ENTREPRENEURIAL INTENTIONS OF LAW STUDENTS: THE MODERATING ROLE OF PERSONALITY TRAITS ON ATTITUDE'S EFFECTS

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ABSTRACT

A robust body of literature has examined the factors that try to explain entrepreneurial intentions. On this topic two approaches stood out in literature: the personality traits model and the theory of planned behavior. Is entrepreneurial intention a matter of personality or attitude? In fact, they are not necessarily two exclusionary views, but might somehow interact on the formation of entrepreneurial intentions.

This paper reports findings from a study that empirically examined the predictors of the law students' decision to become entrepreneurs, drawing on the Theory of Planned Behavior and The Five-Factor Model of Personality. Data were collected from a sample of students enrolled in a law undergraduate degree. Findings reveal that both attitude and perceived behavior control are significant predictors of entrepreneurial intentions and that the personality trait extraversion moderates the effect of attitude on entrepreneurial intentions. Based on the results, it is concluded that it is worthwhile investing in entrepreneurship education.

INTRODUCTION

In the aftermath of the economic and financial crisis in 2007, the unemployment rate rose rapidly (e.g., in Portugal, according to INE 2017, the unemployment rate reached 15.7% in 2012). Promoting self-employment seemed to be an attractive solution for the alarming unemployment rates. Since then, entrepreneurship has increasingly gained social and political support. The value of entrepreneurship for economic development, job creation and innovation is well documented (e.g., Ucbasaran et al., 2013), and has been recognized since the 80s. Accordingly, literature on the subject has greatly expanded mainly over the last decade, which is confirmed by several studies that review the relevant literature and testify the growing interest in the topic (e.g. Aldrich and Martinez, 2001; Davidsson, 2008; Shane and Venkataraman, 2000).

Although several definitions of entrepreneurship have been advanced, Schumpeter's definition (1912/1934, quoted in Baumol, 1990), linking entrepreneurial talent to the production of innovations (*"carrying out new combinations"*), remains popular among scholars. Some examples of definitions of entrepreneurship can be found in Low and MacMillan (1988) and Howorth et al. (2005). In many studies, entrepreneurship is just about creating companies (e.g. Kolvereid, 1996; Kolvereid and Isaksen, 2006), but for Schumpeter, the entrepreneur is a unique and creative individual who develops new products, services and techniques, that innovate the way in which people operate.

There are considerable divergences regarding the factors behind the decision of becoming an entrepreneur. A line of research views entrepreneurship as a career choice. Another line attributes the decision to personality traits (e.g. Llewellyn and Wilson, 2003; Rauch and Frese, 2007). Based on the latter approach is the assumption that vocational choices are grounded on

personality factors and thus are not subject to many changes throughout life. From this point of view, to become an entrepreneur is not the result of education or choice, but the expression of individual characteristics.

Personality can be described by key traits, which are *"dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings, and actions"* (McCrae and Costa, 2003). One of the most well-known model of personality based on traits is the Five-Factor model of personality-generally referred to as the Big Five. It organizes personality traits in five factors: Openness to experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (OCEAN). It has been widely accepted across cultures.

In contrast with the above view, the predominant approaches in the literature on entrepreneurship conceive the decision to become an entrepreneur as being rational and volitional. For example, Krueger (1993) views entrepreneurship as an intentional process that combines the individual system of values with cognitive mechanisms in interaction with a certain social environment. Similarly, Liñán and Chen (2009), taking a cognitive approach, argue that intention is the best predictor of behavior and, therefore, studies on intentions are relevant to understand the decision to become an entrepreneur.

According to Ajzen (1991) and Kolveired (1996), behavioral intentions capture the motivational factors that influence behavior. Furthermore, the Theory of the Planned Behavior (TPB) posits that intentions are at the root of human behavior and result from attitude towards the behavior, subjective norms, and perceived behavioral control (Ajzen, 2011). The TPB has been successfully applied to several areas, including entrepreneurship (e.g. Kolvereid and Isaksen, 2006; Obschonka et al., 2010).

The need to investigate the factors that influence the decision to become an entrepreneur has been well recognized (e.g., Paço et al., 2011). The education system plays a crucial role in developing entrepreneurial intentions and consequently, entrepreneurship education has received much attention. Nevertheless, it is not yet clear which factors influence the decision of becoming an entrepreneur. This issue is addressed in this study by testing whether entrepreneurial intentions are better explained by personality traits or by volitional factors, such as those based on the TPB. By understanding the factors behind entrepreneurial intentions, this study aims to contribute to entrepreneurship education and to help policy makers tailor programs that can best promote entrepreneurship.

The paper is structured as follows. The first section briefly reviews the literature on personality traits and entrepreneurship, which is followed by an overview of research on Theory of Planned Behavior and entrepreneurial intentions. The following section presents the empirical study. Results are then reported and discussed and finally, some conclusions are drawn.

PERSONALITY TRAITS AND ENTREPRENEURSHIP

The influence of personality traits on the intention to become an entrepreneur attracted much attention until the end of the 1980s. However, since then, research on the subject has slowed down due to theoretical inconsistencies and mixed empirical findings (Llewellyn and Wilson, 2003). Zhao and Seibert (2006) examined the role of personality traits in entrepreneurship over the last four decades and concluded that inconsistencies between theory and results stemmed from the inappropriate use of personality variables, reflecting the state of research on personality at the time. These authors advocate the use of the Five-Factor model of personality (FFM) as an adequate instrument to measure personality traits. In what follows, we shall present a short explanation of this model: Openness to experience relates to the degree to

which individuals are open to novel ideas and actions, and have a broad range of interests; Conscientiousness refers to the extent to which individuals like to think before acting, delay gratification, prefer order, are competent, disciplined, dutiful, and goal directed; Extraversion regards the degree to which the individual is gregarious, assertive, warm, and seeks excitement; Agreeableness refers to the extent to which an individual is prosocial, cooperative, reliable, and has sympathetic attitudes; Neuroticism refers to the extent to which the individual acts impulsively, exhibits anxiety, depression, and feels vulnerable (Brandstätter, 2011, Costa and McCrae, 1992; Zhao and Seibert, 2006).

Zhao and Seibert (2006), based on several empirical studies, assumed that entrepreneurs would show higher scores than managers on Openness to experience (+), Conscientiousness (+), and Extraversion (+), but lower scores on Agreeableness (-) and Neuroticism (-). They conducted a meta-analysis of studies on the relationship between FFM personality dimensions and entrepreneurship and concluded that entrepreneurs compared with people in managerial positions differed on four of the five key dimensions of personality (Zhao and Seibert, 2006). Extraversion was the only dimension without significant differences between entrepreneurs and managers. Conscientiousness showed the strongest relationship with entrepreneurship, especially in relation to achievement motivation. This relation was further confirmed in other meta-analyses (Collins et al., 2004; Stewart and Roth, 2007).

In a longitudinal study Ciavarella et al. (2004) explored the impact of personality traits (measured by the FFM) in the surviving of entrepreneurial activity in the long term, and they concluded that Consciousness was significantly associated with entrepreneurial activity survival. However, in that study, contrary to others, the trait Openness to experience was negatively associated with entrepreneurship.

In a meta-analysis of the prediction of personality traits (not restricted to the FFM) on business creation and on business success, Rauch and Frese (2007) concluded that several personality constructs were significant. The authors did not establish a relation between all the personality predictors used in their study (narrow personality traits), and the five dimensions of the FFM (broad personality traits). However, their findings replicate those of Zhao and Seibert (2006) in regard to business creation suggesting that personality is related to business creation (Rauch and Frese, 2007). It should be noted that some authors (e.g., Leutner et al., 2014) claim that the use of a narrow measure of personality traits to explain entrepreneurial success should be preferred to the Big Five. Nevertheless, the use of a narrow measure has not so far produced any evidence on the same effect with regard to the intention to become an entrepreneur.

Another meta-analysis based on the FFM was conducted by Zhao et al. (2010), with the aim of analyzing the relationship between personality traits and two distinct phases of the entrepreneurial process, namely entrepreneurial intentions and entrepreneurial performance. The results indicate that four of the five personality traits were significantly related to both phases of the entrepreneurial process, with the expected signal previously indicated in Zhao and Seibert (2006). Only Agreeableness was not found to be related to the entrepreneurial process. According to these authors, personality predicts both the emergence of entrepreneurs and their entrepreneurial success (Zhao et al., 2010). The aforementioned meta-analyses were explored by Brandstätter (2011), who concluded that entrepreneurs compared to managers differed in the Big Five dimensions (C+, O+, E+, N-, A-), and also regarding predictions of entrepreneurial intentions (C+, O+, N-, E+) and entrepreneurs' performance (C+, O+, E+, N-).

From the above, it is plausible to conclude that there is an association between personality traits (the constructs of the FFM) and entrepreneurship, although the robustness of

the evidence on the relation may differ with the personality trait (Table 1).

Table 1
PERSONALITY TRAITS ASSOCIATED WITH ENTREPRENEURIAL INTENTIONS

FFM	Influence on entrepreneurial intentions	Results in the literature
Openness to Experience	(+)	Evidence
Conscientiousness	(+)	Strong evidence
Extraversion	(+)	Evidence
Agreeableness	(-)	Weak evidence
Neuroticism	(-)	Strong evidence
Risk Propensity	(+)	Evidence

Source: Elaborated by the authors

Figure 1 represents the model of personality traits.

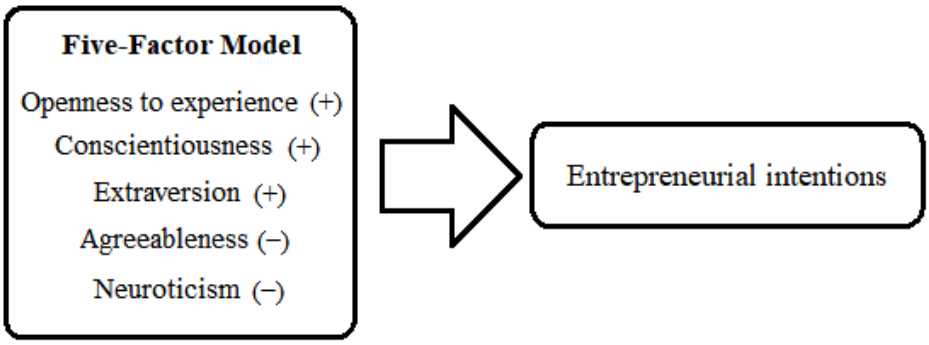

FIGURE 1
MODEL OF PERSONALITY TRAITS

THEORY OF PLANNED BEHAVIOR AND ENTREPRENEURIAL INTENTIONS

There is disagreement regarding the use of personality traits as a basis for developing a model of entrepreneurship. For example, Ajzen and Fishbein (1977) and Gibb (1993) argue that such a model suffers from conceptual and methodological problems, mainly because personality traits tend to be stable across time, unlike entrepreneurial skills, which can be learned and developed. For Krueger (1993), as the decision to become an entrepreneur is a volitional act, cognitive psychology can help to explain a vocational choice that goes beyond personality characteristics. In his opinion, the first step should be to understand entrepreneurial intentions. Along the same lines, Krueger et al. (2000) claim that "*intentions are better predictors of behavior than personality traits."*

Behavioral-decision models, in particular the TPB, have been extensively applied to different kind of behaviors (Guerrero et al., 2008), and the strength of the TPB model has been confirmed (Armitage and Conner, 2001). This theory posits that human behavior is directed by three types of beliefs, namely beliefs that produce an attitude towards the behavior that reflect the attractiveness of the behavior (behavioral beliefs); normative beliefs regarding the perception of social expectations (normative beliefs); and beliefs concerning what may impact on the

performance of the behavior and the perceived control over that behavior (control beliefs). Behavioral intentions are at the core of this theory and result from the attitude towards the behavior, the subjective norms, and the perception of behavioral control (e.g., Krueger et al. 2000). The TPB has been applied to entrepreneurial intentions (e.g., Carr and Sequeira, 2007; Engle et al., 2010; Kautonen et al., 2015; Kolvereid and Isaksen, 2006; Krueger, 1993; Krueger et al., 2000; Liñán and Chen, 2009; Paço, et al., 2011; van Gelderen et al., 2008; Yang, 2013).

Applying the TPB to entrepreneurial intentions, we can say that: the attitude reflects the perceived desirability of performing an entrepreneur behavior; the perceived social norms (subjective norms) represent the influence of significant others on personal entrepreneurial intentions; and the perceived behavioral control corresponds to the perceived ability to become an entrepreneur. Perceived social norms include the expectations of family and friends concerning entrepreneurship, or how they think about entrepreneurs.

Studies on the TPB constructs have been conducted using questionnaires and student samples. Usually, these questionnaires include several questions related to demographic characteristics, personal attitudes, subjective norms, perceived behavioral control and entrepreneurial intentions. Self-assessment of entrepreneurship attitudes has also been a well-accepted practice in entrepreneurship research (Paço et al., 2011).

According to Liñán and Chen (2009), empirical findings indicate that the TPB model explains about 40% of the variance in entrepreneurial intentions. Results also reveal that attitude and perceived behavioral control are significantly and positively associated with entrepreneurial intentions. However, the results for subjective norms are so far inconclusive. While in the studies of Kolvereid and Isaksen (2006) and Carr and Sequeira (2007) findings were statistically significant, in those conducted by Krueger et al. (2000) and Paço et al. (2011) they were not. In their TPB meta-analysis, Armitage and Connor (2001) remark that the subjective norm component of the TPB seldom predicts intention, which explains why several authors chose not to include it in their analyses. Table 2 presents a summary of the TPB applied to entrepreneurial intentions.

Table 2
TPB CONSTRUCTS FOR ENTREPRENEURIAL INTENTIONS

TPB	Influence on entrepreneurial intentions	Results in the literature
Attitude	(+)	Strong evidence
Subjective norms	(+)	Weak evidence
Perceived behavioral control	(+)	Strong evidence

Source: Elaborated by the authors

Figure 2 represents the TPB model of entrepreneurial intentions

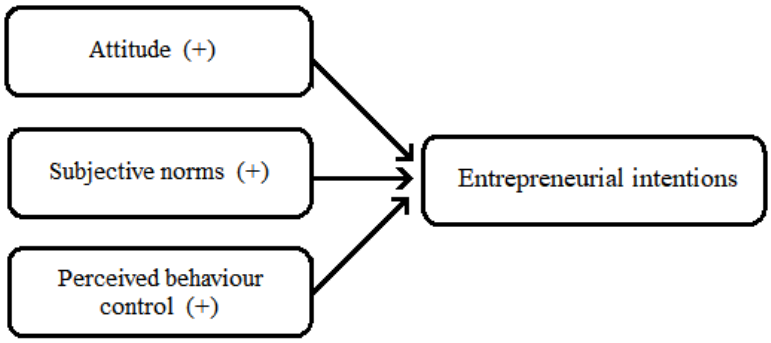

FIGURE 2
TPB MODEL OF ENTREPRENEURIAL INTENTIONS

To the best of our knowledge, there are no studies that simultaneously use the TPB and a model of personality such as the FFM. Gird and Bagraim (2008) included in their study some personality traits, but did not use a global measure such as the FFM. The present study aims to analyze the ability of each model to explain entrepreneurial intentions. Ultimately, it is expected that personality could moderate the effect of TPB variables on entrepreneurial intentions (Figure 3).

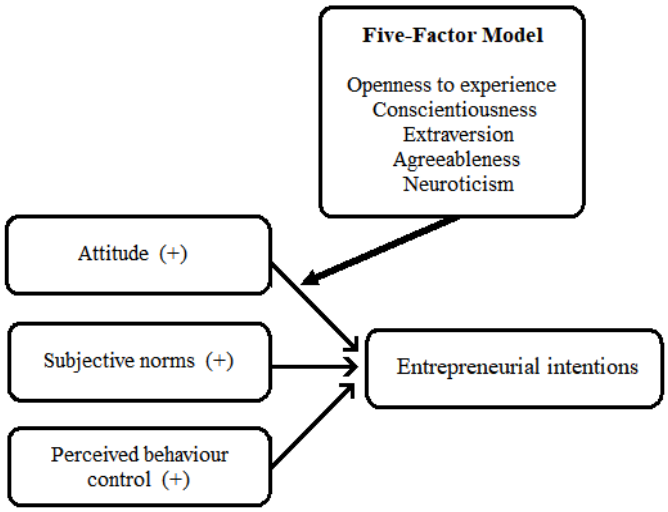

FIGURE 3
MODERATION

EMPIRICAL STUDY

Hypothesis

As mentioned before, this study aims to find whether entrepreneurial intentions are better explained by personality traits or by TPB. Considering previous contributions, the following hypotheses were tested:

H_1: *Entrepreneurial intentions are positively affected by openness, conscientiousness and extraversion, and negatively by agreeableness and neuroticism.*

H_2: *Entrepreneurial intentions are positively affected by attitude towards entrepreneurship, subjective norms and perceived behavior control.*

H_3: *Personality traits moderate the relationship between attitude and entrepreneurial intentions.*

H_4: *Personality traits moderate the relationship between subjective norms and entrepreneurial intentions.*

H_5: *Personality traits moderate the relationship between perceived behavior control and entrepreneurial intentions.*

Method

Procedure

Data was collected using a questionnaire administered to undergraduate law students of the University of Porto, between January and March 2014. In addition to socio-demographic questions, the questionnaire included a Portuguese translation of the revised 240 items personality inventory NEO PI-R (Costa and McCrae, 1992, updated in 2010) and an entrepreneurial intention questionnaire (EIQ) (Liñán et al., 2011).

The research was conducted in accordance with the current legal and ethical norms of the University of Porto. Participants were told to complete the questionnaire on their own time, that their answers would be totally confidential and that they were free to discontinue their participation at any time. The participants who agreed to take part in the research returned the completed questionnaires with the signed consent form. The return rate was 40%. Descriptive and inferential statistical analyses, including moderation analysis, were performed to address all the research hypotheses using IBM SPSS Statistics (version 24) and PROCESS Macros (Hayes, 2013).

Measures

Socio-demographic data and personal details were gathered by asking respondents to identify their age, gender, residential area, educational level, work experience, prior entrepreneurial experience, the degree of knowledge of entrepreneurial activities and previous contact with entrepreneurs. Five major domains of personality (openness, conscientiousness, extraversion, agreeableness and neuroticism) were assessed through the self-report NEO PI-R. Finally, the variables included in TPB (entrepreneurial intentions, attitude towards the behavior, subjective norms, and perceived behavior control) were accessed using EIQ in which respondents were asked to rate themselves on a 7-point Likert scales (1=strongly disagree; 7=strongly agree). Example items include *"I am ready to do anything to be an entrepreneur"* and *"I will make every effort to start and run my own business"*.

Sample

The sample comprised 280 subjects with valid questionnaires. Women made up 77.1% of the sample. There were no significant age differences in regard to sex (Mdn_F=20.00 *vs* Mdn_M=20.00, p=.184*)* and the average age of the sample was 20.42 (SD=2.979) years old. 66% of the respondents were living in cities, 25% of them had work experience (M=2.14 years of professional activity; SD=2.778). About 85.6% reported knowing an entrepreneur and, on a 5-

point scale (1=null; 5=total), 78% reported to have at least a medium (3) degree of knowledge about entrepreneur activities.

Variables

Socio-demographic data (gender, age, urbanised residence and work experience) and experience of contact with entrepreneurs were the control variables. Preliminary data screening procedures were performed to ensure the accuracy of data and to assess statistical assumptions (e.g., normality distribution). Table 3 shows main statistics for those variables. Constructs show good or acceptable internal consistency (*Cronbach's Alpha)*.

Table 3
STATISTICAL DATA FOR PERSONALITY TRAITS AND ENTREPRENEURIAL PLANNED BEHAVIOR THEORY VARIABLES

	α	***N***	***Min-Max***	***M***	***SD***	***95%CI***	***KS(p)***
Personality traits (OCEAN)							
Openness to experience	0.716	257	113-228	168.07	17.271	165.95-170.20	0.200
Conscientiousness	0.820	258	109-236	177.56	19.613	175.15-179.96	0.200
Extraversion	0.785	267	107-214	163.91	19.359	161.58-166.24	0.200
Agreeableness	0.803	262	100-213	162.51	19.766	160.51-164.91	0.006
Neuroticism	0.841	252	80-216	146.30	20.728	143.73-148.87	0.200
Entrepreneurial intentions	0.846	269	1.0-6.0	3.31	1.207	3.16-3.45	0.061
Attitude towards entrepreneurship	0.827	275	1.0-7.0	4.53	1.206	4.39-4.68	0.001
Subjective norms	0.847	273	1.0-7.0	5.39	1.211	5.25-5.53	<0.001
Perceived behavior control	0.779	273	1.5-7.0	4.12	.923	4.01-4.23	0.012
Age		280	18-45	20.42	2.979	20.07-20.77	<0.001

KS(p): Kolmogorov-Smirnov normality test. α: Cronbach alpha

Results

Findings indicate that men have significantly higher scores than women regarding entrepreneurial intentions (Mdn_M=3.67 *vs.* Mdn_W=3.33, U=4947.5, p=0.009), attitude towards entrepreneurship (Mdn_M=5.40 *vs.* Mdn_W=4.40, U=4435.5, p<0.001), and perceived behavior control (Mdn_M=4.50 *vs.* Mdn_W=4.00, U=4773.5, p=0.002). Those who report professional experience are older and show significantly higher scores concerning entrepreneurial intentions (*Mdn*=3.67 *vs. Mdn*=3.33, U=5532.0, p=0.019), attitude towards entrepreneurship (*Mdn*=5.00 *vs. Mdn*=4.40, U=5740.0, p=0.012), and perceived behavior control (*Mdn*=4.50 *vs. Mdn*=4.00, U=5421.0, p=0.003). However, there are no significant associations between these scores and the number of years of professional activity. Controlling by having professional experience, the higher their knowledge about entrepreneurs, the higher they score in entrepreneurial intentions (r=0.254, p<0.001), attitude (r=0.263, p<0.001), and perceived behavior control (r=0.359, p=0.006).

Taking intentions to be an entrepreneur as the dependent variable, multiple regressions were conducted. Previously, nine influential outliers were excluded from the regressions and Table 4 presents the regression models.

Model 1 corresponds to the aggregated linear model, in which personality traits and TPB variables, age and gender were jointly considered as independent variables. In this aggregated model, a significant regression equation was found F(10.216)=38.500, p<0.001), with an

adjusted R^2 of 0.624. However, only attitude towards entrepreneurship and perceived behavior control significantly explain variations in entrepreneurial intentions.

Table 4
REGRESSIONS RESULTS

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	-0.218 (0.195)	0.785** (0.283)	-0.098 (0.159)	-0.1165 (0.181)	-0.095 (0.168)
Openness	-0.049 (0.048)	0.063 (0.072)			
Conscientiousness	-0.046 (0.049)	0.076 (0.075)			
Extraversion	0.054 (0.050)	0.188* (0.072)			0.046 (0.041)
Agreeableness	-0.038 (0.043)	-0.194** (0.064)		-0.029 (0.042)	
Neuroticism	-0.010 (0.052)	-0.040 (0.076)			
Gender (male / female)	0.123 (0.107)	-0.438** (0.156)	0.064 (0.087)	0.0513 (0.097)	0.049 (0.092)
Age	0.041 (0.041)				
Attitude	0.592*** (0.051)		0.580*** (0.043)	0.627*** (0.050)	0.585*** (0.046)
Perceived behavior control	0.345*** (0.054)		0.362*** (0.042)	0.330*** (0.051)	0.357*** (0.047)
(Subjective) norms	-0.003 (0.049)		0.033 (0.040)	-0.001 (0.043)	-0.002 (0.044)
Attitude X Agreeableness (a)				-0.014 (0.0428)	
Attitude X Extraversion (a)					0.116** (0.039)
N	226	226	249	230	232
R squared (adjusted)	.624	0.105	0.673	0.625	0.675
	F(10.216) =38.551 *p<.001*	*F*(6.220) =5.401 *p*<0.001	*F*(4.245) =129.018 *p*<.001	*F*(6.224) =62.084 *p*<.001	*F*(6.226) =78.056 *p*<.001
MSE	0.351	0.837	0.299	0.354	0.300
D.W.	2.028	1.762	2.148		

Dependent variable: Entrepreneurial intentions. Cells report unstandardized estimated coefficients (standard error values in parentheses). For each regression, all diagnostics and necessary corrections were made, including those related to influential observations. (a) Hayes (2016)'s Process output.
*** p<0.001, ** p< 0.01, * p<0.05 (two-tailed).

Model 2 tests personality traits influence on entrepreneurial intentions, controlling by gender. All estimated coefficients show the expected signs but only extraversion and agreeableness significantly explain the dependent variable. And, despite being a significant regression equation $F(6.220)=5.401$, $p<0.001$), this model only explains 10.5% of entrepreneurial intentions variability.

For testing TPB, a multiple regression (Model 3) was computed to predict entrepreneurial intentions based on attitude towards entrepreneurship, subjective norms and perceived behavior control, after controlling for gender. A significant regression equation was found $F(4.245)=129.018$, $p<0.001$), with an adjusted R^2 of 0.673, strongly higher than the personality

model. Both attitude and perceived behavior control emerged as significant predictors of entrepreneurial intentions. Subjective norms proved to be not statistically significant.

According to these findings, TPB seems to predict entrepreneurial intentions better than the personality model. But, could the latter moderate the effect of TPB on entrepreneurial intentions? Using the SPSS macro program PROCESS (Hayes, 2013), multiple moderation analyses were performed to find whether personality traits moderate the effect of TPB variables on entrepreneurial intentions. To avoid potential multicollinearity problems due to the interaction term, continuous variables were centred. Table 4 (Models 4 and 5) includes the outcomes of moderation effect analyses involving those personality traits that were significant at the Model 3. In these analyses, no personality trait moderates the effect of TPB variables on entrepreneurial intentions with the exception of extraversion on attitude. In particular, and according to Model 5 ($F(6.226)=78.056$, $p<0.001$, adjusted $R^2=0.675$), the higher the score in extraversion, the stronger is the effect of attitude on entrepreneurial intentions.

DISCUSSION

According to Krueger et al. (2000), the decision to become an entrepreneur is voluntary and conscious. This new approach has transcended the boundaries of the study of the personal characteristics of the entrepreneur by combining the individual's value system with cognitive mechanisms in a social environment (Katz, 1992). According to Liñán and Chen (2009), the study of intentions is the first step in the evolution of such a process. And in that kind of study focused on intentional model, it is important to include subjects facing major career decisions (Krueger, 1993).

Intentions represent the degree of commitment towards some future target behavior. The current study was based on the entrepreneurial intentions of undergraduate law students of the University of Porto. The reason to focus on such a sample can be found behind the words of Krueger et al. (2000: 411) who state that *"entrepreneurial intentions can be promoted"* and Paço et al. (2011) point that *"The use of self-assessment to determine students' entrepreneurship attitudes represents well-accepted practice in the field of entrepreneurship research."* Kuehn (2008) demonstrates how the intentions model based on the theory of planned behavior is relevant to make a *"lasting impact on student entrepreneurial behavior through the direct influence on the career goals students consider and set for themselves".*

The aim of this paper was to explore the predictors of the decision to become an entrepreneur. It was hypothesized that entrepreneurial intentions were positively affected by openness, conscientiousness and extraversion, and negatively by agreeableness and neuroticism (H_1). This hypothesis was only partially supported. The five personality traits emerged with the expected direction effects, but only extraversion and agreeableness significantly explained entrepreneurship intentions, resulting in a very low explanatory power for the FFM.

It was further hypothesized that entrepreneurial intentions were positively affected by attitude towards entrepreneurship, subjective norms and perceived behavior control (H_2). Findings suggest that the TPB applied to entrepreneurship may explain better intentions variability between subjects. In particular, attitude and perceived behavior control significantly predict intentions; subjective norms, despite having the expected direction effect, do not emerge as a significant predictor. This result is consistent with the literature, particularly in what concerns the absence of effect of subjective norms, which in previous studies have been found to be a weak predictor of entrepreneurial intentions (e.g. Armitage and Connor, 2001; Krueger et al., 2000; Paço et al., 2011, Walker et al., 2013). The significant relationship between perceived

behavior control and entrepreneurial intentions is in line with the results of Costa et al. (2016), who found for a Portuguese sample of temporary workers an association between entrepreneurial competencies and intentions. Finally, the hypothesis that holds that personality traits moderates the relationship between attitude and entrepreneurial intentions (H_3) was partially supported. However, only one of the five personality traits–extraversion–was found to be a moderator of the effect of attitude towards entrepreneurship on the intentions to become an entrepreneur. Future research should explore this result. As for the other two hypotheses (H_4 *and* H_5), they were not supported, i.e., personality traits were not found to moderate the influence either of subjective norms or perceived behavior control on entrepreneurial intentions.

Findings, therefore, indicate that both attitude and perceived behavior control are significant predictors of entrepreneurial intentions. As noted in the literature review of this paper, one area of research (e.g. Llewellyn and Wilson, 2003; Rauch and Frese, 2007) assigns the decision to become an entrepreneur to personality traits. However, taken together, the results lend more support to the idea that to become an entrepreneur is more the result of education or choice than the expression of individual characteristics. This may be because personality traits tend to be stable throughout life and, conversely, entrepreneurial skills can be learned and developed (Ajzen and Fishbein, 1977; Gibb, 1993). Entrepreneurship education may foster the perceived desirability of performing an entrepreneur behavior (attitude) and the perceived ability to become an entrepreneur (perceived behavior control), by making possible to acquire the necessary skills. This is in line with what has been advocated by Drucker (1985): *"Most of what you hear about entrepreneurship is all wrong. It's not magic; it's not mysterious; and it has nothing to do with genes. It's a discipline and, like any discipline, it can be learned."* More research is clearly needed, but the findings highlight the importance of promoting entrepreneurship education.

We cannot rule out the possibility that we have omitted (relevant) independent variables. It would certainly be interesting to ascertain whether the entrepreneurial intentions of law students relate to the level of social status of students or to their perceptions about the lack of job opportunities. Wang and Wong (2004) found that the level of interest in entrepreneurship among undergraduate students is not related to family income. However, Evans and Leighton (1989) found that men with higher assets were more likely to be self-employed in the US. According to Bandura et al. (2001), family socioeconomic status is linked to children's career trajectories only indirectly through its effects on parents' perceived efficacy and academic aspirations. It is also plausible that the type of institution (top class or poor colleges) might at least partly be responsible for differences in entrepreneurial intentions. Dolton and Makepeace (1990) observed a strong relationship between high social class (private school education) and high self-employment among UK graduates. Bhat and Singh (2018) hypothesized that entrepreneurship education can shape entrepreneurial attitude and the environment within the university can become an influential factor in the formation of the entrepreneurial intentions. They demonstrated the existence of a moderating role of entrepreneurship education on the antecedents of entrepreneurial intention.

CONCLUSION

The research data upon which this study was based indicates that is worthwhile investing in entrepreneurship education.

REFERENCES

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50(*2), 197-211.

Ajzen, I. (2011). The theory of planned behavior: Reactions and reflections. *Psychology and Health, 26*(9), 1113-1127.

Ajzen, I., & Fishbein, M. (1977). Attitude, behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin, 84*(5), 888-918.

Aldrich, H.E., & Martinez, M.A. (2001). Many are called, but few are chosen: An evolutionary perspective for the study of entrepreneurship. *Entrepreneurship Theory and Practice, 25*(4), 41-56.

Armitage, C.J., & Conner, M. (2001). Efficacy of the theory of planned behavior: A meta-analytic review. *British Journal of Social Psychology, 40*(4), 471-499.

Bandura, A., Barbaranelli, C., Caprara, G.V., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. *Child Development, 72*(1), 187-206.

Baumol, W.J. (1990). Entrepreneurship: Productive, unproductive and destructive. *Journal of Political Economy, 98*(5), 893-921.

Bhat, I.H., & Singh S. (2018). Analyzing the moderating effect of entrepreneurship education on the antecedents of entrepreneurial intention. *Journal of Entrepreneurship Education, 21*(1), 1-10.

Brandstätter, H. (2011). Personality aspects of entrepreneurship: A look at five meta-analyses. *Personality and Individual Differences, 51*(3), 222-230.

Carr, J.C., & Sequeira, J.M. (2007). Prior family business exposure as intergenerational influence and entrepreneurial intent: A theory of planned behavior approach. *Journal of Business Research, 60*(10), 1090-1098.

Ciavarella, M.A., Buchholtz, A.K., Riordan, C.M., Gatewood, R.D., & Stokes, G.S. (2004). The big five and venture survival: Is there a linkage? *Journal of Business Venturing, 19*(4), 465-483.

Collins, J.C., Hanges, P.J., & Locke, E.A (2004). The relationship of achievement motivation to entrepreneurial behavior: A meta-analysis. *Human Performance, 17*(1), 95-117.

Costa, P.T.Jr., & McCrae, R.R. (1992). *Revised NEO personality inventory (NEO-PI-R) and NEO five-factor inventory (NEO-FFI) manual*. Odessa, FL: Psychological Assessment Resources.

Costa, S.F., Caetano, A., & Santos, S.C. (2016). Entrepreneurship as a career option: Do temporary workers have the competencies, intention and willingness to become entrepreneurs? *The Journal of Entrepreneurship, 25*(2), 129-154.

Davidsson, P. (2008). *The entrepreneurship research challenge*. Cheltenham, UK: Edward Elgar.

Dolton, P.J., & Makepeace, G.H. (1990). Self-employment among graduates. *Bulletin of Economic Research, 42*(1), 35-54.

Drucker, P. (1985). *Innovation and entrepreneurship: Practices and principles*. New York: Harper.

do Paço, A.M.F., Ferreira, J.M., Raposo, M., Rodrigues, R.G., & Dinis, A. (2011). Behaviors and entrepreneurial intention: Empirical findings about secondary students. *Journal of International Entrepreneurship, 9*(1), 20-38.

Engle, R.L., Dimitriadi, N., Gavidia, J.V., Schlaegel, C., Delanoe, S., Alvarado, I., He, X., Buame, S., & Wolff, B. (2010). Entrepreneurial intent: A twelve country evaluation of Ajzen's model of planned behavior. *International Journal of Entrepreneurial Behavior & Research, 16*(1), 35-57.

Evans, D.S., & Leighton, L.S. (1989). Some empirical aspects of entrepreneurship. *The American Economic Review 79*(3), 519-535.

Gibb, A. (1993). Enterprise culture and education: understanding enterprise education and its links with small business, entrepreneurship and wider educational goals. *International Small Business Journal, 11*(3), 11-34.

Gird, A., & Bagraim, J.J. (2008). The theory of planned behavior as predictor of entrepreneurial intent amongst final-year university students. *South African Journal of Psychology, 38*(4), 711-724.

Guerrero, M., Rialp, J., & Urbano, D. (2008). The impact of desirability and feasibility on entrepreneurial intentions: A structural equation model. *International Entrepreneurship and Management Journal, 4*(1), 35-50.

Hayes, A. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: Guilford Press.

Howorth, C., Tempest, S., & Coupland, C. (2005). Rethinking entrepreneurship methodology and definitions of entrepreneur. *Journal of Small Business and Enterprise Development, 12*(1), 24-40.

INE (2017). National Statistics Institute. Lisbon.

Katz, J.A. (1992). Modelling entrepreneurial career progressions: Concepts and considerations. *Entrepreneurship Theory and Practice, 19*(2), 23-39.

Kautonen, T., van Gelderen, M., & Fink, M. (2015). Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions. *Entrepreneurship Theory and Practice, 39*(3), 655-674.

Kolvereid, L. (1996). Prediction of employment status choice intentions. *Entrepreneurship Theory and Practice, 21*(1), 47-56.

Kolvereid, L., & Isaksen, E. (2006). New business start-up and subsequent entry into self-employment. *Journal of Business Venturing, 21*(6), 866-885.

Krueger, N.F.Jr. (1993). The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability. *Entrepreneurship Theory and Practice, 18*(1), 5-21.

Krueger, N.F.Jr., Reilly, M.D., & Carsrud, A.L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing, 15*(5-6), 411-432.

Kuehn, K.W. (2008), Entrepreneurial intentions research: Implications for entrepreneurship education. *Journal of Entrepreneurship Education; 11*(1), 87-98.

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.

Liñán, F., & Chen, Y.W. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice, 33*(3), 593-617.

Liñán, F., Urbano, D., & Guerrero, M. (2011). Regional variations in entrepreneurial cognitions: Start up intentions of university students in Spain. *Entrepreneurship & Regional Development, 23*(3-4), 187-215.

Llewellyn, D.J., & Wilson, K.M. (2003). The controversial role of personality traits in entrepreneurial psychology. *Education & Training, 45*(6), 341-345.

Low, M.B., & MacMillan, I.C. (1988). Entrepreneurship: Past research and future challenges. *Journal of Management, 14*(2), 139-161.

McCrae, R.R. (2002). Cross-cultural research on the five-factor model of personality. *Online Readings in Psychology and Culture, 4*(4), 1-12

McCrae, R.R., & Costa, P.T. (2003). *Personality in adulthood: A five-factor theory perspective, 2nd edition*. New York: The Guilford Press.

Obschonka, M., Silbereisen, R.K., & Schmitt-Rodermund, E. (2010). Entrepreneurial intention as developmental outcome. *Journal of Vocational Behavior, 77*(1), 63-72.

Rauch, A. (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*(4), 353-385.

Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*(1), 217-226.

Stewart, W.H.Jr., W.H., & Roth, P.L. (2007). A meta-analysis of achievement motivation. Differences between entrepreneurs and managers. *Journal of Small Business Management, 45*(4), 401-421.

Ucbasaran, D., Shepherd, D.A., Lockett, A., & Lyon, S.J. (2013). Life after business failure: The process and the consequences of business failure for entrepreneurs. *Journal of Management, 39*(1), 163-202.

van Gelderen, M., Brand, M., van Praag, M., Bodewes, W., Poutsma, E., & van Gils, A. (2008). Explaining entrepreneurial intentions by means of the theory of planned behavior. *Career Development International, 13(*6), 538-559.

Walker, J.K., Jeger, M., & Kopecki, D. (2013). The role of perceived abilities, subjective norm and intentions in entrepreneurial activity. *The Journal of Entrepreneurship, 22*(2), 181-202.

Wang, C.K., & Wong, P.K. (2004). Entrepreneurial interest of university students in Singapore. *Technovation, 24*(2), 163-172.

Yang, J. (2013). The theory of planned behavior and prediction of entrepreneurial intention among chinese undergraduates. *Social Behavior and Personality: An international journal, 41*(3), 367-376.

Zhao, H., & Seibert, S.E. (2006). The big five personality dimensions and entrepreneurial status: A meta-analytical review. *Journal of Applied Psychology, 91*(2), 259-271.

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*(2), 381-404.