



Entrepreneurial Personality, Conscientiousness, Self-control, and Grit: The Psychological Side of Self-employment

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Título: Personalidad emprendedora, responsabilidad, autocontrol y grit: El lado psicológico del autoempleo.

Resumen: El enfoque psicológico en torno a la actividad emprendedora contribuye a explicar por qué las personas deciden o no emprender. El objetivo del presente estudio es analizar diferentes perfiles de personalidad emprendedora, así como identificar las variables de personalidad que puedan explicar el convertirse en trabajador por cuenta propia. Empleando una muestra de 586 participantes ($M_{edad} = 39.31$; $DT_{edad} = 14.66$), se analizaron diferentes perfiles de personalidad emprendedora mediante técnicas de análisis de perfiles latentes. Además, se analizó si había diferencias en otras variables psicológicas en función del perfil de personalidad emprendedora. Finalmente, se estudió, mediante un modelo de ecuaciones estructurales, si la responsabilidad, el autocontrol, el *grit* y la personalidad emprendedora ayudan a explicar que las personas se conviertan en trabajadores por cuenta propia. Los resultados apoyan la existencia de tres perfiles latentes de personalidad emprendedora (baja, media y alta), siendo el perfil alta personalidad emprendedora el que muestra mayores puntuaciones en otras variables psicológicas, así como mayor proporción de trabajadores por cuenta propia. El modelo de ecuaciones estructurales planteado explica un 2.6% de la varianza de la variable ser trabajador autónomo, por lo que las variables de personalidad ayudan a explicar una pequeña parte de la actividad emprendedora.

Palabras clave: Personalidad emprendedora. Autocontrol. Responsabilidad. *Grit*. Autoempleo. Emprendimiento.

Abstract: The psychological approach to entrepreneurial activity helps to explain why people decide or not to undertake. The objective of this study is to analyze different entrepreneurial personality profiles, as well as to identify the personality variables that can explain becoming a self-employed. Using a sample of 586 participants ($M_{age} = 39.31$; $SD_{age} = 14.66$), different entrepreneurial personality profiles were analyzed using latent profile analysis techniques. In addition, it was analyzed whether there were differences in other psychological variables based on the entrepreneurial personality profile. Finally, it was studied, using a structural equation model, if conscientiousness, self-control, grit and entrepreneurial personality help to explain why people become self-employed. The results support the existence of three latent profiles of entrepreneurial personality (low, medium and high), being high entrepreneurial personality the one profile that shows higher scores in other psychological variables, as well as a higher proportion of self-employed. The proposed structural equation model explains 2.6% of the variance of the variable being self-employed, so the personality variables help to explain a small part of entrepreneurial activity.

Keywords: Entrepreneurial personality. Self-control. Conscientiousness. Grit. Self-employment. Entrepreneurship.

Introduction

Why people become self-employed is an important question given that entrepreneurial activity is an essential part of the functioning of any economy (OECD, 2014). In addition, small and medium-sized business enterprises (SMEs) make up 99% of all businesses (OECD, 2019), representing a significant source of employment and productivity, and contributing to the social and economic growth of each country (Van Praag & Versloot, 2007).

The study of entrepreneurial activity has taken different approaches, such as the sociological, which aims to study the different social structures or levels that influence entrepreneurs (Chell, 2008), the economic, which places more stress on aspects such as resources, capital, and business opportunities, and finally the psychological, which examines the individuals' personal characteristics related to entrepreneurial activity (Frese & Gielnik, 2014).

Within the psychological approach, the study of entrepreneurial personality has grown exponentially in the last decade (Chandra, 2018; Gao et al., 2020; Kerr et al., 2018),

giving particular importance to the psychological component of entrepreneurialism (Baum et al., 2007; Frese et al., 2016). This emphasis on researching entrepreneurial personality has been encouraged by its capacity in predicting business creation and success (Rauch & Frese, 2007b). As Rauch and Frese put it, "research about entrepreneurial activity cannot develop a coherent theory if it does not consider personality variables" (Rauch & Frese, 2007a, p. 375). In addition, this research focus has also been because of the possible malleability of peoples personalities, recent studies in the organizational arena have shown the possible fluctuation of personality traits (Li et al., 2019, 2020). For example, in a longitudinal study, Li et al. (2020) recently demonstrated how workers who were promoted as leaders ten years previously had increased their levels of conscientiousness.

In the context of entrepreneurial activity, the first line of personality research centered on the general Big Five model, finding that conscientiousness was what demonstrated the strongest relationship with entrepreneurial intention, activity, and success (Ahmed et al., 2020; Brandstätter, 2011; Farrington, 2012; Hachana et al., 2018; López-Núñez et al., 2020; Zhao & Seibert, 2006). The personality factors making up the Big Five model have been shown to explain 13% of the variance in entrepreneurial activity and 10% of the variance in the success of those who start a business (Zhao et al., 2010). The second line of research is a deeper examination

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of which specific personality traits are related to entrepreneurial behavior (Rauch & Frese, 2007a; Shane & Nicolaou, 2015). Within this second line, various personality traits have been related with entrepreneurial behavior, including self-efficacy, autonomy, innovation, internal locus of control, achievement motivation, optimism, stress tolerance, and risk-taking (Cuesta et al., 2018; Muñiz et al., 2014; Postigo, García-Cueto, et al., 2020; Rauch & Frese, 2007a; Suárez-Álvarez et al., 2014), with entrepreneurs exhibiting higher scores in these traits than those who do not start businesses (Rauch & Frese, 2007b; Stewart & Roth, 2015; Zhao et al., 2010). The use of specific personality traits also provides more predictive validity than the use of the Big Five model (Leutner et al., 2014).

Nonetheless, in recent years, researchers have begun to examine other psychological traits related to entrepreneurial activity. These include grit, which is understood as the passion and perseverance for achieving long-term goals (Leutner et al., 2014). It is worth noting other psychological variables related to but different from grit, such as persistence. Both variables share the idea of effort through which obstacles are overcome (Baum & Locke, 2004), however, grit would add the passionate focus on something specific in order to achieve long-term objectives (Cardon et al., 2009; Duckworth, 2016). Grit is a variable that positively affects both the fact of starting a business, and the subsequent success (Mooradian et al., 2016; Mueller et al., 2017), particularly when people have sufficient financial resources and are dissatisfied with their current jobs (Arco-Tirado et al., 2019; Wolfe & Patel, 2016). In general, there are two components supporting the idea that grit is a variable that positively influences entrepreneurial behavior. On the one hand, it is the focus on something specific in order to achieve long-term objectives (Duckworth, 2016; Eskreis-Winkler et al., 2014), and on the other, the passion for those objectives (Hubner et al., 2019; Newman et al., 2019). These two components make grit an important variable in entrepreneurship because entrepreneurs often have to make considerable efforts and overcome adversity and setbacks in order to achieve success with their businesses (Foo et al., 2009). One clear, recent example of adversity and setback is the COVID-19 pandemic (JHCRC, 2020), where many enterprises have had to act and adapt extremely quickly in order to save their businesses (Kuckertz et al., 2020).

Despite this, grit may be considered a necessary but not sufficient condition for business success (Clark & Clark, 2019). Other psychological variables must be considered in this regard such as conscientiousness and self-control. Conscientiousness is focused on completing tasks, something that is very important in achieving long-term goals, and it has been shown to be very strongly related to grit (Schmidt et al., 2018, 2020). Self-control, or the regulation of thoughts, feelings and actions when goals that are considered permanent come into conflict with goals that are more gratifying at that moment (Duckworth et al., 2019), is also related to grit (Duckworth & Gross, 2014), as it is logical to think

that someone who is passionate and perseveres towards long-term objectives must be capable of rejecting short-term temptations that could interfere with the objectives. This is related to delayed gratification (Mischel, 2014). Thus, these variables are related to the intention and action of starting a business (Butz et al., 2018; Van Gelderen et al., 2015).

In this context, our study focuses on three specific objectives. The first is to determine latent profiles for people according to the specific traits identified in the literature as most closely related to entrepreneurial personality (self-efficacy, autonomy, innovation, internal locus of control, achievement motivation, optimism, stress tolerance, and risk-taking). The second objective is to examine the possible differences between the profiles of entrepreneurial personality in other psychological constructs related to entrepreneurship such as conscientiousness, self-control, and grit, as well as the differences in the profiles between people who work for themselves and people who work for others. Lastly, the final objective is to test a mathematical model, via structural equations, that would help to explain the relationship between conscientiousness, self-control, grit, specific traits of entrepreneurial personality, and being self-employed or not.

Method

Participants

The sample was initially composed of 720 participants drawn from the general Spanish population. The sampling was incidental. The final sample comprised 586 participants, following the elimination of 18.6% for responding incorrectly to two or more items in the control scale, described in the *instruments* section. Members of the sample came from 15 of the 17 Spanish autonomous communities, divided as follows according to six regions (North: 69.9%; South: 5.5%; East: 9.1%; West: 3.7%; Central: 10.7%; and Islands: 1.1%). The participants were aged between 18 and 83 years old, with a mean of 39.31 and standard deviation of 14.66. Almost two-thirds (64.2%) were women and 15% of the sample were self-employed.

Instruments

Oviedo Grit Scale (Escala Grit de Oviedo, EGO; Postigo, Cuesta, García-Cueto, et al., 2020).

The EGO is a unidimensional questionnaire with 10 items that evaluates grit (“Although the results seem very far off, I persist in the task”). The items use a Likert-type response from 1 (completely disagree) to 5 (completely agree). The instrument has excellent reliability ($\alpha = .94$), as well as good evidence of convergent validity (Postigo, Cuesta, García-Cueto, et al., 2020). In this study, the EGO demonstrated excellent reliability ($\alpha = .92$).

Battery for the Assessment of the Enterprising Personality (BEPE; Cuesta et al., 2018).

The BEPE is a questionnaire with 80 items which evaluates the eight dimensions of personality that have been identified in the literature as most closely related to entrepreneurial personality (10 items per dimension): Self-efficacy, autonomy, innovation, internal locus of control, achievement motivation, optimism, stress tolerance, and risk-taking (see, Muñiz et al., 2014). The items use a Likert-type response from 1 (completely disagree) to 5 (completely agree). The instrument demonstrates a good fit to a bifactor model, exhibiting excellent reliability in terms of internal consistency $\alpha = [.81 - .97]$ (Cuesta et al., 2018). The Information Function (Item Response Theory Models) also exhibits adequate values for precision (Postigo, Cuesta, Pedrosa, et al., 2020). All of the items are worded positively to reduce response bias (Vigil-Colet et al., 2020). In the current study, the reliability via the α coefficient was: Entrepreneurial personality: .97; self-efficacy: .89; autonomy: .83; innovation: .87; internal locus of control: .87; achievement motivation: .90; optimism: .91; stress tolerance: .83; and risk-taking: .87.

Brief Self-Control Scale (BSCS; Tangney et al., 2004).

The BSCS is a questionnaire with 13 items that assesses self-control (e.g., "I am good at resisting temptation"). We used the Spanish adaptation from Garrido et al. (2017). As recommended by Lindner et al. (2015), in this study we used the total score for the scale, with a reliability (α) of .84.

Overall Personality Assessment Scale (OPERAS; Vigil-Colet et al., 2013).

OPERAS is an instrument that assesses the Big Five personality traits (extraversion, emotional stability, conscientiousness, agreeableness, and openness to experience) via 7 items per dimension, using a Likert-type response from 1 (completely disagree) to 5 (completely agree). The subscales exhibit α coefficients between .71 and .86, and the instrument has suitable evidence of convergent validity (Vigil-Colet et al., 2013). In the present study, the α coefficients were: Conscientiousness: .72; extraversion: .83; agreeableness: .67; emotional stability: .83; openness to experience: .70.

Attentional control scale

This is a 10-item scale with 5-point Likert-type responses. The aim of this scale is to detect participants who answer the questions carelessly. Items are of the type "In this question, please select option 4". These items were interspersed between the items in the different scales.

Procedure

We began by contacting potential participants who met our inclusion criteria. These were, to be over 18 years old and to be actively employed/working, regardless of age, salary, or employment sector, including whether private, public, or non-profit. Potential participants were contacted through social networks close to the study authors and through professional social networks. We asked the potential participants to complete the online questionnaire, to provide contact details for other potential participants, and to publicize the online questionnaire to other potential participants (who met the inclusion criteria). We repeated the same request with these new participants. This procedure lasted a month (March 2020). The mean time taken for respondents to complete the questionnaire was 40 minutes. The items from each scale were randomly applied, along with the items from the attentional control scale, with the condition that items measuring the same trait could not follow each other. The participants received no remuneration for their participation. Participation was anonymous and confidentiality was maintained in accordance with relevant data protection and privacy laws (Organic Law 3/2018, 5 December, on Protection of Personal Data and Assurance of Digital Rights).

Data analysis

We performed a Latent Profile Analysis (LPA), which is a technique within the person-centered approach, in which a sample is assumed to contain various subsamples with different scores. The aim of using this technique was to identify profiles through the eight specific traits of entrepreneurial personality in the BEPE (Cuesta et al., 2018): Self-efficacy, autonomy, innovation, internal locus of control, achievement motivation, optimism, stress tolerance, and risk-taking. First, we explored different models of latent profiles to determine which best represented the data. The idea was to group people together who had similar profiles of the eight specific traits (Vermunt & Magidson, 2002). We specified models with between 2 and 8 latent profiles, and to choose the number of profiles in the model we considered various indices of parsimony: the Bayesian Information Criterion (BIC) and its sample-adjusted version (ABIC) to correct for the possible effects of large sample sizes, and the Akaike Information Criterion (AIC). Lower values of these three indices indicate more parsimonious models. We also used the entropy indicator, which is between 0 and 1. A higher value for entropy indicates better separation between the latent profiles (Lanza & Cooper, 2016). The final criterion, and necessary condition, was that each profile must represent at least 5% of the sample, otherwise the model would be rejected for having non-representative profiles. The selected model would demonstrate the best parsimony from among those in which all of the profiles represented at least 5% of the total sample. The recommendation for entropy is that it is greater than .70. Once we selected the model, we defined each of

the latent profiles according to the scores in each of the specific traits of entrepreneurial personality. The direct scores were converted into standardized scores to make interpretation easier.

Once the latent profiles were defined, we compared the percentage of self-employed and non-self-employed workers in each latent profile. We did this using a chi-square test of independence.

To determine whether there were differences between the profiles of entrepreneurial personality according to the scores in grit, self-control, and the Big Five variables we performed successive ANOVAs, using Cohen's *d* to measure the effect size, with values between 0.2 and 0.4 being a small effect size, between 0.5 and 0.7, a medium effect size, and over 0.7, a large effect size (Cohen, 1988). As we were analyzing 7 variables about the same groups, we corrected for Type I error using Bonferroni correction $\alpha = .05/7$, giving a significance level of .0071. We used Bonferroni's test to determine differences between the different groups.

Lastly, we specified a structural equation model (path analysis) to try and model the relationships between the dif-

ferent psychological variables (conscientiousness, self-control, grit, and entrepreneurial personality) and being self-employed or not. We used Robust Maximum Likelihood (MLR) as the method of estimation, and the indices of fit we used were the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA), with CFI > .95 and RMSEA < .06 indicating good fit (Hu & Bentler, 1999).

The LPA and the structural equation model were produced using MPlus8 (Muthén & Muthén, 2017). The various ANOVAs and the chi-square test were done using SPSS 24 (IBM Corp, 2016).

Results

We produced models with between 2 and 8 latent profiles (Table 1). Although the model with 8 profiles had the best fit (albeit not the best entropy), we chose the model with 3 latent profiles because the subsequent models had profiles that represented less than 5% of the sample and so were not representative.

Table 1

Fit of the different latent profile models.

	Profiles						
	2	3	4	5	6	7	8
AIC	28,199.612	27,541.589	27,269.370	27,130.387	27,052.775	26,998.328	26,946.906
BIC	28,308.945	27,690.282	27,457.423	27,357.799	27,319.547	27,304.461	27,292.399
ABIC	28,229.579	27,582.344	27,320.913	27,192.718	27,125.894	27,082.235	27,041.601
Number of groups <5% of the sample	0	0	1	1	1	2	3
Entropy	.831	.885	.910	.850	.855	.877	.855

Note. AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; ABIC = Adjusted BIC

We used the scores in the eight specific traits defining entrepreneurial personality to characterize each profile (Figure 1). The first profile, called *low entrepreneurial personality*, demonstrated low scores in all of the variables, around one standard deviation below the mean in each variable, and represented 17% of the sample. The second profile, *moderate entrepreneurial personality*, had moderate scores in each variable, and represented 56% of the sample. The final profile, *high entrepreneurial personality*, had high scores in each variable (around one standard deviation above the mean), and represented 27% of the sample. The traits which differed most

between the profiles were self-efficacy, innovation, achievement motivation, and risk-taking.

We compared the percentages of self-employed and non-self-employed workers in each latent profile of entrepreneurial personality. Table 2 gives the different percentages. There were only statistically significant differences ($p < .05$) in the *high entrepreneurial personality* profile, with more self-employed than non-self-employed, indicating a relationship between the *high entrepreneurial personality* profile and the number of self-employed.

Figure 1
Mean scores of the latent profiles in the BEPE variables.

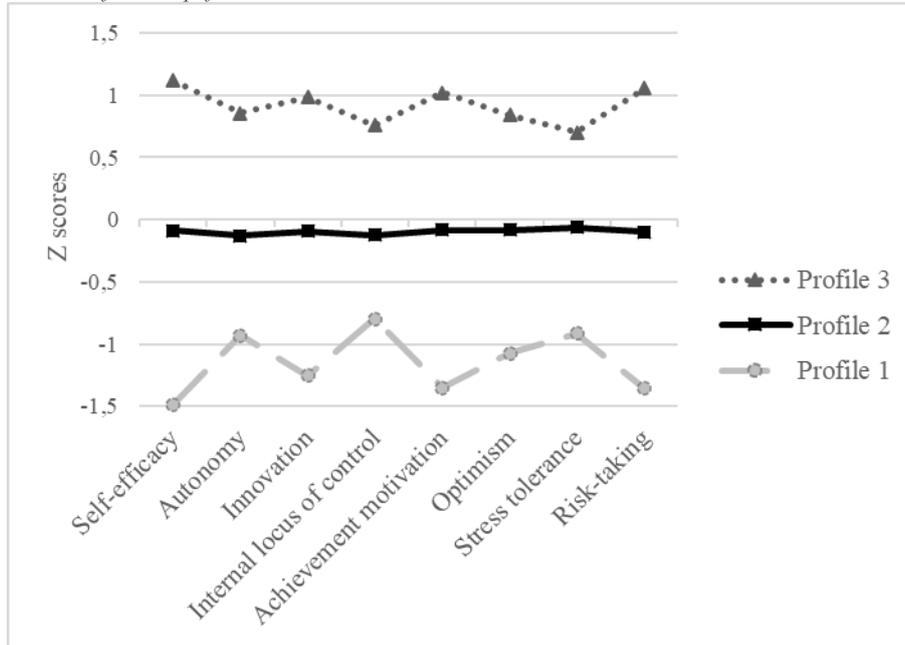


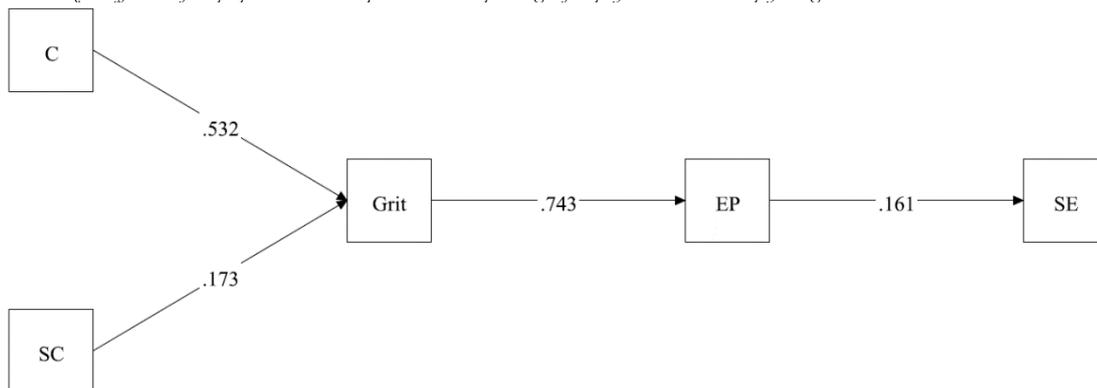
Table 2
Percentage of self-employed and non-self-employed according to latent profiles.

	Non-self-employed (%)	Self-employed (%)
Low Entrepreneurial Personality	86 (17.27)	12 (13.63)
Medium Entrepreneurial Personality	287 (57.63)	44 (50.00)
High Entrepreneurial Personality	125 (25.10)	32 (36.37)

We then performed successive ANOVAs to determine whether there were statistically significant differences between the entrepreneurial personality profiles in grit, self-control, and the Big Five variables. With the exception of openness to experience, we found differences in all of the variables, and apart from agreeableness, the differences all had large effect sizes according to Cohen’s (1988) general criteria (> 0.7), in favor of the profile with the highest entrepreneurial personality.

Finally, the structural equation model demonstrated excellent fit (CFI = .991; RMSEA = .032 [.001 - .072 90% CI]), and there were no modification indices that would indicate areas of poor local fit. Conscientiousness and self-control help to explain grit ($r^2 = .448$). Grit, in turn, explains entrepreneurial personality ($r^2 = .552$), which helps to explain being self-employed ($r^2 = .026$).

Figure 2
Standardized coefficients of the proposed structural equation model explaining self-employment based on the psychological variables studied.



Note. SC = self-control; C = conscientiousness; EP = entrepreneurial personality; SE = self-employed.

Discussion and conclusions

The psychological approach is an important part of the study of entrepreneurial activity (Chandra, 2018; Frese et al., 2016; Frese & Gielnik, 2014; Gao et al., 2020), and within this approach, one of the lines of study is about discovering which psychological variables help to predict someone becoming self-employed. Our study had three specific objectives. The first focused on detecting different latent profiles of entrepreneurial personality. We identified three profiles: *low*, *medium*, and *high entrepreneurial personality*. Our second objective was to examine the differences between these profiles of entrepreneurial personality in grit, self-control, and the Big Five variables, and to look at the percentages of self-employed workers in each profile. The *high entrepreneurial personality* profile was the only one to exhibit a significantly higher percentage of self-employed than non-self-employed, as well as having higher scores in variables such as grit, self-control, and conscientiousness. The third and final objective was to create a structural equation model to help explain entrepreneurial activity. The psychological variables included in the model due to their influence on entrepreneurial activity were: conscientiousness, self-control, grit, and entrepreneurial personality, made up of eight specific traits (self-efficacy, autonomy, innovation, internal locus of control, achievement motivation, optimism, stress-tolerance, and risk-taking; Cuesta et al., 2018; Muñiz et al., 2014; Postigo, García-Cueto, et al., 2020).

We first examined different models to identify latent profiles of entrepreneurial personality. Based on the scores in the different traits making up entrepreneurial personality, we identified three latent profiles: *Low*, *Medium*, and *High entrepreneurial personality*. The *low entrepreneurial personality* profile stands out as a profile of people with low perceptions of

their capabilities, without the desire to achieve excellence, or motivation by new ideas, they are people who take few work-related risks, ascribing the chance ups and downs of life to external events, and not accepting responsibility for the consequences of their actions. In contrast, the *medium entrepreneurial personality* profile is one in which none of the psychological traits stands out particularly, with the set of variables as a whole having scores around the mean. It is a profile of people that tend to see themselves as moderately capable, and therefore unafraid to make an effort and take risks, although always cautiously, they have some tolerance to stressful events albeit with weaknesses in certain situations, they are dependent in some contexts and autonomous in others, without notable optimism or pessimism, ascribing their successes and failures at times to themselves and other times to factors outside of their control. Lastly, the *high entrepreneurial personality* profile stands out as a profile of people with an ambitious perception of their capabilities, who work hard and come up with new ideas and projects, people who are autonomous and independent, capable of taking on risks and stressful situations, always with considerable optimism, people with an internal attribution of successes and failures who consider themselves responsible for what happens. This is the only profile that had a higher proportion of self-employed than non-self-employed. Like other studies that have demonstrated profiles of the self-employed based on their wellbeing (Bujacz et al., 2020), or based on emotional aspects (Zampetakis et al., 2016), we also used a person-centered approach in our study into organizational behavior (Meyer & Morin, 2016), and identified three profiles of entrepreneurial personality based on the scores in the eight specific traits that make it up (Cuesta et al., 2018; Muñiz et al., 2014; Rauch & Frese, 2007a).

Table 3

Differences in entrepreneurial personality profiles according to grit, self-control, and the five variables from the Big Five model.

	<i>M (SD)</i> High EP ^a	<i>M (SD)</i> Average EP ^b	<i>M (SD)</i> Low EP ^c	F (<i>p</i>)	<i>d</i>	Post-hoc
Grit	45.25 (4.34)	39.49 (3.99)	32.64 (5.50)	254.47 (<.001)	3.15	a with b a with c b with c
Self-control	48.79 (8.62)	44.58 (7.53)	40.60 (8.82)	32.39 (<.001)	1.02	a with b a with c b with c
Conscientiousness	29.47 (4.12)	26.95 (3.87)	23.87 (3.89)	61.65 (<.001)	1.40	a with b a with c b with c
Openness to experience	29.28 (4.55)	28.68 (4.02)	27.97 (4.36)	2.94 (.054)	0.33	-
Emotional Stability	27.71 (4.73)	25.48 (4.73)	21.33 (5.58)	51.73 (<.001)	1.28	a with b a with c b with c
Agreeableness	28.23 (3.36)	26.86 (3.64)	26.53 (3.47)	9.89 (<.001)	0.52	a with b a with c a with b
Extraversion	24.38 (4.90)	22.81 (4.92)	19.24 (5.17)	32.83 (<.001)	1.03	a with b a with c b with c

Note. *M* = mean; *SD* = standard deviation; EP = entrepreneurial personality; *p* = *p*-value; *d* = effect size

The *high entrepreneurial personality* profile was the only one to have a significantly higher proportion of self-employed workers than non-self-employed workers. This did not mean that this only occurred in the *high entrepreneurial personality* profile, but rather that there was a general pattern of a higher entrepreneurial personality profile exhibiting a greater proportion of self-employed. From this, it seems clear that higher scores in entrepreneurial personality are related to some extent to starting a business. In addition, the profiles of entrepreneurial personality also exhibited differences in the Big Five personality variables, with the highest scores in the *high entrepreneurial personality* profile. The most notable differences were in grit, which is evidence of the importance of these profiles of entrepreneurial personality, as in recent years, grit has been a noteworthy variable in business creation and success (Arco-Tirado et al., 2019; Mooradian et al., 2016; Mueller et al., 2017; Wolfe & Patel, 2016).

We also created a structural equation model to try to model the relationships between the different psychological variables (conscientiousness, self-control, grit, and the eight specific traits defining entrepreneurial personality) and being self-employed or not. We included the variable conscientiousness in the model because, on the one hand, it is one of the variables within the general model of personality that most helps to explain entrepreneurial activity (Zhao et al., 2010), and on the other, it is one of the variables most closely related to grit (Schmidt et al., 2018, 2020). We also included self-control (short term) as an explanatory precursor of grit (long term), because having a certain amount of self-control helps one have high levels of grit (Duckworth & Gross, 2014). Lastly, we included entrepreneurial personality, made up of the eight specific traits noted above, because of its capacity to explain part of entrepreneurial activity within a general model of that activity (Rauch & Frese, 2007b), with the aim of examining whether this predicts becoming self-employed.

We found that conscientiousness and self-control influenced grit, explaining 44.8% of its variance, as someone with passion and perseverance for long-term objectives must be able to control their actions in the short term so that they do not interfere with long-term plans (Duckworth et al., 2019). This result is in line with Butz et al. (2018), who concluded that grit acted as a mediating variable in the association between conscientiousness and entrepreneurial intention. In addition, grit, influenced by people's levels of conscientiousness and self-control, explains 55.2% of entrepreneurial personality. This is understandable because those who start a business have to face unexpected changes, great uncertainty, and often little resources, which means that entrepreneurs have to demonstrate tenacity and perseverance, as well as working with objectives (Baum & Locke, 2004; Locke & Latham, 2019; Mooradian et al., 2016), explaining part of the entrepreneurial personality. This leads to the conclusion that entrepreneurial personality explains 2.6% of the variance of being self-employed.

One of the important implications of these results is the

connection between different psychological variables when explaining a single fact: becoming self-employed or not. One positive point is that there are studies showing that non-cognitive and personality variables can be malleable (Mueller et al., 2017; Peña & Duckworth, 2018; Postigo et al., 2021; Tough, 2012), even in organizational settings (Li et al., 2019, 2020). This raises the idea that one might intervene in personal characteristics so that people have more tools and strategies, improving their perceptions of their abilities to start a business. All of this should be considered by those responsible for policy, in order to invest in psychological training programs which help to mitigate the negative effects caused by restricted capital for entrepreneurs (Bischoff et al., 2020), as well as helping develop a proactive, persevering, future-oriented mentality (Alan et al., 2019; Campos et al., 2017; Frese et al., 2016; Gielnik et al., 2016; Glaub et al., 2014; Ubfal et al., 2019) which would help people move from being "subsistence entrepreneurs" to innovator entrepreneurs (Global Entrepreneurship Monitor [GEM], 2020a). Currently, in the time of COVID-19, experts are stressing the particular importance of "intrapreneurship" and re-entrepreneurship, because the pandemic has meant that many businesses have had to reinvent themselves, which has encouraged taking better advantage of their *intrapreneurial* skills (GEM, 2020b).

Nonetheless, we can consider various aspects of why the psychological variables in this study help to explain only a small part of being self-employed. In the first place, in our theoretical model in this study we considered non-cognitive and personality variables, but other variables should be considered in future studies, using broader models that include the different types of entrepreneurial passion (Cardon et al., 2017; Lee, 2020; Newman et al., 2019), which have been shown to be related to business activity and success (Hubner et al., 2019; Lex et al., 2020; Mueller et al., 2017). On the same point, cognitive variables such as intelligence and creativity are also important for future studies to consider (Suárez-Álvarez & Pedrosa, 2016). Secondly, the psychological or personal part of a person only explains a small part of the process of entrepreneurial activity. It is important for future studies to consider the individual's context and culture, as well as their income and satisfaction with previous work (Arco-Tirado et al., 2019). They should also consider the country where the person wants to start a business, as there are very different government facilities for doing so (GEM, 2020a; OECD, 2019). Finally, there is a problem in differentiating between someone who works for themselves and a true entrepreneur (Henrekson & Sanandaji, 2014), making it difficult to contrast those who start businesses because they want to (innovator entrepreneurs) and those who start businesses because they need to ("subsistence entrepreneurs") (GEM, 2019, 2020a).

In summary, our study gives rise to a number of practical conclusions. Firstly, we identified three latent profiles according to scores in the eight specific traits making up entrepreneurial personality (Cuesta et al., 2018; Muñiz et al., 2014;

Postigo, García-Cueto, et al., 2020; Rauch & Frese, 2007a). These results may be useful for providing a picture of the possible profiles of entrepreneurial personality, with the *high entrepreneurial personality* (in which there was the highest proportion of self-employed) demonstrating the most suitable personal factors for starting a business, with higher scores in psychological variables directly related to entrepreneurial activity. Finally, we conclude that conscientiousness, self-control, grit, and entrepreneurial personality help to explain being self-employed or not, albeit to a small extent. This study is a good starting point, but the need remains to develop broader models that cover different contexts people may

be in. Future studies should also consider looking at the possible differences in entrepreneurial personality profiles by sociodemographic variables such as age, sex, and whether one lives in an urban or rural environment.

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