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influence of entrepreneurs’ personality traits”**

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Financing social ventures by crowdfunding: The influence of entrepreneurs' personality traits

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Abstract

Purpose – This research aims to understand the role played by social entrepreneurs' personality traits on the choice between the traditional donation model and social crowdfunding (CF) to finance social projects.

Design/methodology/approach – Social CF is examined as an instrument to capture funds for social projects, and the particular case of the Portuguese Social Stock Exchange (PSSE) is presented. The approach is quantitative in nature and the data were collected through a questionnaire that was emailed to non-governmental organizations in Portugal and founders of the projects listed on PSSE. Logistic regression was employed to predict the probability that a social entrepreneur would use PSSE rather than traditional financing. The predictor variables were based on the big five personality traits.

Findings – Our investigation reveals that the agreeableness and neuroticism factors were not even considered in the results of the factorial analysis, which indicates the minor importance of these personality traits in the funding decisions of the Portuguese social entrepreneurs. The same applies to the factors of openness to new experiences and extraversion, which, although considered in the logistic analysis, showed no statistical significance. Finally, the conscientiousness personality trait seems to be the only factor that might explain the use of the PSSE platform.

Originality/value – Studies on the profile of the social entrepreneurs that use CF for financing social projects are relatively rare, specifically in the context of Social Stock Exchange platforms. Additionally, there is a need to carry out more empirical evidence

about the effect of social entrepreneurs' personality traits on the decision to finance social projects through social CF platforms *vis-a-vis* the traditional donation model.

Keywords – Social Entrepreneurship, Social Crowdfunding, Social Entrepreneur's Personality traits, Social Ventures, Portuguese Social Stock Exchange.

Paper type - Research paper

Introduction

Solving complex and persistent social problems through social entrepreneurship is a difficult task for entrepreneurs, who face increased difficulties to capture financial resources from inception to establish the social venture and run operations in the coming years (Constanzo *et al.*, 2014; Gordon, 2014; Lan *et al.*, 2014; Obschonka *et al.*, 2010).

Crowdsourcing is a new source for financing a diverse range of activities and projects through public participation. The idea behind this concept is derived from the application of open-source principles to fields outside the software industry. Crowdsourcing in social entrepreneurship benefits from its ability to draw upon the notion of common social causes in invitations to participate. The term crowdfunding (CF) can be said to derive from the concept of crowdsourcing and can be defined as the collective cooperation of people who pool their money and other resources together to support efforts initiated by others. In the digital world, social CF can be described as an open call for raising funds, primarily through the internet, in the form of donation or in exchange for some sort of reward in order to support initiatives for social purposes (Ridge, 2014; Tomczak and Brem, 2013). The abilities of digital technologies to provide almost instantaneous data gathering and feedback, to computationally validate contributions and to reach both broad and niche groups through loose networks have all been particularly important in different situations (Ridge, 2014).

Prior research on social CF in the digital world and the profile of the social entrepreneurs that use this type of platform for financing social projects is scarce, especially in the context of Social Stock Exchange platforms. The same applies to empirical evidence about the effect of social entrepreneurs' personality traits on financing social projects through social CF platforms *vis-a-vis* the traditional donation model (Belleflamme *et al.*, 2013; 2014; Mollick, 2014). Lehner (2013, 2014) reinforces these assertions, calling for

a more rigorous and robust conceptual and empirical research to address and inform policy makers and practitioners in order to increase the success of social CF.

Due to the convergence between CF and social CF (Lehner, 2013; 2014), in the absence of a specific framework we adapt to the social entrepreneurs' (capital seekers') perspective the current literature on the use of CF to finance entrepreneurial projects.

Social entrepreneurs are the result of intrinsic and extrinsic factors that can affect their propensity to invest in social projects (Ármansdóttir, 2011; London and Morfopoulos, 2010; Obschonka *et al.*, 2012). In these circumstances, it is essential to understand which personality traits are most important for choosing a social CF platform and whether different traits affects the social entrepreneurial behaviour regarding the decision to finance the social project.

The main goal of this research is to identify the personality trait differences among entrepreneurs listed in a social CF platform (the Portuguese Social Stock Exchange) by comparing with the traditional donation-based model. Another aim is to understand whether the personality of the social entrepreneur interferes in the decision to choose this source of financing over the traditional donation-based model.

To attain these objectives, we examine the main characteristics of the social projects available on the Portuguese Social Stock Exchange platform and contrast them with other social projects that have been financed by other sources in order to identify the main differences in the personality traits of the projects' promoters. By exploring these issues, we hope to enhance the body of knowledge on the personality traits of the social entrepreneur and to make practical contributions for policy makers and the managers of similar platforms.

To address the above-mentioned topics, the characteristics of the social entrepreneur are identified in Section 1. Section 2 emphasizes the importance of social CF platforms as a source of financial support for launching new social ventures. Section 3 reviews the relevant literature on the role of personality traits on social entrepreneurs' decisions. Then, we define the methodology that will be used in our empirical study. The results obtained are presented in section 5 and discussed in section 6. The conclusions section provides a summary of the paper, explores implications, presents limitations and indicates future research directions.

Main characteristics of the social entrepreneur

Social entrepreneurs are seen as a distinct group of entrepreneurs that present rare individual characteristics (Dees, 2001; Drayton, 2002). Their competencies and behaviours are similar to those of economic entrepreneurs, although they are focused on a strong social mission and oriented by social objectives (Jack *et al.*, 2008; Thompson, 2002; Zahra *et al.*, 2009). Social entrepreneurs are individuals with a fearless social vision and a strong desire for social change (Schuyler, 1998). They are innovative and changing agents seeking to accomplish their vision and use their entrepreneurial talent to solve social problems (Bornstein, 2007; Drayton, 2002; Parente *et al.*, 2013).

Some authors emphasize the individual nature of the social entrepreneur (Bornstein, 2007; Brouard and Larivet, 2010; Martin and Osberg, 2007; Schuyler, 1998; Thompson *et al.*, 2000). In some cases, the social entrepreneur is considered a “person” (Boschee and McClurg, 2003; Thompson *et al.*, 2000), an “individual” (Brouard and Lavriet, 2010; Korosec and Berman, 2006; Schuyler, 1998), “someone” (Martin and Osberg, 2007), an “entity” (Tan *et al.*, 2005) or a “group, network or group of organizations” (Light, 2006). However, some authors suggest that this concept could encompass not only individual but also collective actions (Korosec and Berman, 2006; Light, 2006; Peredo and McLean, 2006).

Some definitions underline the attributes and personal traits of the social entrepreneur, such as “talented”, “energetic”, “pragmatic”, “creative”, “ethical” (Drayton, 2002), “ambitious” (Leadbeater, 1997), “courageous” (Martin and Osberg, 2007), “visionary”, “passionate”, “determined”, “proactive” and “resilient” (Beugré, 2014; Guclu *et al.*, 2002; Mort *et al.*, 2003; Nicholls, 2008; Roberts and Woods, 2005; Yunus, 2010; Zahra *et al.*, 2009). According to Bacq, Hartog, Hoogendoorn and Lepoutre (2011), entrepreneurs tend to be particularly confident, especially in the evaluation of their own knowledge and capacities (i.e., their ability to launch a social initiative).

Other authors investigating the individual traits of the social entrepreneurs as an explanatory factor of success highlight their attitudes and behaviours (Light, 2006; Mair and Martí, 2006; Seelos and Mair, 2005). Dees (1998) argues that a successful social entrepreneur will: (i) adopt a mission to create and sustain social value (not only private value); (ii) recognize and search actively for new opportunities to accomplish the mission; (iii) engage in a process of continuous innovation, adaptation and learning; (iv) act

energetically without being limited to the resources held at a moment in time; and (v) demonstrate high accountability to stakeholders regarding the results of the activity.

Social entrepreneurs are driven by desire for social justice (Roberts and Woods, 2005), share a deep belief in their ability to change society (Bornstein, 1998; Drayton, 2002) and possess a strong vision and networking experience (Clamp and Alhamis, 2010). Barendsen and Gardner (2004) also stress their great capacity to inspire and motivate other people to join the social project.

Further, social entrepreneurs can be considered strategists (Light, 2006) with a strong capacity for analysis, planning and exploration of opportunities to accomplish their social purposes (Dees, 1998; Guclu *et al.*, 2002; Nicholls, 2008; Tracey and Phillips, 2007). These entrepreneurs manage all the convenient resources, retaining a capacity to capture, allocate, use and leverage the resources available (Alvord *et al.*, 2004; Leadbeater, 1997; Reis, 1999; Thompson *et al.*, 2000). They also possess an ability to identify underdeveloped resources, showing a strong capacity for transformational leadership and communication with employees and stakeholders (Okpara and Halkias, 2011; Ruvio *et al.*, 2010; Schmitz and Scheuerle, 2012). According to Grayson, McLaren and Spitzbeck (2011), the capacity for communication blended with a deep knowledge of the business allows the social entrepreneur to be trusted and to capture the interests of employees and stakeholders to the social project. The competencies of social entrepreneurs could be extended to include learning and continuous adaptation (Dees, 1998), a strong capacity to build alliances and networks (Nicholls, 2008; Roberts and Woods, 2005) and a capacity to focus on results and rectify bad decisions in a timely manner (Bornstein, 2007; Dees, 1998; Light, 2006). For Chell (2007), the capacity to be a social entrepreneur is innate, while Brooks (2009) argues that, although certain individuals could possess natural specific abilities to launch social ventures, the entrepreneur's characteristics can also be promoted or stimulated.

Social entrepreneurs' personality traits

Research on social entrepreneurs' personality traits still is relatively scarce (Lukeš and Stephan, 2012). For this reason, we draw our review on recent empirical evidence identifying a set of general and specific relevant traits that describe social entrepreneurs (Chell, 2008; Koe Hwee Nga and Shamuganathan, 2010; Zhao and Seibert, 2006). A trait is a single dimension of personality, which is made up of a number of components. The concept of a personality trait in a broad sense includes abilities (e.g., general intelligence as well as numerical, verbal, spatial, or emotional intelligence), motives (e.g., need for achievement, power, or affiliation), attitudes (including values), and characteristics of temperament forming an overarching style of a person's experiences and actions (Brandstatter, 2011; Lukeš and Stephan, 2012; Wood, 2012). The three-factor model identified neuroticism, extraversion–introversion and psychoticism as predominant personality factors (Chell, 2008). The most recent works on the structure of personality suggests a five-factor model that comprises openness to experience, conscientiousness, extraversion, agreeableness and neuroticism (Brandstatter, 2011; Chell, 2008).

The factor of openness to experience describes the breadth, depth, originality, and complexity of an individual's mental and experiential life. Conscientiousness describes socially prescribed impulse control that facilitates task- and goal-directed behaviour, such as thinking before acting, delaying gratification, following norms and rules, and planning, organizing, and prioritizing tasks. The extraversion factor implies an energetic approach toward the social and material world and includes traits such as sociability, activity, assertiveness, and positive emotionality. Agreeableness refers to a prosocial and communal orientation toward others (contrasted with antagonism) and includes traits such as altruism, tendermindedness, trust, and modesty. Finally, neuroticism refers to negative emotionality (contrasted with emotional stability and even-temperedness), such as feeling anxious, nervous, sad, and tense (John and Srivastava, 1999; John *et al.*, 2008).

Based on these “big five” personality traits, Zhao and Seibert (2006) assumed that that entrepreneurs would have high scores on conscientiousness, openness to experience, and extraversion but low scores on agreeableness and neuroticism. Later, Zhao, Seibert and Lumpkin (2010), taking into account other authors' arguments about the roles of entrepreneurs and the relevance of personality traits, indicated positive effects of conscientiousness, openness to experience, emotional stability (neuroticism reversed), and extraversion on both the intention to launch a social venture and its performance, whereas agreeableness was expected to have negative effects only on intention. Also, Rauch and Frese's (2007) meta-analysis research supported similar conclusions,

suggesting that founding and successfully running a business depends on “big five” personality traits. Grounded on five meta-analysis studies, Brandstatter (2011) proposes a model of entrepreneurship where entrepreneurial success derives from personality (need for achievement, locus of control, self-efficacy, innovativeness, stress tolerance, risk taking, passion for work and proactive personality), human capital (education, experience, mental ability and knowledge), the characteristics of active performance (such as active goals and visions or entrepreneurial orientation) and environment (life cycle, dynamism, hostility and industry).

Regarding social entrepreneurs, Wood (2012) argues that there is strong potential for at least some personality traits to influence people’s tendencies to support social ventures, specifically openness to experience that seems to be more important than extraversion, agreeableness, or conscientiousness. Results from studies on personality traits show that social entrepreneurs score much higher on openness to experience/intuition and are slightly less conscientious/judging and more rational/less agreeable in personality tests than non-entrepreneurs (Bolton *et al.*, 2010; Chlosta *et al.*, 2012; Spruijt, 2012; Zhang *et al.*, 2009).

Koe, Hwee, Nga and Shamuganathan (2010) indicated five values that are of high importance to social entrepreneurs: i) a social vision (fulfilling a basic human need); ii) sustainability (conscientious and critical view towards society and the way individuals and business are inter-connected); iii) social networks; iv) innovation; and v) financial results. Linking the aforementioned factors to the five factor model, they found a strong relation between both agreeableness and openness to experience and social entrepreneurship, while emotional stability and conscientiousness only show a partial relation with social entrepreneurship (Koe Hwee Nga and Shamuganathan, 2010).

Based on an analysis of empirical evidence, Hoogendoorn, Pennings and Thurik (2010) state that factors common to social entrepreneurs include skills (building networks), managerial background and practical experience, demographics and motives (personal rehabilitation, search for solutions to individual distress, and fulfillment of obligations to one’s community by meeting local needs or addressing social issues).

While there is a shortage of research on the influence of entrepreneurs’ personality traits on the use of different financial instruments for launching a social venture, the above literature review demonstrated the importance of these personality traits to understand the social entrepreneurial process that involves the management of financial mechanisms. Also, the few contributions that do exist tend to be focused on the traditional donation-

based model and usually disregard the particular aspects of CF for social purposes. Moreover, there has been little elaboration about the role of entrepreneurs' personality traits on the decision to finance the social venture through online platforms such as CF. Consequently, the general research question to be explored in this study is to what extent the decision to use the social CF platform depends on the entrepreneur's personality traits.

Social CF and the Portuguese Social Stock Exchange (PSSE)

Social CF

Most CF projects are based on the lending model, in which funds are offered as a loan with the expectation of some return on the invested capital (Belleflamme *et al.*, 2014; Schwienbacher and Larralde, 2012). Social CF efforts, such as humanitarian projects, follow a patronage model, placing funders in the position of philanthropists who expect no direct return for their contributions (OECD, 2014). The patronage model is donation-based and materializes when a crowdfundee (the giver) receives no rewards for his/her funding besides those of altruism, generosity or personal and corporate promotion (Mollick, 2014). The prior model not only can provide necessary funds for social ventures but also may lead to a higher legitimacy of the projects through early societal interaction and participation (Lehner and Nicholls, 2014). According to Gajda and Walton (2013), the difference between donation-based CF and traditional fundraising is that social entrepreneurs can use the social CF platform to collect and ear-mark donations for a dedicated project. This approach can help to raise higher amounts per donor, because funders know that their money will be used on a specific project. Such donors also tend to give recurring donations if the social organization keeps them updated about the progress of the project. Social CF is most applicable to community-related projects as well as microfinance to micro development (World Bank, 2013).

There are several motivations for social entrepreneurs to choose a CF platform for financing their projects (Moritz and Block, 2014). The first is obviously to receive funding from the donors to attenuate a particular problem by displaying the main characteristics of the projects and the managerial structural schemes of support (such as a social organization) for efficiency and sustainability (Belleflamme *et al.*, 2014). This is important because it offers the possibility to obtain funds for the early-stage gap of the project when conservative funding is not possible. Another motivation could be raising

awareness as well as feedback about the project among actual and potential stakeholders (Bouncken *et al.*, 2015).

Projects with a social or non-profit oriented background have a higher probability of receiving CF (Moritz and Block, 2014). This relationship has been confirmed both theoretically and empirically (Belleflamme *et al.*, 2013, 2014). According to the latter authors, non-profit organizations have higher credibility in the realization of the project in contrast to profit-oriented organizations. Also, the characteristics of the entrepreneur influence the chance that a project will be successfully funded. Conversely, investors are available to finance projects they want to see accomplished (Belleflamme *et al.*, 2013; Moritz and Block, 2014). Therefore, non-profit organizations or socially focused companies are more likely than other organizations to be supported by investors (Bouncken *et al.*, 2015). Mollick (2014) suggests that geography may play an important role in the success of CF efforts and that it has the potential to mitigate many of the distance effects found in traditional fundraising efforts. Therefore, we can consider a home-bias effect that could be explained by an emotional and cultural preference for local projects that could attract donors from different regions in a country.

Portuguese Social Stock Exchange (PSSE)

The Social Stock Exchange model was adopted by the United Nations and received the UNESCO endorsement as an exemplary case to be followed by other stock exchanges (Grecco, 2010). The Portuguese Social Stock Exchange was created in 2009 as a social initiative aiming to reproduce, with some adaptations, the environment of a conventional stock exchange. The main objective is to mobilize resources for promising new social ventures. Despite the similarities, the PSSE is slightly different from a traditional stock exchange, since the concept of a social investor (used for individuals or entities that provide funds to the projects in the PSSE) is similar to the role of a donor. Likewise, following the logic of capital markets, social shares represent the unit of donation established by the PSSE (1 euro each). The owners of the projects may issue shares that can be acquired by potential investors in order to generate funds for the social venture.

At present, projects listed on the PSSE do not have a 'price' like their counterparts in the conventional stock exchanges. However, PSSE promotes the visibility of the selected projects, leverages the resources available for the project and facilitates the contact

between donors (social investors) and civil society organizations with relevant work in the fields of education and social entrepreneurship.

In Portugal, projects carried out by nonprofit Portuguese civil society organizations are eligible to apply for the social stock exchange. The selection of projects is made by a specialized technical team, and the criteria for assessing these projects include the objectives of the project, its innovative nature, its scalability and replicability, its expected social impact and its technical and financial viability. Through the PSSE website (www.PSSE.org.pt), the individuals or entities interested in investing in social causes can access a brief description of projects that need funding. There are two thematic investment funds, one in the area of education and the other in the area of social entrepreneurship. The PSSE currently has 26 projects, eight of which have gathered all of the necessary funding.

The existence of PSSE as a mediator, which tries to adjust the demand for grants with the projects of social entrepreneurs, increases the transparency and scrutiny of the whole process. These projects require a strong commitment in terms of their governance and accountability. Social investors may follow the projects and evaluate their social impact by analysing reports published on the PSSE website.

Methodology

As mentioned previously, to the best of our knowledge there is a lack of empirical evidence about the personality traits that encourage or restrain the social entrepreneur's use of the social CF platform vis-a-vis other forms of traditional donation funding. Based on the big five personality traits model, we propose the following directional hypotheses:

H1: Personality trait openness to experience positively influences the social entrepreneur's decision to use a CF platform to finance a new venture in Portugal.

H2: Personality trait conscientiousness positively influences the social entrepreneur's decision to use a CF platform to finance a new venture in Portugal.

H3: Personality trait extraversion positively influences the social entrepreneur's decision to use a CF platform to finance a new venture in Portugal.

H4: Personality trait agreeableness positively influences the social entrepreneur's decision to use a CF platform to finance a new venture in Portugal.

H5: Personality trait neuroticism positively influences the social entrepreneur's decision to use a CF platform to finance a new venture in Portugal.

The research design is exploratory in nature and uses a quantitative approach. The survey is based on a questionnaire that, after a pre-test, was sent by email to the persons responsible for the creation of the existent non-governmental organizations (NGOs) for social and economic development and projects listed on the PSSE. The data were collected between September 19, 2012, and January 2, 2013. A total of 68 responses were obtained, 45 of which came from individuals involved in the launch of the social venture. For statistical analysis, we first used descriptive analysis techniques, then proceeded to data structure reduction, through factor analysis, by using an orthogonal rotation (varimax). To test the research hypotheses, statistical inference logistic regression was used.

The sample (Table 1) is characterized by a large majority of social entrepreneurs that have higher education degree (93.3%), especially in the areas of humanities (24.4%), economic sciences (20%) and engineering (20%). Most of the respondents were employed when they became involved in the social venture (77.8%), primarily in the business or public sector (48.6% and 37.1%, respectively). At the time of the study a smaller percentage were labor inactive (17.8%) or retired (4.4%).

Table 1- Characteristics of the sample

Characteristics	Total	
	N (45)	%
Educational level		
Primary	0	0.0%
Secondary	3	6.7%
Higher	42	93.3%
Area of study		
Health sciences	6	13.3%
Mathematical sciences	0	0.0%
Social sciences	4	8.9%
Economic sciences	9	20.0%
Engineering	9	20.0%
Arts	4	8.9%
Humanities	11	24.4%
Teaching	1	2.2%
Others	1	2.2%
Occupational status		
Employed	35	77.8%
Retired	2	4.4%
Labor market inactive	8	17.8%
Working sector for individuals who were employed		
Business sector	17	48.6%
Public sector	13	37.1%

Non-profit sector	5	14.3%
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Source: Authors' own survey

Results

The purpose of this section is to analyse social entrepreneurs' personality traits, in order to assess the extent to which these traits can explain the use of a social CF platform vis-à-vis donation-based traditional financial mechanisms.

When analysing individual personal attitudes (Table 2), we observed that respondents reported high values in all the questions included in the questionnaire, as the average value was above the neutral point on a five-point Likert scale. Only one exception was observed (for the item "I would like to attain the highest position in an organization someday"). The answers of respondents listed on the PSSE platform are, in most of the cases, higher than the mean value observed in NGO's traditional financing.

Table 2- Social entrepreneurs' attitudes regarding social ventures

Variable	PSSE		NGO		Highest average value attained
	Mean	Std. Deviation	Mean	Std. Deviation	
I believe in establishing good rapport with my peers	4.62	.506	4.34	.701	<u>PSSE</u>
I believe in maintaining harmonious relationships with my peers	4.46	.660	4.25	.672	<u>PSSE</u>
I believe in fostering a trusting working relationship	4.62	.506	4.38	.660	<u>PSSE</u>
I believe in the importance of achieving agreement with my peers before forming a conclusion	4.54	.660	3.91	.995	<u>PSSE</u>
I would like to attain the highest position in an organization someday	1.92	1.256	2.03	1.282	NGO
I am always looking for opportunities to start new projects	4.08	1.038	4.06	1.105	<u>PSSE</u>
I like to win, even if the activity is not very important	3.31	1.251	2.66	1.125	<u>PSSE</u>
When most people are exhausted from work, I still have energy to keep going	3.85	.899	3.97	1.257	NGO
I prefer to set challenging goals, rather than aim for goals that I am likely to reach	3.77	1.301	3.91	1.027	NGO

For me, change is exciting	3.92	1.256	3.84	1.221	<u>PSSE</u>
My peers would say that I am a confident person	4.62	.650	4.44	.619	<u>PSSE</u>
My peers would say that I am an optimistic person	4.15	.689	4.31	.931	NGO
My peers would say that I make decisions wisely	3.92	.760	4.13	.707	NGO
I work best in an environment that allows me to be creative	4.38	.870	3.94	1.162	<u>PSSE</u>
I know what is expected of me in different social situations	4.00	.707	3.50	.916	<u>PSSE</u>
I work well in environments that allow me to create new things	4.08	1.115	3.75	1.078	<u>PSSE</u>
My peers would say that am an open-minded person	4.31	.630	4.13	.751	<u>PSSE</u>
I like to complete every detail of tasks according to the work plans	4.23	.599	3.94	1.076	<u>PSSE</u>
My peers would say that I am a responsible person	4.77	.439	4.56	.564	<u>PSSE</u>
I prioritize my work effectively so the most important things get done first	4.46	.660	4.19	.780	<u>PSSE</u>
I conduct my business according to strict set of ethical principles	4.69	.630	4.75	.440	NGO
I am motivated to meet targets in jobs assigned to me	4.69	.630	4.50	.718	<u>PSSE</u>

Source: Authors` own survey

In order to simplify the data analysis and to have a comprehensive understanding of the results obtained, we employed factorial analyses (principal components analysis), using an orthogonal rotation (varimax method). The statistical procedures were computed using the statistical software SPSS, version 20.

The preliminary analysis, specifically the determinant of the correlation matrix, revealed some data multicollinearity. Thus, as suggested by Field (2005, p. 641), we exclude from our analysis four variables that correlated very highly with other variables ($r > 0.90$). In order to ensure the statistical significance (for $\alpha = 0.05$), when computing the principal components (factors) we considered only variables with a loading greater than 0.7 (Hair *et al.*, 1998, p. 112).

Following the Kaiser rule, we obtained five factors, but only three of these had a suitable internal reliability (measured by Cronbach's Alpha) (Field, 2005, pp. 666-676; Hair *et al.*, 1998, p. 118). Thus, only these were considered in our analysis. The first factor retained is related to openness to new experiences, the second to conscientiousness and the last to extraversion. Next, we computed an index for each of the three principal

components gathered, based on the weighted sum scores method (DiStefano *et al.*, 2009; Field, 2005). By using this methodology, we ensured that “items with the highest loadings on the factor would have the largest effect on the factor score” (DiStefano *et al.*, 2009, p. 3) and that the new index would have the same scale as the original data (1 = totally disagree, 5 = totally agree).

When analysing the indexes constructed (Table 3), we observe that respondents have a high score in each of the three personality traits, suggesting that Portuguese social entrepreneurs have a high level of openness to new experience, conscientiousness and extraversion. The most common trait is conscientiousness ($M=4.4$), although this is closely followed by the other two traits (openness to new experiences ($M=4.1$) and extraversion ($M=3.9$)).

The factorial analysis did not retain the personality traits agreeableness and neuroticism, due to the components’ low internal reliability (0.595 and 0.560, respectively). This contradicts the hypotheses H4 and H5, which stated that both factors have a positive influence on the social entrepreneur’s choice of a CF platform. This seems to indicate that those two factors have little influence on the adoption of the PSSE platform to launch a new social venture in Portugal.

Table 3- Factor analysis of Social Entrepreneurs’ personality traits

Factor	Principal Components Analysis						
	Factor loading ^a	Mean	Standard deviation	Eigenvalues	% Var.	% Cumul. Var.	Cronbach’s Alpha
Factor 1: Openness to experience		4.1	0.8	7.1	33.7	33.7	0.73
I work best in an environment that allows me to be creative	0.881	4.1	1.1				
My peers would say that am an open-minded person	0.790	4.2	0.7				
Factor 2: conscientiousness		4.4	0.6	2.7	12.7	46.4	0.74
I prioritize my work effectively so the most important things get done first	0.822	4.3	0.8				
I conduct my business according to strict set of ethical principles	0.741	4.7	0.5				
Factor 3: Extraversion		3.9	1.0	1.5	7.0	53.5	0.64
I prefer to set challenging goals, rather than aim for goals that I am likely to reach	0.813	3.9	1.1				

When most people are exhausted from work, I still have energy to keep going	0.753	3.9	1.2
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Extraction method: principal component analysis; Rotation method: varimax, with Kaiser normalization; KMO measure = 0,671; Bartlett's sphericity test: $p < 0,000$;
a. Rotation converged after 10 iterations.

Source: Authors` own survey

In order to analyse the extent to which personality traits explain why some social entrepreneurs use social CF platforms and others do not, we used a logistic regression. As the dependent variable, we considered the type of financial sources used (CF via PSSE vs. traditional donation based financing). As independent variables (or predictor variables), the three personality traits used in the factorial analysis were considered (openness to new experiences, conscientiousness and extraversion).

Given the exploratory nature of the study, and taking into account the scarce previous research on the topic, we used stepwise methods, specifically the backward likelihood ratio method (Field, 2005, p. 227).

We were able to verify that the model fits the data well, as observed in the -2 Log likelihood statistic and in the Hosmer and Lemeshow test (-2 Log likelihood=57.637, $p=1.0$; Hosmer and Lemeshow $\chi^2(4)=2.227$, $p=0.694$). We also observed that the full model, when compared with a model with intercept only, is statistically significant (omnibus tests of model coefficients $\chi^2(1)=4.724$; $p=0.030$; Cox & Snell R Square=0.100; Nagekkerke R Square=0,133). Based on the classification table, we verified that the model was able to correctly classify 77.3% of the individuals who used PSSE, as well as 62.2% of all respondents.

The logistic regression shows that openness to new experience (H1) and extraversion (H3) did not have a statistically significant effect on the logit of the probability of using the PSSE online platform (Table 4). Conversely, conscientiousness (H2) has a statistically significant effect on the logit of the probability of using the Portuguese crowdfunding mechanism ($b_{\text{conscientiousness}}=1.123$; $\chi^2_{\text{wald}}(1)=3.964$; $p=0.046$).

The odds ratio indicates that the odds of using social CF platforms are increased when social entrepreneurs have a higher level of conscientiousness. In fact, we observed that, when holding all the other variables constant, a one-point increase on the five-point

conscientiousness scale increased the odds of using social CF platforms by about 3.074 times.

Table 4- Logistic regression of the use of social CF platforms according to personality traits.

		Variables in the Equation				
		B	Wald	df	Sig.	Odds ratio
Step 1 ^a	Openness to experience	.708	2.062	1	,151	2,031
	Conscientiousness	.977	2.510	1	,113	2,656
	Extraversion	-.003	.000	1	,993	,997
	Constant	-7.202	5.349	1	,021	,001
Step 2 ^a	Openness to experience	.707	2.318	1	,128	2,028
	Conscientiousness	.975	2.709	1	,100	2,652
	Constant	-7.203	5.356	1	,021	,001
Step 3 ^a	Conscientiousness	1.123	3.964	1	,046	3,074
	Constant	-5.019	3.906	1	,048	,007

a. Variable(s) entered on step 1: Openness to experience, conscientiousness, extraversion.

Source: Authors` own survey

According to our model, the predicted logit probability of using PSSE can be given by the following expression:

$$\ln(\text{odds}) = -5.019 + 1.123 \text{ conscientiousness}$$

Thus, the probability of a social entrepreneur using PSSE, rather than relying only on traditional financing, is as follows:

$$P(Y) = 1 / [1 + e^{-(5.019 + 1.123 \text{ conscientiousness})}]$$

Once again, this means that an increase of one point in individuals' level of conscientiousness (on a five-point scale) is expected to correspond to an increase of about 1.99% in the probability of social entrepreneurs using the PSSE online platform.

Discussion

The main purpose of this research was to understand whether social entrepreneurs' personality traits affect the decision to use social CF vis-à-vis traditional donation funding. Taking into account this goal, based on the big five personality traits model, five research hypotheses were proposed and tested.

A priori, we should expect that the five personality traits under analysis were positively related to the decision to use the PSSE CF platform. However, the empirical evidence obtained does not allow us to confirm the relevance of the dimensions of openness to new experiences (H1), extraversion (H3), agreeableness (H4) and neuroticism (H5). The positive influence of conscientiousness trait (H2) is confirmed.

These findings are in line with the content of the agreeableness factor (John and Srivastava, 1999), as a CF platform could be envisaged by some social entrepreneurs as impersonal, untrustworthy and individualistically oriented. Indeed, the concept of CF is, by nature, based on an online platform that appeals to a one-to-one human-computer interaction, which sometimes might seem insecure to persons unfamiliar with new technologies. Also, the factor of neuroticism (John *et al.*, 2008) seems to be irrelevant in the decision to adopt the PSSE platform. The emotional characteristic of anxiety is not suitable to explain why social entrepreneurs would choose to use or not the PSSE website to raise money to support new social ventures. It seems that the PSSE platform is not too risky even to an emotional unstable individual who wants to maintain control over the process of collecting donations for its project.

Initially we expected that openness to experience trait positively impacts the use of a social CF platform. Nonetheless, we might suppose that individuals' curiosity about new technologies, generally associated with the factor of openness to new experiences, fosters social entrepreneurs' search for new funding sources, besides those that are traditionally used in the social sector. Before the investigation, we also expected that individuals' extraversion level could positively contribute to the use of the PSSE CF platform. In fact, we should assume that the assertiveness, proactiveness and energy of this personality trait might be critical for using the CF platform. Furthermore, the results obtained are not as surprising as the observed with respect to the dimension openness to experience. Additionally, more extraverted people are looking for stimulation especially in the company of others, and thus enjoy social interaction and easily establish links with other

people. Thus, these individuals could prefer the use of financial sources that are more based on personal interaction, rather than relying on digital platforms that promote access to financing. Moreover, this personality trait could be very helpful for the construction of social networking and for improving the ability to communicate with a wide variety of stakeholders and, therefore, to reduce the need to search for alternative sources of funding.

Conversely, the results do confirm that the personality trait conscientiousness has a positive impact on the use of the PSSE CF platform (H2). This personality trait is related to the extent of individuals' organization, persistence and motivation in pursuit of their goals, as well as their ability to work hard and diligently for the common good. Thus, individuals who have a higher score in this personality trait are more likely to employ all their energy in the development of activities that enable the creation of social value. Since obtaining financial resources is one of the hardest tasks they have to perform, they are driven to search for and exploit all the existing alternatives. Therefore, they are not limited to traditional financing but instead are involved in the use of the new financial instruments available, such as the PSSE CF platform. Nevertheless, the CF model of financing cannot be expected to solve all the problems of social entrepreneurs who intend to launch and fund a new venture. Rather, it must be envisaged as a supplemental form of funding in conjunction with other private and public financial instruments that should be further explored at the national, regional and community levels.

Conclusions

The purpose of this research was to examine the effect of entrepreneurs' personality traits on the decision of how to finance the social project in Portugal. Specifically, our goal was to understand why some individuals are more likely than others to use the social CF platform.

The results reveal that only three out of the five big traits of personality had an effect on the use of the PSSE CF platform; the agreeableness and neuroticism factors were not found to be decisive in social entrepreneurs' evaluation of different forms of financing for new ventures. Moreover, the factors of openness to new experience and extraversion showed no statistical significance when tested against both forms of financing (PSSE CF vs. traditional donation-based). Thus, the main factor that seems to explain the use of the PSSE platform is conscientiousness. Social entrepreneurs who possess this trait are keen to use CF as a promising new form of fundraising that has the potential to finance various

activities and overcome increasing difficulties in accessing the traditional sources of financing. Compared to other sources of finance, CF can also reduce costs and administrative burdens for social entrepreneurs. In contrast, other personality traits of entrepreneurs seem to lead them to underestimate the role played by CF in fostering new social ventures, not only in terms of increased access to finance but also as an additional market testing and marketing tool, which can help them to acquire relevant knowledge of donors and increased public awareness. The results obtained also have important implications for policy. Public policy should promote information about CF among potential social entrepreneurs. This action could increase the use of CF and the funding of new social ventures (especially by individuals with a high level of conscientiousness) and to foster the creation, management and development of social organizations.

The use of digital technologies in the social area is a very promising avenue for funding new social ventures. Notwithstanding, contrary to the initial expectation built upon the literature review, some personal characteristics of the social entrepreneur are not related with the use of social CF platforms. Herein managers of these online platforms could be important players in the development of the field since they contribute to give a more interpersonal and human face to these digital platforms. This could be achieved through actions that foster the interaction and networking between the different promoters of the social projects listed on the platform and the community. The use of blogs, Twitter and Facebook accounts and other new digital marketing technologies are available to help link the social causes to the projects increasing their awareness among people with a high level of agreeableness and extraversion traits which could extend the use of social CF to finance new social ventures.

The results also indicate that there is a mismatch between the characteristics of the CF model and some types of personality traits. A good understanding of how CF works, including its potential risks and benefits, is critical to establishing trust with both private donors and social entrepreneurs. To go beyond this limitation, it is necessary for training courses to be offered to social project owners on the use and management of the PSSE CF platform.

CF offers flexibility, community engagement, risk reduction, and support for investors and ordinary citizens seeking to invest in projects with a social impact. However, one guiding principle needs to be taken into account by supervisors and managers in order to increase the use of the CF platform by social entrepreneurs with specific personality traits. The principle that needs to be considered is transparency in the information flow to avoid

the risk of projects going off course, as well as to protect, in particular, private individual investors.

The findings in this study should be interpreted in light of at least two limitations. The first limitation involves the size of the sample used in the study, which constrains the generalizability of the results. Second, because of the cross-sectional design of this study, the causal inferences that can be drawn from the results are limited. Nevertheless, the findings identify some differences in personality traits between users and non-users of the PSSE CF platform.

The present study adds to the underdeveloped body of knowledge concerning the use of CF to finance social projects. Building on the present results, future research could segment the social entrepreneurs in order to link the personality traits to other aspects of the CF model, such as the type of project. In addition to personality traits, the internal (cognitive) and external (personal environment) factors of the social entrepreneur could be studied in order to better understand the influence of these factors on the decision to finance the new venture. Also, segmentation by lifestyle could explore more deeply certain personality traits associated with risk, trust, and human interactivity, among other characteristics intrinsic to online funding. Assess other countries' special legal frameworks that might encourage social CF would be also worthwhile, as an increase in the use of this specific financial instrument could increase the launch and development of social projects.

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