investment for innovations.

Results indicate that although all the personality traits of the Big Five correlated with entrepreneurial success, most associations became non-significant after META was added to the structural equation model (supporting H3). This is in line with Rauch and Frese‘s (2007) meta-analysis showing that traits matched to the task of entrepreneurship are better predictors of entrepreneurial success than broad personality traits. It also adds to previous research reporting META as a powerful predictor of entrepreneurial success beyond other personality constructs (Ahmetoglu et al., 2011; Akhtar et al., 2013; Almeida et al., In Press). The finding makes theoretical sense given that META was developed to measure entrepreneurial personality.

It is worth highlighting that Extraversion and Agreeableness remained the only significant Big Five predictors of entrepreneurial success after META had been included in the model. Extraversion predicted overall entrepreneurial success while Agreeableness predicted Invention Entrepreneurship only. Our results showed that Extraverted individuals are more likely to engage in a range of entrepreneurial activities such as starting new businesses, finding new ways of helping society, and behaving entrepreneurially within organisations. Previous meta-analyses found somewhat weaker links between Extraversion and start up intention and performance (R = 0.14 and R = 0.08, respectively, Zhao et al., 2010) as well as business ownership (business owners score non significantly higher on Extraversion than managers, Zhao & Seibert, 2006).

This is unsurprising given the social aspect of such activities. Interestingly, Extraversion was negatively correlated to Invention Entrepreneurship. Thus, more extraverted individuals are less likely to be involved in developing, building, or selling designs. A possible explanation is that a major part of creative achievements

involve individual, often solitary, effort and endeavours. Indeed, this same reasoning may explain the negative correlation between Agreeableness and Invention Entrepreneurship. In fact, previous literature does demonstrate that there is a negative relationship between Agreeableness and creative achievements (Chamorro-Premuzic & Furnham, 2005).

Limitations and future research

One of this study‘s limitations is the lack of objective measures of entrepreneurial success. All inventories used were self-report. Future research should therefore include non self-report measures of entrepreneurial achievements to assess the predictive validity of independent variables. Such measures could be performance appraisals and organisational, demographic, or historical records.

Of equal important is the need to examine other relevant constructs that vary amongst individuals, IQ and motivation in particular, to further establish Big Five and META‘s incremental validity in the prediction of entrepreneurial success. Lastly, longitudinal studies will be useful in establishing the causal nature of these relationships.

Implications

The results of the present study have theoretical and practical implications for the long-standing quest to discover the entrepreneurial personality (Gartner, 1985). On a practical level our results show that personality inventories can be useful tools to promote entrepreneurial success. Importantly, this applies not only to business founders but also employees (corporate entrepreneurship) and people working in areas unrelated to business such as social (social entrepreneurship) and creative circles (invention entrepreneurship).

Organisations in particular can benefit from selecting entrepreneurial individuals based on their personality profile. Research shows that organisations that recruit and retain entrepreneurial individuals gain competitive advantage in their respective markets (Lumpkin, 2007). Thus, Big Five inventories and META in particular can be valuable tools for identifying such individuals, both for employee selection and retention, but also for other areas including minimising the risk of start up failure.

References

Ahmetoglu, G., & Chamorro-Premuzic, T. (2010). *Measure of Entrepreneurial Tendencies and Abilities*. Unpublished Measure (available on request).

Ahmetoglu, G., Leutner, F., & Chamorro-Premuic, T. (2011). EQ-Nomics: Understanding the relationship between individual differences in Trait Emotional Intelligence and entrepreneurship. *Journal of Personality and Individual Differences, 51*, 1028 -1033.

Akhtar, R., Ahmetoglu, G., & Chamorro-Premuzic, T. (2013). Greed is Good? Assessing the relationship between entrepreneurship and subclinical psychopathy. *Personality and Individual Differences*, *54*, 420–425.

Almeida, P. Ahmetoglu, G. & Chamorro- Premuzic, T. (*In Press*). Who Wants to Be an Entrepreneur? The Relationship between Vocational Interests and Individual Differences in Entrepreneurship. *Journal of Career Assessment.*

Arbuckle, J. (2003). *Amos 5.0 Update to the Amos User's Guide*. Chicago, IL: Smallwaters Corporation.

Baron, R. A., Frese, M., & Baum, J. R. (2007). Research Gains: Benefits of closer links between I/O psychology and entrepreneurship. In J. R. Baum, M. Frese, & R. A. Baron (Eds.), *The psychology of entrepreneurship* (pp. 347–373). Mahwah, NJ: Erlbaum.

Barrick, M. R., & Mount, M. K. (1991). The Big Five Personality Dimensions and Job Performance. A Meta-Analysis. *Personnel Psychology, 44,* 1–26.

Barrick, M. R., & Mount, M.K. (2005). Yes, personality matters: Moving on to more important matters. *Human Performance*, *18*, 359–372.

Barrick, M. R., Mount, M. K., & Judge, T. A. (2001). Personality and Performance at the Beginning of the New Millennium: What Do We Know and Where Do We Go Next? *International Journal of Selection and Assessment*, *9*, 9–30.

Bentler, P. M. (1990). Comparative Fit Indexes in Structural Models. *Psychological Bulletin*, *107*(2), 238–246.

Bollen, K. A. (1989). *Structural Equations with Latent Variables*. New York: Wiley.

Brandstätter, H. (2011). Personality aspects of entrepreneurship: A look at five meta-analyses. *Personality and Individual Differences*, *51,* 222–230.

Browne, M. W., & Cudeck, R. (1993). Alternative Ways of Assessing Model Fit. In K. A. Bollen & J. S. Long (Eds.), *Testing Structural Equation Models* (pp. 136–162). Newbury Park, CA: Sage.

Busenitz, L. W., West, G. P., Sheperd, D., Nelson, T., Chandler, G. N., & Zacharakis, A. (2003). Entrepreneurship Research in Emergence: Past Trends and Future Directions. *Journal of Management, 29,* 285–308.

Chamorro-Premuzic, T., & Furnham, A. (2005). *Personality and intellectual competence.* Mahwah: Lawrence Erlbaum Associates.

Chamorro-Premuzic, T., & Furnham, A. (2010). *The psychology of personnel selection*. New York: Cambridge University Press.

Chell, E. (2008). The entrepreneurial personality: A social construction (2nd Ed). Routledge.

Gartner, W. (1985). A conceptual framework for Describing the Phenomenon of New Venture Creation. *Academy of Management Review, 10*(4), 696–706.

Gartner, W. (1988). ‗Who is an entrepreneur?' is the wrong question. *American Journal of Small Business, 12*(4)*,* 11–32.

Goldberg, L. R. (1992). The Development of Markers for the Big-Five Factor Structure. *Psychological Assessment, 4,* 26–42.

Hisrich, R. D., Langan-Fox, J., & Grant, S. (2007). Entrepreneurship research and practice. A call to action for psychology. *American Psychologist, 62*, 575–589.

Hisrich, R. D., Peters, M. P., & Sheperd, D. A., (2005). Entrepreneurship (6th ed.). New York: McGraw-Hill/Irwin.

Hurtz, G. M., & Donovan, J. J. (2000). Personality and Job Performance: The Big Five Revisited. *Journal Of Applied Psychology*, *85*(6), 869–879.

Kuratko, D. F. (2007). Entrepreneurial Leadership in the 21st Century: Guest Editor‘s Perspective. *Journal of Leadership and Organisational Studies, 13*, 1–11.

Lumpkin, G. T. (2007). Intrapreneurship and Innovation. In J. R. Baum, M. Frese, & R. A. Baron (Eds.), *The Psychology of Entrepreneurship* (pp. 237–264). Mahwah, NJ: Erlbaum.

Mair, J., & Martí, I. (2006). Social entrepreneurship research: A source of explanation, prediction, and delight. *Journal of World Business*, *41*(1), 36–44.

McKenzie, B., Ugbah, S. D., & Smothers, N. (2007). _Who is an entrepreneur?‘ Is it still the wrong question? *Academy of Entrepreneurship Journal*, *13*, 23–43.

Ones, D. S., Dilchert, S., Viswesvaran, C., & Judge, T. A. (2007). In Support of Personality Assessment in Organizational Settings. *Personnel Psychology, 60*, 995–1027.

Rauch, A., & Frese, M. (2007). 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.

Reynolds, P. D., Bygrave, W. D., & Autio, E. (2004). *Global Entrepreneurship Monitor 2003 Executive Report.* Babson Park, MA: Babson College.

Salgado, J. F. (1997). The five factor model of personality and job performance in the European Community. *Journal of Applied Psychology*, *82*(1), 30–43.

Shane, S. (2008). The Illusions of Entrepreneurship: The Costly Myths that Entrepreneurs, Investors, and Policy Makers Live By. New London, CT: Yale University Press.

Shane, S., Nicolaou, N., Cherkas, L., & Spector, T. D. (2010). Genetics, the Big Five, and the tendency to be self-employed. *The Journal of Applied Psychology*, *95*, 1154–62.

Shane, S., & Venkataraman, S. (2000). The Promise of Entrepreneurship as a Field of Research. *Academy of Management Journal, 25*, 217–226.

Tan, W., Williams, J., & Tan, T. (2005). Defining the ‗Social' in ‗Social Entrepreneurship': Altruism and Entrepreneurship. *International Entrepreneurship and Management Journal*, *1*, 353–365.

Tanaka, J. S., & Huba, G. J. (1985). A Fit Index for Covariance Structure Models under Arbitrary GLS Estimation. *British Journal of Mathematical and Statistical Psychology, 38,* 197–201.

Tett, R. P., Steele, J. R., & Beauregard, R. S. (2003). Broad and narrow measures on both sides of the personality – job performance relationship. *Journal of Organizational Behavior*, *24*, 335–356.

Zampetakis, L. A., Beldekos, P., & Moustakis, V. S. (2009). ‖Day-to-day‖ entrepreneurship in organisations: The role of trait emotional intelligence and

Perceived Organisational Support. *European Management Journal,* 27, 165-175.

Zhao, H., & Seibert, S. E. (2006). The Big Five Personality Dimensions and Entrepreneurial Status: A Meta-Analytical Review. *The Journal of Applied Psychology*, *91*, 259–71.

Zhao, H., Seibert, S. E., & Lumpkin, G. T. (2010). The Relationship of Personality to Entrepreneurial Intentions and Performance: A Meta-Analytic Review. *Journal of Management*, *36*, 381–404.

Table 1: Descriptive statistics

	Mean	Median	SD	Skewness	Range	Cronbach's Alpha
Extraversion	3.23	3.30	.70	-.33	3.60	.84
Agreeableness	3.98	4.00	.57	-.71	3.50	.81
Conscientiousness	3.43	3.50	.61	-.21	3.80	.78
Emotional Stability	3.18	3.20	.76	-.08	4	.88
Openness	3.83	3.85	.48	-.52	2.90	.72
E Proactivity	3.51	3.55	.70	-.37	4	.90
E Opportunism	3.30	3.34	.65	.01	3.58	.88
E Creativity	3.87	3.91	.66	-.59	3.64	.86
E Vision	3.75	3.82	.52	-.95	3.27	.84
Invention E	.27	.22	.26	.60	1	.62
Social E	.28	.20	.29	.91	1	.66
Corporate E	.37	.25	.27	.17	1	.53
Income	5.20	5	3.11	1.00	14	—
Age	32.95	30	11.58	.82	72	—

Table 2: Bivariate correlations between META, Big Five and entrepreneurial success.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Extraversion	—													
2. Agreeableness	.30	—												
3. Conscientiousness	.02	.17	—											
4. Emotional Stability	.29	.17	.18	—										
5. Openness	.12	.08*	.00	.08*	—									
6. Proactivity	.26	.12	.08*	.21	.41	—								
7. Opportunism	.34	.16	.16	.26	.20	.57	—							
8. Creativity	.27	.16	-.01	.27	.66	.65	.43	—						
9. Vision	.21	.22	.16	.09*	.40	.56	.49	.53	—					
10. Corporate E	.20	.10	.04	.17	.24	.35	.23	.37	.15	.41	.40			
11. Social E	.20	.10	.04	.17	.24	.35	.23	.37	.15	.41	.40			
12. Invention E	.09	.03	.00	.08	.23	.39	.30	.40	.23	.22	.28	—		

13. Income	.10	-.01	.04	.11	.07	.14	.10*	.17	-.03	.41	.02	.22	—	
14. Age	.01	.06	.05	.11	.02	.07	-.03	.12	-.09*	.39	-.05	.28	.57	—
15. Sex	.04	.21	.11	-.11	-.06	-.16	-.03	-.16	-.10*	-.02	-.01	-.13	-.04	.03

* Correlation Significant at the .05 level (2 - tailed); Correlations above.08 significant at the .01 level.

Notes: E= Entrepreneurship, META= Measure of Entrepreneurial Tendencies and Abilities.

Businesses were scored 1-5 with 1= 0, 2= 1-2, 3= 3-5, 4= 6-9, 5= 10+. Income in £ per year was scored 1-15 with 1= 0, 2= 1-5,000, 3= 5,000-20,000 and subsequently a 10,000 increase until 12= 100,000-150,000, 13= 150,000-200,000, 14= 200,000-300,000, 15= over 300,000.

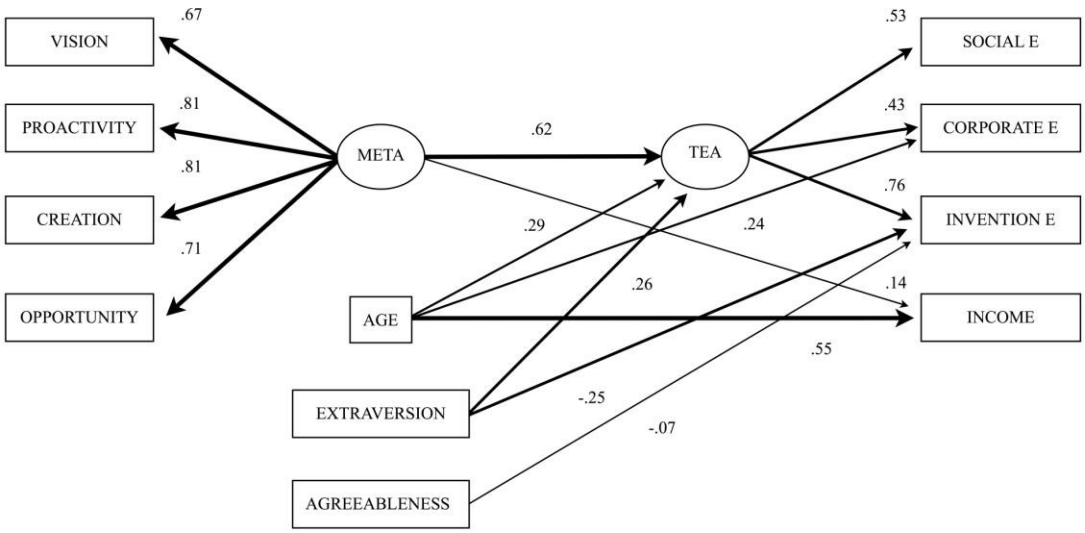

Figure 1 Structural Equation Model

Notes: META= Measure of Entrepreneurial Tendencies and Abilities, TEA = Total Entrepreneurial Ability, E = Entrepreneurship.

Thickness of lines represents strength of path weights.