Basic psychological needs' satisfaction and European entrepreneurs' well-being and health: the mediating role of entrepreneurial motivation and job satisfaction

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Satisfaction of basic psychological needs and European entrepreneurs' well-being and health: the association with job satisfaction and entrepreneurial motivation

Abstract

Purpose: We examine an integrative model associating entrepreneurial motivation and job satisfaction with basic psychological needs satisfaction and the psychological well-being (PSW) and health problems of European entrepreneurs. In contrast with previous literature that mainly focuses on hedonic well-being, this study examines well-being by using an eudaimonic perspective and the link between entrepreneurial motivation and entrepreneurs' PWB.

Design/methodology/approach: Based on the Self-Determination Theory (SDT) and using structural equation modelling, this study examines a European representative sample composed of 7878 entrepreneurs from the sixth "European Survey on Working Conditions" (6th EWCS; Eurofound, 2015 database)

Findings: This study finds a positive relationship between the satisfaction of the need for autonomy and competence and opportunity motivation, which in turn is positively associated with job satisfaction. This study also finds that need satisfaction is positively associated with entrepreneurs' PWB and job satisfaction, which in turn is positively associated with entrepreneurs' PWB and health. Results highlight the relevance of SDT, opportunity motivation, and job satisfaction to understanding entrepreneurs' PWB and health.

Originality: To the best of our knowledge, this is the first integrative model relating satisfaction of basic psychological needs (autonomy and competence) and diverse individual outcomes related to work (job satisfaction, PWB, and health) of European entrepreneurs, by considering entrepreneurial motivation. This study examines a large and representative European sample, in contrast with previous research focusing on the Anglosphere nations.

Keywords: Entrepreneurs' health; Entrepreneurs' psychological well-being; need satisfaction; opportunity motivation; self-determination theory.

Article Classification: research paper.

Introduction

In recent years, there has been an increase in research examining entrepreneurs' psychological well-being (PWB) and health (Ryff, 2018; Stephan et al., 2020). However, this research has focused mainly on the hedonic approach (Ryff, 2018) – which conceptualizes well-being as being related to subjective feelings of happiness - while the work on the eudaimonic perspective – which conceptualizes well-being as being related to activated and thriving affect, meaning, and self-realization (Ryff, 2018), and that we believe is more prone to influence organizational performance than hedonic well-being, is limited (Gevaert et al., 2022; Stephan et al., 2020). Moreover, whereas entrepreneurial motivation (opportunity and necessity) could affect entrepreneurs' PWB and health (Ryff, 2018; Stephan 2018), research examining their link remains scarce (Amorós, 2021) and under-examines their connections with other work-related outcomes.

In addition, previous research highlights the need to focus on entrepreneurs' physical and mental health (Shepherd and Patzelt, 2015; Stephan and Qu, 2020) since entrepreneurs' overall health and PWB are both critical to effective human functioning (Stephan, 2018; Ryff, 2017; Ryan & Deci, 2001). However, associations between entrepreneurs' health and diverse work-related outcomes are also underexamined, with only a few exceptions (e.g., Otto et al., 2020).

Based on the self-determination theory (SDT) (Ryan and Deci, 2001), this study proposes and tests an integrative model connecting satisfaction of the basic psychological needs for autonomy and competence with entrepreneurial motivation, job satisfaction, PWB, and health problems among European entrepreneurs. To the best of our knowledge, this paper is the first to propose such an integrative model using a large cross-country and European sample.

Self-determination theory

The self-determination theory (SDT; Ryan & Deci, 2020, 2001, 2000) posits that individuals have tendencies to grow and function and move toward activities that enable their development and optimal functioning (Van den Broeck et al., 2016). The SDT argues that satisfying the basic psychological needs for autonomy, competence, and relatedness generates self-motivation as a predictor of outcomes related to well-being (Brien et al., 2011; Deci and Ryan; Van den Broeck et al., 2016). In the entrepreneurship literature, some research finds that the entrepreneurs' intrinsic motivation when they experience psychological need satisfaction at work positively affects their PWB and health (Nikolaev et al., 2019; Shir et al., 2018; Stephan, 2018).

The SDT conceptualizes the basic need for autonomy as "the need to act with a sense of choice and volition" (Van den Broeck et al., 2016, p. 1198) by making one's own choices (de Charms, 1968; Deci & Ryan, 2002); competence is the degree to which individuals perform a task to the best of their ability and attain wanted results in their environment (Deci & Ryan, 2000); and the need for relatedness reflects how people feel accepted, related to, and connected with others (Baumeister & Leary, 1995).

We focus on the need for autonomy and competence because we believe they are more prevalent in entrepreneurs than the need for relatedness compared to company employees due to the typically more individualistic and solitary entrepreneurs' working conditions. Relatedly, previous literature identifies autonomy and competence as the principal needs of entrepreneurs (Bjørnskov & Foss, 2020; Nikolaev et al., 2020; Otto et al., 2020; Shir et al., 2020; Wei et al., 2020; Gelderen, 2016; Rahman et al., 2014; Van Gelderen, 2010).

The relevance of basic psychological needs satisfaction for entrepreneurial motivation and job satisfaction

Individuals can enter into entrepreneurship motivated by pull factors (opportunity-based entrepreneurship), including the need for achievement, autonomy, and harnessing personal skills; by push factors (necessity-based entrepreneurship), such as an unpleasant job or unemployment; or by a combination of these factors (Amorós et al. 2021; García-Cabrera, 2020; Giacomin et al. 2011; Block and Sandner, 2009; Nwankwo, 2005). Opportunity entrepreneurship involves start-up ventures "to take advantage of a business opportunity", while necessity entrepreneurship occurs when there are "no better choices for work" (Reynolds et al. 2005, p. 217).

One of the drivers of opportunity and necessity entrepreneurship are personality traits and individuals' inner resources (Stephan, 2018; Van der Zwan et al. 2016; Caliendo et al., 2014; Verheul et al., 2012). Personality traits affect the preference for entrepreneurship (Verheul et al., 2012) and the decision to enter or exit it (Caliendo et al. 2014). In effect, previous literature argues that entrepreneurs tend to have different personality traits than salaried employees, including self-efficacy and the need for achievement (Stephan, 2018; Frese & Gielnik, 2014).

Relatedly, previous literature identifies as forms of pull motivation the need for autonomy (Birley and Westhead, 1994; Scheinberg and MacMillan, 1988; Shane et al., 1991; Carter et al., 2003), the need for self-realization - understood as challenging oneself, growing and learning, and doing useful work (Birley and Westhead, 1994; Scheinberg and MacMillan, 1988; Carter et al., 2003) - and the need for self-efficacy (Hisrich et al. 2007; Tyszka et al. 2011). The latter two elements are closely related to the need for competence. Specifically, we understand competence as environmental mastery or the extent to which individuals perform a task to the best of their ability and accomplish looked-for outcomes within their environment (Gómez-Baya and Lucía-Casademunt, 2018; Deci & Ryan, 2000), involving learning and development (Shir et al., 2019).

Regarding the need for autonomy, it is particularly relevant for entrepreneurial activity because, by definition, it is self-initiated (Ryff, 2018). In effect, the need to be autonomous is commonly considered the main factor explaining the decision to become an entrepreneur (Van der Zwan et al. 2016; Birley and Westhead 1994; Scheinberg and MacMillan 1988). Moreover, previous research finds a greater wish for autonomy or control among opportunity entrepreneurs than among necessity entrepreneurs (Binder & Coad, 2016; Petrescu, 2016; Van den Heuvel & Wooden, 1997). These results could be explained with the SDT, since, while both types of entrepreneurships involve autonomy, opportunity entrepreneurship is a more autonomous decision than necessity entrepreneurship (Binder & Coad, 2016). Relatedly, opportunity entrepreneurs are expected to give higher importance to competence than necessity entrepreneurs since they are likely to identify more strongly with entrepreneurship and its lifestyle (Binder & Coad, 2016). Following this literature, it is posited:

Hypothesis 1. Satisfaction of basic psychological needs (autonomy and competence) is positively associated with opportunity motivation among European entrepreneurs.

In addition, entrepreneurial motivation affects aspirations (Amorós et al., 2021) and outcomes related to work such as job satisfaction, PWB, and health. Previous research finds that in general entrepreneurs have higher levels of job satisfaction than salaried employees (Benz and Frey 2008a), and it has been credited to the high level of autonomy experimented in entrepreneurship (Benz and Frey 2008b). However, entrepreneurial motivation might also affect entrepreneurs' job satisfaction. Previous literature finds that opportunity entrepreneurs self-report higher job satisfaction than necessity entrepreneurs (Ryff, 2018; Binder and Coad, 2016; Block and Wagner, 2010; Kautonen and Palmroos, 2010; Block and Koellinger, 2009). Necessity entrepreneurs are likely to face more

resource constraints, particularly if they entered entrepreneurship after unemployment or lack of satisfactory work alternatives (Ryff, 2018), and this may affect their well-being.

Moreover, previous research finds that opportunity entrepreneurship is positively associated with health status, while for necessity entrepreneurship those two elements are unrelated (see Stephan, 2018 for a comprehensive overview). We argue that this positive association could be due to the effect of job satisfaction on PWB and health. Based on the above, it is posited:

Hypothesis 2. Opportunity motivation is directly and positively associated with job satisfaction among European entrepreneurs.

Needs satisfaction, PWB, and health

Psychological well-being

The literature distinguishes two approaches to PWB: the hedonic and the eudaimonic (Gómez-Baya and Lucia-Casademunt, 2018; Guest, 2017; Vázquez et al., 2009; Deci and Ryan, 2008b; Ryan and Deci, 2001). The "hedonic" perspective focuses on happiness and defines well-being in terms of pleasure attainment and pain avoidance (Ryan and Deci, 2001). In contrast, the "eudaimonic" approach focuses on meaning and self-realization and argues that PWB is achieved with a person's fully functioning (Robertson & Cooper, 2011). Regardless of the approach, PWB plays an essential role in physical health (Vázquez et al., 2009).

Ryff (1989) proposed a model of PWB with dimensions that summarised different psychological challenges to prospering, including autonomy, self-acceptance, taking control over own environment, purpose in life, and personal growth (Keyes, Shmotkin, & Ryff, 2002). Relatedly, according to Ryan and Deci (2001), the satisfaction of the psychological needs for autonomy and competence (and relatedness) are vital for personal growth and well-being. In line with this reasoning, eudaimonic living promotes well-

being because it satisfies basic psychological needs (Deci and Ryan; 2013). Based on SDT, Deci and Ryan (2008b) propose a model for 'eudaimonia' that infers that well-being can be achieved through activities that satisfy the basic psychological needs for autonomy and competence. This connection between the satisfaction of psychological needs and PWB has been found across cultures and in the workplace (Diener et al., 2010; Slemp & Vella-Brodrick, 2014; Tay and Diener, 2011; Van den Broeck et al., 2016). We adopt the eudaimonic SDT perspective on well-being because it is particularly relevant for the analysis of entrepreneurship (Gevaert et al. 2022; Stephan, 2018) because it derives from being successful in self-determined pursuits (Ryan & Deci, 2001; Ryff, 2017).

Basic psychological needs satisfaction at work and PWB and health

People dedicate a large part of their lives to working and work characteristics and job satisfaction can significantly influence overall health and well-being (Nielsen et al., 2017; Kossek et al., 2012). Organizational studies in different sectors find that needs satisfaction at work is positively related to PWB (Teles et al., 2014; Slemp & Vella-Brodrick, 2014; Uysal et al., 2012; Baard et al., 2004; Deci et al., 2001; Kasser & Ryan, 1999) and negatively related to health problems (Faragher et al. 2005; Fischer and Sousa-Poza, 2009) Niemiec et al. 2009; Van den Broeck et al., 2008).

For entrepreneurs, previous research finds a positive relationship between their psychological health and well-being and the satisfaction of autonomy or job control (Ryff, 2018; Hessels et al., 2017; Parker, 2014); significance or meaningfulness of work, closely related to competence (Stephan et al. 2020); internal locus of control, closely related to autonomy (Wincent & Örtqvist, 2009; Morrison, 1997); self-realization, which can be considered in itself a component of eudemonic well-being (Ryff, 2019, see Stephan 2018 for a comprehensive review); and self-efficacy or 'competence' (Marshall et al. 2020; Shir et al. 2019). For example, Hessels et al. (2017) found that job control (freedom to decide what work to do and when), reduces work-related stress in the self-employed. Wincent &

Örtqvist (2009) found that entrepreneurs with an internal locus of control are less prone to experience role stress. Morrison (1997) found a positive relationship between locus of control and subjective well-being. Marshall et al. (2020) found that higher self-efficacy is associated with a greater sense of well-being in the self-employed. Stephan et al. (2020) found that meaning at work mediates the association between self-employment and subjective vitality, one important dimension of eudaimonic well-being. Shir et al. (2018) found that entrepreneurs' psychological competence positively affects psychological well-being, which includes subjective vitality.

This study categorizes these psychological needs into two categories: autonomy, related to an internal locus of control, and competence, related to the significance or meaningfulness of work, self-efficacy, and meeting own expectations and goals. Based on the above, it is posited:

Hypothesis 3. Job satisfaction is directly and positively related to PWB and directly and negatively related to health problems among European entrepreneurs.

Hypothesis 4. The satisfaction of basic psychological needs is positively associated with the health and PWB of European entrepreneurs through the associations with entrepreneurial motivation and job satisfaction.

Methods

The data

This study used data from the sixth EWCS (Eurofound, 2016), performed in 2015 by the "European Foundation for the Improvement of Living and Working Conditions". This survey examines job issues such as labour conditions, health risks related to work, cognitive and psychosocial factors, work-life balance, and training possibilities and interviewed nearly 44,000 individuals in 35 countries.

The survey sample is representative of the working population aged 15 years and above (16 and above in Spain, the U.K., and Norway) resident in the 35 EWCS countries. Within each country, the survey used a multi-stage, stratified random sampling design according to regions, urbanization level, and limited geographical areas. Within each household, eligible respondents were selected by applying a screening procedure. From the total sample collected, the final sample was composed of 7878 entrepreneurs (61.3% men, 38.7% women; Mage = 48.16, SD = 13.71) from 35 European countries (see details in Table AI in the Appendix).

Procedure and variable measurement

This study focused on questions from the sixth EWCS (Eurofound, 2016) related to need satisfaction, entrepreneurial motivation, job satisfaction, PWB, and health to construct the study variables:

Need satisfaction. Measured with four indicators assessing autonomy (i.e., "Q61n—You can influence decisions that are important for your work, and Q61i—You are able to apply your own ideas in your work)" and competence (i.e., "Q61h—Your job gives you a feeling of work well done, and Q61j— You have the feeling of doing useful work"). This study constructed a variable adding the scores for each question. Good internal consistency was observed, with $\alpha = .80$.

Entrepreneurial motivation. Measured with the question: "When you became self-employed, was it mainly through your own personal preference or because you had no other alternatives for work?" Participants responded using a three-point scale, where 1 indicates primarily through necessity (i.e., not or very limited "personal preferences"), 2 indicates for both reasons (i.e., to some relevant level by "personal preferences"), and 3 indicates "mainly through own personal preferences". This study used the response to this

question in this ranked order to construct a numeric variable (from low to high opportunity entrepreneurial motivation).

Job satisfaction. Evaluated with the question: "On the whole, are you *very satisfied*, *satisfied*, *not very satisfied* or *not at all satisfied* with the working conditions in your main paid job?" Responses were 4 Likert-type options: "*not at all satisfied*, *not very satisfied*, *satisfied*, and *very satisfied*."

PWB. Measured with a WHO Well-Being Index composed of 5 items (WHO-5), specifically, items in questions 87a–e. Participants were requested to indicate if "over the previous 2 weeks" they had "(a) felt cheerful and in good spirits, (b) felt calm and relaxed, (c) felt active and vigorous, (d) woken up feeling fresh and rested, and (e) if their daily life had been filled with things that interested them". Respondents answered using a 6-point Likert-type scale from 1 to 6: "*at no time*, *some of the time*, *less than half the time*, *more than half the time*, *most of the time*, and *all of the time*." Good internal consistency was observed, with $\alpha = .89$. Previous literature also uses assessments of subjective vitality and meaningfulness as indicators of PWB from an eudaimonic perspective (Stephan et al., 2023; Ryan & Deci, 2001; Ryan & Frederick, 1997).

Health problems. Measured by using the answer to question 78a–j: "Over the last 12 months, did you suffer from any health problems?: hearing problems, skin problems, backache, muscular pains in the shoulders, neck and/or upper limbs, muscular pains in lower limbs, headaches, eyestrain, injury/ies, anxiety, overall fatigue, and 'other'". We calculated an aggregate measure of health problems by adding the answers to each item (1, presence, or 0, absence); the measure ranged between 0 and 10. Acceptable internal consistency was found for this scale, with $\alpha = .72$.

Analysis strategy

As a preliminary analysis, descriptive statistics of the study variables (i.e., need satisfaction, entrepreneurial motivation, job satisfaction, well-being, and health problems) for the whole sample and by country and bivariate correlations are calculated. Differences by gender and country are also tested by using t-tests and variance analyses, and regression analyses are performed, for the overall sample and also by country using SPSS 21.0 to: a) explain PWB with job satisfaction, entrepreneurial motivation, and need satisfaction; b) explain health problems with job satisfaction, entrepreneurial motivation and need satisfaction, and; c) explain job satisfaction with entrepreneurial motivation and need satisfaction. The objective of these preliminary analyses is to examine which are the strongest predictors of wellbeing, health, and job satisfaction, and then use this information to build the structural equation model.

Next, this study tested a structural equation model integrating all variables based on those previous analyses and hypotheses. Satorra-Bentler $\chi 2$, CFI, SRMR, and RMSEA were examined for overall model fit. Lagrange multipliers and Wald tests were sequentially conducted to examine some potential modifications in the initial model. These tests help to improve the overall data fit and obtain a final model composed of significant associations between the variables of interest. Standardized coefficients were presented in the relationships between variables. It was tested with EQS 6.3.

Results

Descriptive statistics and bivariate correlations

Table I presents descriptive statistics and bivariate correlations between the study variables. Particularly high values for need satisfaction, entrepreneurial opportunity motivation, and job satisfaction were found. Participants report on average notable well-being and 2.6 health problems (see Table AII in the appendix for descriptive statistics by country). We find a positive and significant correlation between need satisfaction,

entrepreneurial motivation, job satisfaction, and PWB, and the strongest correlations are between need satisfaction and PWB and job satisfaction, and between job satisfaction and entrepreneurial motivation. In contrast, health problems show negative associations with the other variables, and the strongest negative associations are with job satisfaction and well-being. Results also indicate that multicollinearity should not be a problem since the correlation between the independent variables does not exceed 0.75.

Regarding gender differences (Table II), while slightly higher values for entrepreneurial motivation and well-being, and fewer health problems, for men than for women were found, Cohen's d, measuring the effect size, indicates that those differences are negligible, even if they are statistically significant.

Tables I and II around here

Regression analyses

Tables III to V show the results of the linear regression analyses to explain PWB, health problems, and job satisfaction, respectively, for the overall sample. For comparison reasons, the results by country are provided.

Regarding PWB (Table III), results for the overall sample indicate that 21% of its variance is explained by need satisfaction, opportunity motivation, and job satisfaction. The largest effects are those of job satisfaction and need satisfaction, and the effect of entrepreneurial motivation is significant at the 10% level. The effect of opportunity motivation in the regressions by country is mostly insignificant, with only a few exceptions.

Regarding health problems (table IV), 7% of their variance is explained by need satisfaction (effect significant at the 10% level), opportunity motivation, and job satisfaction, and the strongest predictor is job satisfaction. In the analysis by country, this

study mainly finds no significant effects of need satisfaction and opportunity motivation on health problems, while moderate negative effects of job satisfaction. Finally, results show that the strongest predictor of job satisfaction is entrepreneurial motivation, followed by need satisfaction (Table V).

Tables III, IV and V around here

Structural equation model

Based on this article's hypotheses, following SDT, and the results from the preliminary analyses, this study tested an integrative model of entrepreneurial motivation, job satisfaction, basic psychological needs satisfaction, PWB, and health problems. To construct the structural equation model, this study first included all the associations between study variables, and through an iterative process - and based on the results from the Wald test -, the model was adjusted to obtain the best model fit with only significant relations. Figure 1 presents the structural equation model. This model reached a good data fit, obtaining Satorra-Bentler $\chi 2$ (3) = 20.88, $p < .001$, CFI = .995, SRMR= .014, RMSEA = .030, 90% CI RMSEA = .019 - .043, and all standardised coefficients were significant. PWB (R^2 = .21) was found to be positively associated with both job satisfaction, in support of H3, and need satisfaction. Furthermore, need satisfaction, in turn, was positively related to job satisfaction (R^2 = .17) through opportunity motivation, in support of H2. Moreover, the model showed a positive association between need satisfaction and opportunity motivation (R^2 = .03), in support of H1, and a negative association between job satisfaction and health problems (R^2 = .06), supporting H3. Those results combined support H4, which expected that the satisfaction of basic psychological needs is positively associated with the health and PWB of European entrepreneurs through the associations

with entrepreneurial motivation and job satisfaction. Finally, the model showed that PWB and health problems were negatively associated.

Overall, the satisfaction of the needs for autonomy and competence in the workplace was related to fewer health problems and better PWB among entrepreneurs, directly and through the positive associations with job satisfaction and opportunity motivation.

Figure 1 about here

Discussion of results

Drawing on SDT (Deci & Ryan, 2000), this study proposes an integrative model linking satisfaction of the basic psychological needs for autonomy and competence, job satisfaction, health, PWB, and entrepreneurial motivation in entrepreneurs. Results indicate that job satisfaction, the satisfaction of the basic psychological needs for autonomy and competence, and entrepreneurial motivation play an important role in explaining the PWB and, in turn, health problems of European entrepreneurs. This study finds that more PWB is associated with fewer health problems, consistent with previous research (Vázquez et al., 2009; Veenhoven, 2008).

We find that the satisfaction of basic psychological needs (autonomy, competence) is positively associated with job satisfaction. These results are in line with previous research, such as that of Bradley and Roberts (2004), which, by using the U.S. National Survey of Families and Households, found that self-efficacy - closely related to competence - is positively associated with job satisfaction in the self-employed, and the research by Hytti et al., (2013) that, by using data on Finish professionals, found that autonomy and task significance - the latter also being closely related to competence - are positively associated with entrepreneurs' job satisfaction. Previous research in sectors

other than entrepreneurship also finds an association between psychological need satisfaction and job satisfaction (Van den Broeck et al., 2008; Baard et al., 2004; Ilardi et al., 1993). Furthermore, another finding is that satisfaction of the needs for autonomy and competence is directly associated with higher PWB, in line with previous research, such as Reis et al. (2000), which find that competence was significantly and positively correlated with PWB.

Results also indicate that need satisfaction is positively associated with opportunity motivation. Relatedly, previous research has found that opportunity entrepreneurs have a greater desire for independence than necessity entrepreneurs (Binder & Coad, 2016; Petrescu, 2016; Van den Heuvel & Wooden, 1997). Another finding is that opportunity motivation is positively associated with job satisfaction, in line with previous literature that finds that necessity entrepreneurs report lower job satisfaction than opportunity entrepreneurs (Ryff, 2018; Binder and Coad, 2016; Block and Wagner, 2010; Kautonen and Palmroos, 2010; Block and Koellinger 2009). Results also indicate that job satisfaction is positively associated with PWB, as described by previous research (Slemp & Vella-Brodrick, 2014; Doest et al., 2006), and has a negative effect on health problems, as found by studies examining workers in sectors other than entrepreneurship, such as the health sector (Fischer and Sousa-Poza, 2009; Teles et al. 2014; Cass et al., 2003). For example, Teles et al. (2014) found an association between bad psychosocial job conditions and low quality of life among primary healthcare employees (Teles et al., 2014).

Similarly, Fischer and Sousa-Poza (2009) showed that enhancements in job satisfaction over time could prevent employees from experiencing further deterioration in health. Among small-scale Swedish enterprisers, Gunnarsson et al. (2007) found that musculoskeletal pain, low levels of general health, and mental health problems were associated with low job satisfaction and inadequate physical work environments.

Moreover, they found that poor job satisfaction was the most decisive factor explaining job-related health outcomes among all the working conditions examined.

In sum, the results highlight the relevance of SDT, opportunity motivation, and job satisfaction in understanding entrepreneurs' PWB and health status. This research is not without its limitations, but these could help develop future research if adequately addressed. We consider need satisfaction, but future research could also consider the link between 'need frustration' and negative outcomes, as Chen et al. (2015) suggested. Furthermore, this study has focused on the constructs' self-reported measures and subjective evaluations. Future research could use a multi-method approach with objective measures and multiple informants. Moreover, this article's descriptive cross-sectional design does not permit the inference of causal relations but only associations. Although the structural equation model was designed based on the SDT model and previous research evidence, only associations between study variables can be concluded, as argued by Friedler et al. (2011) and Thoemmes (2015). As a future research line, an experimental design could help to provide causal inferences. In addition, a prospective study could help to examine the directionality in the relationships between variables, i.e., by testing a cross-lagged panel model. Future research could explore possible moderators in the relationships between variables, such as gender, age, and education, and also distinguish between entrepreneurs with or without employees. Finally, the analysis could also be extended to 'intrapreneurs' to gain insights into human resources practices within organizations.

Conclusions

Beyond the generation of employment, economic growth, innovation, and economic flexibility, entrepreneurship allows many people to join society's economic and social mainstream (Hisrich et al., 2007). Entrepreneurship is important for "prosperity

and well-being at the individual, family, community, and national levels" (Hisrich et al., 2007, p. 575). The entrepreneurship research examining the PWB and health of entrepreneurs has expanded (Ryff, 2018; Stephan et al., 2020) in the last few years, although it has mostly focused on the hedonic approach, while the work on the eudaimonic perspective remains scarce (Stephan et al., 2020). In addition, the role that opportunity motivation could play in understanding entrepreneurs' PWB and health has been under-examined (Amorós, 2021; Ryff, 2018; Stephan, 2018).

This study proposes an integrative model connecting satisfaction of the basic psychological needs for autonomy and competence, as identified by SDT, and job satisfaction, PWB examined from an eudaimonic perspective, health problems, and opportunity motivation. Using data from the sixth EWCS (Eurofound, 2016), this study provides empirical evidence of a relationship between the satisfaction of entrepreneurs' basic psychological needs for autonomy and competence and job satisfaction, health, PWB, and opportunity motivation. This article's results provide evidence of the application of SDT to the entrepreneur's working environment with a large and representative European sample, in contrast with the focus of previous research on the Anglosphere nations.

This article's findings could help prevent negative consequences for entrepreneurs and broader society in terms of health and PWB and provide insights into how to maximize entrepreneurship performance and, in turn, its contribution to the economy. The findings warn policymakers about the importance of generating spaces fostering opportunity entrepreneurship, such as incubators, institutions supporting start-ups, and business accelerators. In effect, the results indicate that opportunity entrepreneurship benefits not only entrepreneurs' PWB, but also their health through its positive relationship with job satisfaction. The autonomy of entrepreneurs is often challenged, and opportunity-motivated entrepreneurs must frequently make efforts to maintain their

autonomy (Van Gelderen, 2016). The results suggest that policymakers should enable entrepreneurship-friendly environments, responding to entrepreneurs' needs for autonomy and competence. For example, regarding competence and the need for the meaningfulness of work, the promotion of mentorship programs or business accelerators could foster the generation of business ideas responding to society's otherwise unidentified needs. Thus, policymakers willing to improve entrepreneurs' well-being can attain these objectives by granting more opportunities to them (Shir et al., 2019). For example, regulations and flexible labor market laws expanding entrepreneurs' opportunities to make adjustments in their labour forces might foster entrepreneurs' opportunities to self-organize their relationships, satisfy the need for autonomy, and achieve self-determination (Shir et al., 2019).

This article's findings also have implications for entrepreneurial education (EE). EE has proliferated over the last years, with the prevalent assumption that it will improve socio-economic developments through enhanced entrepreneurial abilities (Padilla-Angulo et al., 2021; Kozlinska, 2016). The findings suggest that beyond fostering entrepreneurship competencies and entrepreneurial intentions (Lv et al., 2021; Nabi et al., 2017; Bae et al., 2014; Martin et al., 2013; Van Gelderen, 2012), the promotion of autonomy and competence within educational institutions also has implications for the PWB and health of these future entrepreneurs.

Data availability statement

The data used in this research is available from the corresponding author upon reasonable request.

Conflict of interest statement

The authors declare that they have no conflict of interest.

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Table I: Descriptive Statistics, Bivariate Correlations, and Reliability

	Range	Mean	SD	1	2	3	4	5
1.- Need Satisfaction	1-5	4.44	.72	.80				
2.- Entrepreneurial motivation	1-3	2.28	.88	.18***	1			
3.- Job Satisfaction	1-4	3.05	.76	.27***	.36***	1		
4.- Well-being	1-6	4.40	1.04	.30***	.19***	.42***	.89	
5.- Health problems	0-10	2.56	2.14	-.05***	-.13***	-.25***	-.40***	.72

*** p <.001 ** p <.005 * p <.010. Diagonal numbers on the right side of the table indicate correlation values and, when the variable has more than one item, reliability by internal consistency.

Table II: Gender Differences in Study Variables

	Men		Women		Difference	Cohen's d
	Mean	SD	Mean	SD	t-test	
1.- Need Satisfaction	4.45	.73	4.43	.70	1.14	.03
2.- Entrepreneurial motivation	2.34	.85	2.17	.90	8.39***	.21
3.- Job Satisfaction	3.06	.76	3.03	.76	1.37	.04
4.- Well-being	4.45	1.03	4.33	1.05	4.87***	.12
5.- Health problems	2.41	2.11	2.80	2.16	-8.00***	.18

*** p <.001 ** p <.005 * p <.010

Table III: Linear Regression Analyses to Explain Wellbeing Based on Need Satisfaction, Entrepreneur Motivation, and Job Satisfaction. Overall Sample and by Country

	F	R2	Beta Need satisfaction	Beta Entrepreneurial Motivation	Beta Job Satisfaction
Total	589.50***	.21	.21***	.03*	.34***
Austria	2.48	.04	.14	.01	.18
Belgium	21.81***	.18	.13*	-.01	.38***
Bulgaria	9.07***	.13	.04	-.06	.41***
Croatia	15.11***	.25	.04	.07	.48***
Cyprus	5.85**	.08	.09	-.02	.29***
Czech Republic	10.67***	.18	.14	.05	.37***
Denmark	3.99*	.13	-.09	.12	.46**
Estonia	5.82**	.14	.40***	.11	-.18
Finland	15.37***	.20	.20**	.09	.33***
France	19.21***	.32	.12	.04	.51***
Germany	32.97***	.32	.24***	.08	.42***
Greece	39.54***	.27	.37***	-.22***	.34***
Hungary	6.60***	.14	.19	-.07	.34**
Ireland	13.05***	.15	.23**	.01	.26***
Italy	18.96***	.15	.13*	.04	.32***
Latvia	16.29***	.29	.25**	.17*	.39***
Lithuania	9.24***	.20	.22*	.11	.30**
Luxembourg	9.95***	.22	.24*	-.08	.39***
Malta	8.55***	.18	.10	.23*	.31**
Netherlands	18.02***	.27	.29***	.13	.37***
Poland	13.80***	.23	.24**	.08	.40***
Portugal	12.42***	.15	.06	.07	.35***
Romania	8.04***	.12	.21**	.08	.22**
Slovakia	8.12***	.18	.35***	-.10	.29**
Slovenia	7.80***	.10	.18*	.01	.25**
Spain	42.53***	.20	.27***	.02	.31***
Sweden	8.30***	.24	.40**	-.08	.20
UK	17.18***	.18	.19**	.17**	.23**
Montenegro	17.57***	.16	.11	.04	.36***
FYROM	16.59***	.17	.15*	.15*	.29***
Serbia	49.27***	.34	.19***	.06	.49***
Turkey	68.65***	.25	.34***	.04	.31***
Norway	6.36**	.17	.19	.06	.37**
Switzerland	14.96***	.28	-.10	.20*	.50***
Albania	15.58***	.10	.18***	.02	.23***

*** p <.001 ** p <.005 * p <.010

Table IV: Linear Regression Analyses to Explain Health Problems Based on Need Satisfaction, Entrepreneur Motivation, and Job Satisfaction. Overall Sample and by Country

	F	R2	Beta Need satisfaction	Beta Entrepreneurial Motivation	Beta Job Satisfaction
Total	156.53***	.07	-.03*	-.05***	-.24***
Austria	4.28**	.08	-.03	-.12	-.28**
Belgium	4.84**	.04	-.04	.03	-.21***
Bulgaria	2.71*	.03	.01	.13	-.25**
Croatia	6.21**	.11	.18*	-.15	-.29**
Cyprus	2.58	.03	.03	-.08	-.20*
Czech Republic	1.60	.01	-.04	.01	-.17
Denmark	.38	.03	.01	.08	-.10
Estonia	1.31	.01	-.20	-.04	.11
Finland	5.11**	.06	-.02	-.12	-.24**
France	3.83*	.07	.02	.01	-.31**
Germany	8.83***	.10	.01	-.02	-.34***
Greece	2.95*	.02	-.05	.09	-.15*
Hungary	2.28	.04	.04	.08	-.28*
Ireland	2.54	.02	.02	-.09	-.17*
Italy	7.45***	.06	.05	-.06	-.24***
Latvia	7.67***	.15	.05	-.08	-.38***
Lithuania	1.76	.02	.06	-.15	-.15
Luxembourg	5.76**	.13	-.23*	.14	-.27**
Malta	3.98*	.08	.06	-.17	-.26**
Netherlands	6.33***	.11	-.15	-.17*	-.22**
Poland	2.69*	.04	.11	-.03	-.22*
Portugal	2.80*	.03	.06	-.17*	-.08
Romania	4.64**	.07	.15	-.07	-.27**
Slovakia	6.30**	.14	-.13	.01	-.37***
Slovenia	2.19	.02	-.07	-.03	-.15
Spain	10.36***	.05	.12*	-.04	-.23***
Sweden	2.10	.04	-.26*	-.13	-.02
UK	3.25*	.03	.07	-.14*	-.15
Montenegro	9.87***	.10	-.05	.02	-.32***
FYROM	13.70***	.14	.15*	-.11	-.35***
Serbia	6.77***	.06	.02	-.04	-.25***
Turkey	35.80***	.15	.11**	-.13**	-.33***
Norway	.29	.03	-.06	-.02	-.08
Switzerland	4.13**	.08	-.13	-.06	-.23*
Albania	5.48**	.03	.02	-.09	-.15*

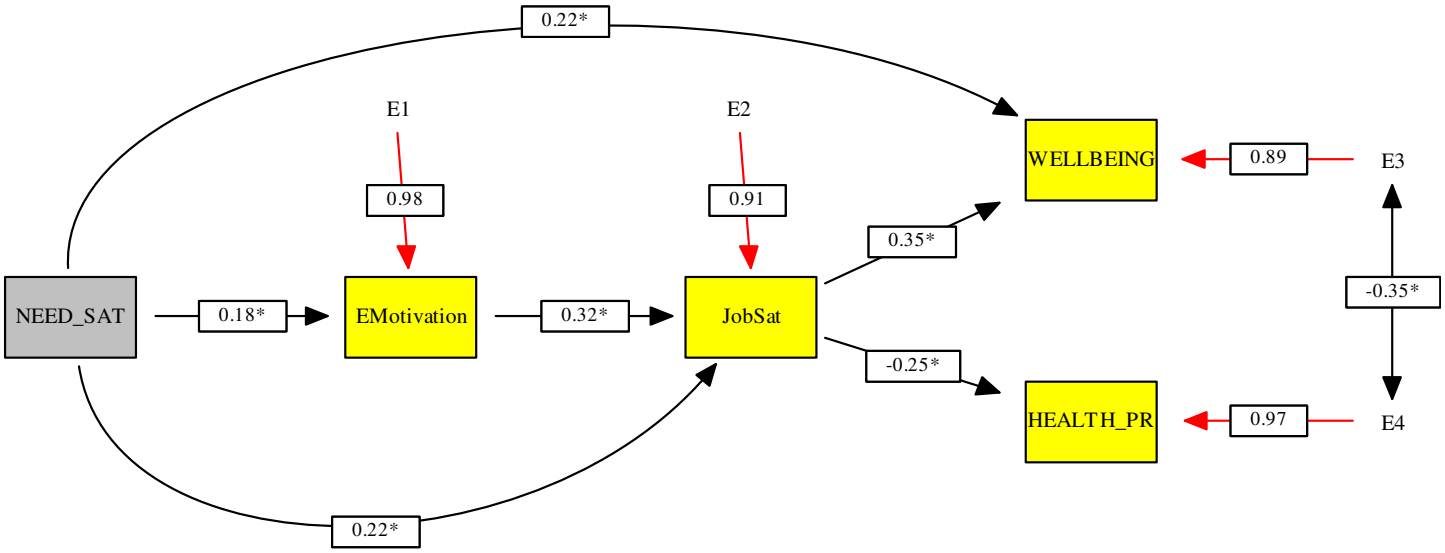
*** p <.001 ** p <.005 * p <.010

Table V: Linear Regression Analyses to Explain Job Satisfaction Based on Need Satisfaction and Entrepreneur Motivation. Overall Sample and By Country

	F	R2	Beta Need satisfaction	Beta Entrepreneurial Motivation
Total	689.68***	.17	.22***	.32***
Austria	4.58*	.06	.25**	.10
Belgium	8.15***	.05	.20**	.08
Bulgaria	25.72***	.24	.14	.46***
Croatia	12.72***	.15	.23**	.30***
Cyprus	2.55	.02	.12	.12
Czech Republic	5.01**	.06	.23**	.09
Denmark	6.99**	.17	.28*	-.30*
Estonia	3.76*	.06	.25*	.13
Finland	12.68***	.12	.34***	.04
France	19.69***	.25	.46***	.17*
Germany	16.63***	.13	.27***	.19**
Greece	11.57***	.06	.18**	.14*
Hungary	12.84***	.19	.20*	.39***
Ireland	13.28***	.11	.33***	.09
Italy	29.70***	.15	.13*	.35***
Latvia	4.06*	.05	.04	.25**
Lithuania	6.22**	.09	.19	.23*
Luxembourg	6.13**	.10	.25*	.21*
Malta	3.25*	.04	.18	.15
Netherlands	3.23*	.03	.10	.18*
Poland	2.57	.02	.10	.16
Portugal	14.72***	.12	.20**	.26***
Romania	12.15***	.13	.22**	.27***
Slovakia	3.62*	.05	.06	.24*
Slovenia	5.85**	.05	.20*	.10
Spain	25.25***	.09	.20***	.21***
Sweden	7.46**	.15	.39**	.19
UK	30.30***	.21	.42***	.14*
Montenegro	27.77***	.17	.19**	.36***
FYROM	19.36***	.14	.19**	.31***
Serbia	21.68***	.13	.19**	.26***
Turkey	53.87***	.15	.17***	.34***
Norway	2.27	.03	.22	-.06
Switzerland	10.80***	.15	.35***	.15
Albania	58.57***	.23	.15**	.43***

*** p <.001 ** p <.005 * p <.010

Figure 1: Structural Equation Model



APPENDIX:

Table AI: Sample Distribution

COUNTRY	2015 EWCS ENTREPRENEURS SAMPLE (%)
Austria	2%
Belgium	4.4%
Bulgaria	2.2%
Croatia	2.1%
Cyprus	2.3%
Czech Republic	1.9%
Denmark	0.8%
Estonia	1.4%
Finland	2.5%
France	1.7%
Germany	3.1%
Greece	4.6%
Hungary	1.9%
Ireland	2.9%
Italy	5.2%
Latvia	1.8%
Lithuania	1.8%
Luxembourg	1.4%
Malta	1.6%
Netherlands	2.0%,
Poland	2.1%
Portugal	3.9%
Romania	2.6%
Slovakia	1.4%
Slovenia	2.7%
Spain	7.4%
Sweden	0.9%
UK	3.3%
Montenegro	4.0%
FYROM	3.4%
Serbia	4.2%
Turkey	8.0%
Norway	1.1%
Switzerland	1.6%
Albania	5.6%

Table AII: Mean Values and Standard Deviations of Study Variables by Country

	Need Satisfaction	Entrepreneur motivation	Job Satisfaction	Well-being	Health problems
Austria	4.63 (.48)	1.96 (.93)	3.35 (.63)	4.68 (.91)	2.21 (2.03)
Belgium	4.56 (.61)	2.71 (.66)	3.30 (.61)	4.56 (1.06)	2.11 (1.89)
Bulgaria	4.62 (.61)	2.40 (.85)	3.06 (.78)	4.52 (1.02)	2.56 (2.16)
Croatia	4.55 (.61)	1.93 (.88)	2.96 (.77)	4.19 (1.15)	2.74 (2.13)
Cyprus	4.62 (.53)	2.61 (.69)	3.31 (.71)	4.35 (.80)	3.06 (1.91)
Czech Republic	4.50 (.68)	2.42 (.77)	3.53 (.57)	4.73 (.75)	1.91 (1.88)
Denmark	4.67 (.40)	2.72 (.61)	3.53 (.62)	4.88 (.82)	2.47 (1.59)
Estonia	4.49 (.50)	2.39 (.83)	3.17 (.54)	4.39 (.90)	3.15 (2.02)
Finland	4.44 (.49)	2.73 (.59)	3.23 (.53)	4.60 (.83)	2.90 (1.87)
France	4.49 (.51)	2.63 (.66)	3.21 (.70)	4.32 (1.20)	3.12 (2.17)
Germany	4.47 (.57)	2.37 (.78)	3.26 (.65)	4.59 (.91)	1.84 (1.82)
Greece	4.39 (.61)	2.24 (.84)	2.78 (.74)	4.24 (.98)	2.58 (2.16)
Hungary	4.28 (1.03)	2.20 (.83)	3.10 (.73)	4.56 (1.06)	1.60 (1.91)
Ireland	4.68 (.44)	2.53 (.77)	3.41 (.55)	4.77 (.89)	1.83 (1.92)
Italy	4.38 (.78)	2.43 (.80)	2.95 (.75)	4.21 (.96)	1.91 (1.94)
Latvia	4.40 (.84)	2.20 (.87)	3.04 (.68)	4.49 (1.01)	2.73 (2.05)
Lithuania	4.18 (.69)	2.30 (.83)	3.01 (.72)	4.24 (1.05)	3.01 (2.13)
Luxembourg	4.62 (.50)	2.66 (.67)	3.35 (.65)	4.54 (1.05)	2.72 (2.14)
Malta	4.75 (.38)	2.56 (.74)	3.35 (.66)	4.45 (.88)	2.96 (2.04)
Netherlands	4.66 (.41)	2.69 (.62)	3.46 (.56)	4.83 (.83)	1.99 (1.88)
Poland	4.23 (.99)	2.29 (.79)	3.10 (.60)	4.11 (1.17)	3.06 (2.17)
Portugal	4.55 (.72)	2.09 (.92)	2.89 (.67)	4.25 (1.01)	2.65 (2.02)
Romania	4.34 (.82)	2.15 (.94)	2.91 (.65)	4.36 (.92)	3.42 (2.48)
Slovakia	4.40 (.60)	2.52 (.79)	3.17 (.52)	4.52 (.96)	2.30 (1.78)
Slovenia	4.65 (.53)	2.51 (.77)	3.17 (.64)	4.48 (.98)	2.40 (2.12)
Spain	4.60 (.63)	2.29 (.86)	3.09 (.74)	4.61 (1.05)	2.49 (2.24)
Sweden	4.52 (.44)	2.82 (.51)	3.47 (.58)	4.90 (.86)	2.23 (1.70)
UK	4.41 (.69)	2.64 (.70)	3.44 (.62)	4.35 (1.10)	2.16 (2.19)
Montenegro	4.42 (.77)	1.80 (.88)	2.77 (.79)	4.17 (1.06)	2.65 (2.04)
FYROM	4.45 (.70)	1.76 (.89)	2.65 (.79)	4.49 (1.16)	2.82 (2.20)
Serbia	4.37 (.78)	1.85 (.92)	2.82 (.81)	4.10 (1.17)	3.30 (2.11)
Turkey	4.10 (1.02)	2.22 (.95)	2.84 (.72)	4.21 (1.20)	3.24 (2.41)
Norway	4.46 (.48)	2.58 (.74)	3.44 (.55)	4.76 (.68)	1.93 (1.63)
Switzerland	4.61 (.49)	2.47 (.75)	3.52 (.66)	4.95 (.76)	1.73 (1.82)
Albania	4.11 (.73)	1.57 (.79)	2.34 (.87)	4.02 (.93)	2.62 (2.12)