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Self-Employment and its Relationship to Subjective Well-Being

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Abstract. The subjective well-being of self-employed people has not received adequate attention. Our analysis focuses on how individuals' universal needs for autonomy, competence, and relatedness affect the happiness of self-employed persons, including whether there are significant differences among solo self-employed and those with employees. We use Self-Determination Theory and Hofstede's culture theory to address this gap. We study the relationship between autonomy, competence, relatedness and subjective well-being of self-employed people as well as the moderating effects of national cultural dimensions. We examine these hypothesized relationships using Hierarchical Linear Modelling across 4,856 self-employed individuals in 27 countries. Our results indicate that autonomy, competence, and relatedness are positively associated with the subjective well-being of self-employed individuals. Individualism moderates the relationship between autonomy and subjective well-being negatively and Uncertainty Avoidance moderates the relationship between relatedness and subjective well-being negatively. The findings represent a step forward in entrepreneurship research by examining the well-being of self-employed individuals. The study also provides information policymakers can utilize to encourage entrepreneurship using well-being as a motivational tool. Nevertheless, entrepreneurs can use these findings in formulating their long-term plans and business structure, as well as in motivating their employees.

Keywords: self-employment, subjective well-being, Self-Determination Theory (SDT), national culture, Hofstede.

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1. Introduction

Researchers highlight the importance of self-employment and entrepreneurship for the economic development of regions and nations (e.g., Bosma and Schutjens 2011; Davidsson, 2016; Hayton *et al.*, 2002; Hessels *et al.*, 2008; Van Praag and Versloot 2007; Wennekers, 2006). With the help of large-scale efforts such as the

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Observatory of European SME, European Council for Small Business, and Eurobarometer, policymakers recognize the importance of entrepreneurs for communities and provide structures to support current entrepreneurs and encourage future entrepreneurs. For example, the European Commission published the *Entrepreneurship 2020 Action Plan* detailing the actions needed to increase entrepreneurship levels (The European Commission, 2017).

Researchers point out the positive characteristics of self-employment, such as being one's own boss, decision autonomy, freedom of choice (in tasks), flexibility in scheduling, and development of skills (Meager, 2015; Prottas and Thompson, 2006; Verheul et al., 2002). However, compared to the studies examining the positive outcomes for waged employees, we know very little regarding subjective well-being (SWB) of self-employed people (Dolinsky and Caputo, 2003; Sevä et al., 2016a, b). Blanchflower (2004), Benz and Frey (2008), Sevä et al. (2016a, b), and Andersson (2008) found a definite link between self-employment and SWB. On the other hand, results from Jamal (1997), Parslow et al. (2004), and Gunnarsson et al. (2007) do not support this link.

We will examine the link between job characteristics of self-employed people and SWB using Self Determination Theory (SDT), which states that autonomy, competence, and relatedness are three universal needs that affect individual motivation, performance, and wellness (Deci and Ryan, 1985, 2000; Ryan and Deci, 2011). Even though researchers point out that satisfaction of these needs results in higher levels of well-being and performance (Deci and Ryan, 2002), the link between autonomy, competence, relatedness, and SWB has not been studied in the self-employed population.

Moreover, studies that use multi-country samples have not accounted for the differences in national cultures. Multi-country studies that examined the link between self-employment and SWB have considered the effects of macroeconomic context (e.g., Sevä et al., 2016a, b), whereas the studies that examine the link between SDT factors and SWB are concerned primarily with the universality of this relationship (Arrindell et al., 1997; Deci et al., 2001).

To address these gaps, we will examine the following questions: (1) do higher levels of autonomy, competence, and relatedness result in higher levels of SWB for self-employed individuals? and (2) to what degree are these relationships affected by the self-employed individual's national culture?

Overall, our findings can contribute to the SWB literature by examining the factors that affect the SWB of self-employed individuals. Also, we will increase the applicability of SDT by explaining the link between three factors and SWB. This study also contributes to the international management literature by examining the role of national culture on the SWB of self-employed individuals. For policymakers, the conclusions can provide a better understanding of self-employed individuals, inspire ways to entice the new generation of business persons and stimulate small businesses, entrepreneurial ventures, and job growth.

In the next section, we will first define entrepreneurship, SWB, SDT, and national culture. Then, we will use previous research to support our conceptual framework and hypotheses. In the third section, we will present our methods and results. We will end with a conclusion section.

2. Conceptual Framework and Hypotheses

According to Blanchflower and Oswald (1998), self-employment is the most straightforward kind of entrepreneurship. Individuals evaluate the risk and returns of being self-employed versus being a waged employee (Hofstede et al., 2004; Stephan and Uhlaner, 2010). International entrepreneurship researchers examine both individual and contextual factors that affect an individual's decision to be self-employed (Baker, Gedajlovic, and Lubatkin, 2005; Hayton et al., 2002; Stephan and Uhlaner, 2010; Sternberg, 2011; Verheul et al., 2002; Wennekers, 2006). The literature categorizes the self-employment population into individual self-employment and self-employment with employees. These two self-employed categories are different when it comes to strategic decisions, resource availability, and psychographic variables (Bunk *et al.*, 2012; Burke *et al.*, 2002; Cowling *et al.*, 2004; Cowling and Taylor, 2001; Kraaij and Elbers, 2016; Petrescu, 2016; Sevä *et al.*, 2016a).

To examine the SWB of self-employed populations, we used the Self Determination Theory. It represents a framework to study human motivation and personality and their roles in cognitive and social development; it focuses on social and contextual factors that influence individuals' well-being, their performance, and their overall level of initiative. SDT states that three leading universal factors affect individual motivation, performance, and wellness: autonomy, competence, and relatedness (Deci and Ryan, 1985, 2000; Ryan and Deci, 2000). Autonomy refers to self-regulated actions, independence and the ability to be self-organized. Competence denotes achieving satisfaction and outcomes from the activities performed, evolving, and obtaining desired benefits. Relatedness focuses on the need to connect with others, mutual interaction, sharing, altruism and social well-being.

Veenhoven (1984, p. 25) defined SWB as the degree to which an individual judges the overall quality of her or his life in a favourable way. Even though the judgment is subjective because a person is relaying his/her experience, more objective outcomes such as behaviour, actions, and attention are used to measure SWB (Diener and Ryan, 2009). For example, higher levels of SWB have been linked to various positive outcomes such as health and longevity, work and income, social relations, and social benefits (Diener and Ryan, 2009). The cognitive component of SWB measures the global evaluation of an individual's life, whereas the affective part consists of positive affect and negative affect (Diener, 1984; Diener et al. 1999; Lucas, Diener and Suh 1996).

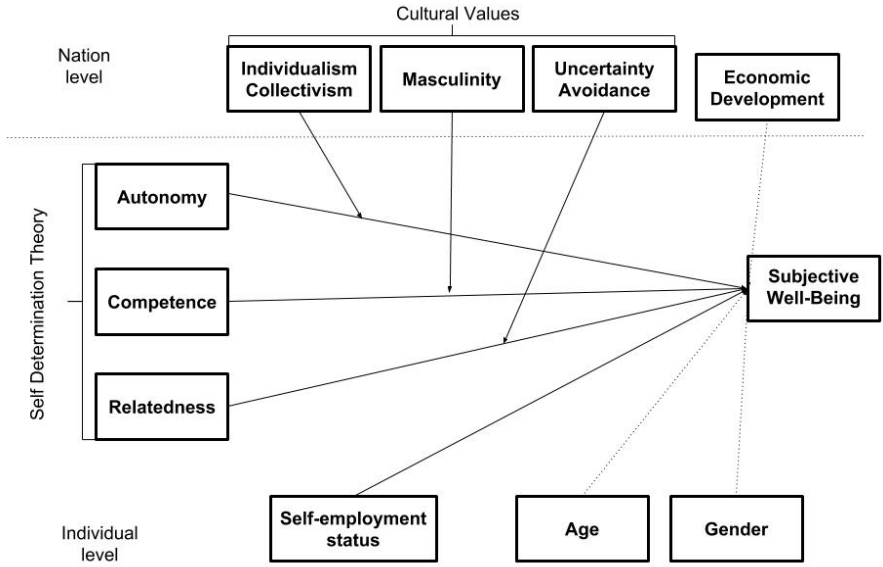
Culture, the collective programming of the mind, refers to shared systems of meaning within and across ascribed and acquired social groups (Hofstede, 1980). The most-used culture framework is Hofstede's framework which consists of six cultural dimensions: Individualism-collectivism(IC), Masculinity (MAS), Uncertainty Avoidance(UA), Power Distance, Long-term orientation, and Indulgence versus restraint (Hofstede, 1980; Hofstede and Bond, 1988; Hofstede *et al.*, 2010). National culture may be the most critical contextual variable for understanding entrepreneurial activity because culture influences entrepreneurs' values, motivations and aspirations (Kolvereid, 1996; Peterson and Meckler, 2001; Stewart *et al.* 2003).

The natural needs of autonomy, competence, and relatedness require social support and a favourable social context for individuals to develop and function in a state of mental and physical well-being. Besides social support, cultural variables (the values and goals held in different cultures) can influence the level of fulfilment of the three basic psychological needs and lead to cross-cultural differences (Deci and Ryan, 1985, 2000; Ryan and Deci, 2000). Similarly, the SWB literature examines the direct effects of national culture on SWB extensively; for example, Diener and Suh's (2000) *Culture and Subjective Well-being* studies societal conditions and individual differences that affect SWB across cultures.

We will examine the link between autonomy, competence, relatedness, and SWB of self-employed individuals. We will also investigate if there is a difference between the populations of self-employed individuals who are sole-proprietors and those with employees. Moreover, we will examine the cross-level moderating effects of national culture on the proposed relationships; even though direct effects of cultural dimensions on SWB has been examined, none of the studies considered the cross-level moderating effects of culture. We present our conceptual model in Figure 1.

The level of analysis is an essential consideration in several disciplines including international management, international business, international entrepreneurship, and cross-cultural management (Hofstede, 2001). Since some of our constructs are individual-level constructs and some are nation-level, we chose Hierarchical Linear Modeling (HLM) to analyse the proposed relationships.

Figure 1. Conceptual Model



2.1. Autonomy and SWB

SDT discusses autonomy as individuals' tendency toward self-organization and self-regulation of action (Deci and Ryan, 1985, 2000; Ryan and Deci, 2000). Individuals with higher levels of autonomy can manage their operations more efficiently, adapted to their needs and capacities, thus coordinating and prioritizing processes toward more effective self-maintenance (Deci and Ryan, 1985, 2000; Ryan and Deci, 2000). Autonomy allows individuals to experience choice and feel like they are the initiators of their actions (Deci *et al*., 2001). Research points out the positive relationship between autonomy and SWB. For example, Wheatley (2017) found a positive relationship between autonomy, including job and schedule control, and SWB. Similarly, Slemp and Vella-Brodrick (2014) found that if employees craft their jobs, their need for autonomy is satisfied and they experience higher levels of well-being.

Individuals' desire for freedom, control, and flexibility in the use of their personal time have been considered primary reasons for starting a business or being self-employed (Al-Jubari *et al.*, 2017; Annink *et al*., 2016; Burke *et al*., 2002; Carter *et al*. 2003; Zhang and Schøtt, 2017). Self-employed individuals may have higher levels of job satisfaction due to the development of specialized skills and more autonomy at work (Benz and Frey, 2008; Binder and Coad, 2013; Eden, 1973; Kolvereid, 1996; Lange, 2012; Meager, 2015). Even though self-employed individuals work harder and have lower income, they have higher job satisfaction levels and report greater passion and positive feelings (Baum and

Locke, 2004; Binder and Coad, 2013; Meager, 2015). These positive feelings, expressed at higher levels of job satisfaction and mental and physical wellness, can be due to the more significant levels of independence and autonomy in choosing their activities and improving their skills and knowledge in the domain of their choice. Thus, we hypothesize that,

H1: The level of autonomy is positively related to SWB for self-employed individuals.

2.2. Competence and SWB

The need for competence manifests itself in intrinsically motivated activities and focuses on personal growth, achievement, and experiencing satisfaction from activities (Deci and Ryan, 1985, 2000; Ryan and Deci, 2000). Striving for competence is considered a relatively general propensity of individuals (Deci and Ryan, 2002). Research indicates that goal achievement increases subjective well-being (Brunstein, 1993).

The primary reasons for getting involved in entrepreneurial activities include self-realization, gaining a sense of accomplishment, and the opportunity to pursue self-directed goals (Carter *et al.*, 2003). The need for achievement is one of the most-studied variables and entrepreneurial motivations in research (Brockhaus and Nord, 1979; Carter *et al.,* 2003; McClelland, 1961; Naffziger *et al.,* 1994). As described by SDT, the researchers noted that entrepreneurs are motivated to continue to behave entrepreneurially if this leads them to goal accomplishment, achievements, and satisfaction (Naffziger *et al.*, 1994). Entrepreneurs' tenacity, self-efficacy, and perseverance in pursuing goal-directed action lead them to a higher probability of start-up survival, success and venture growth (Carter *et al.*, 2003; Stewart *et al.*, 2003).

Individuals motivated to start a new business are usually characterized as persons with competence motivations, such as the desire for self-achievement, accomplishment, creativity and innovation (Marques *et al.,* 2013; Tyrowicz, 2011). Also, having high aspirations will significantly influence both the strategic decisions of entrepreneurs and the growth potential of their business (Tyrowicz, 2011). For example, Brush *et al.* (2008) found that organizations led by entrepreneurs with high aspirations tend to have more organizational resources and are focused on building and developing the organizational infrastructure to grow the team over time.

Given the importance of achievement, accomplishments, and aspirations in entrepreneurial motivations and functioning, as well as their effect on development and growth of entrepreneurs' business endeavours, we hypothesize the following:

H2: The level of competence satisfaction is positively related to SWB for self-employed individuals.

2.3. Relatedness and SWB

Relatedness refers to mutual respect within the entrepreneur's social circle and his/her reliance on other persons. It includes a tendency toward connectedness with others, caring and internalizing group needs and values to coordinate with others, and integrating oneself into the social group (Deci and Ryan, 1985, 2000; Deci *et al.*, 2001; Ryan and Deci, 2000).

Entrepreneurship research has found that socially-related variables, such as the need for recognition, a good reputation, and approval from family and friends can be strong entrepreneurial motivators (McClelland, 1961; Scheinberg and MacMillan, 1988). For example, Birley and Westhead (1994) reported as significant motivators "to be respected by friends," "to increase status and prestige of my family," and "to have more influence in my community" as reasons to start a business. Support from family and community (including financial, psychological, help, and recognition) for the entrepreneurial career can also have an impact on career choice (Carter *et al.,* 2003).

Researchers found stronger relationships between job and family satisfaction for self-employed individuals due to an interdependent relationship between work and family (Kolvereid, 1996). In their social relationships, entrepreneurs also need status, approval, and recognition from their family, friends, and other people in the community (Carter *et al.*, 2003).

Studies have also noted that family significantly influences an entrepreneur's decisions, especially regarding family and social support throughout the entrepreneurial process (Naffziger *et al.,* 1994; Wang *et al.,* 2012). At the same time, not only the entrepreneurs' families but also their peers, mentors, and role models can have a significant impact on the entrepreneurs' support system. Research has also noted that entrepreneurs count on support from community members regarding the necessary resources for the entrepreneurial venture (McKeown, 2015). Considering entrepreneurs' different social needs and the importance of social relations for self-employed individuals, we hypothesize the following:

H3: The level of relatedness satisfaction is positively related to SWB for self-employed individuals.

2.4. Self-Employment Status

We emphasized the differences between entrepreneurs who are self-employed sole proprietors (Petrescu, 2016; Van Stel and De Vries, 2015) and those who hire

additional employees, regarding their levels of SWB, job satisfaction, and work-family conflict (Binder and Coad, 2013; Bunk *et al.*, 2012; Sevä *et al.*, 2016b; Stephan and Roesler, 2010). Research results regarding the relationship between self-employment and happiness or life satisfaction are mixed — only some research results support strong effects for some groups underlining the heterogeneity of the group (Binder and Coad, 2013).

Some studies found that self-employed individuals who employ others have a higher level of life satisfaction than regular employees, while self-employed persons without employees are not as satisfied or as interested in developing and growing their business (Sevä *et al.*, 2016b). Petrescu (2016) also showed that entrepreneurs who also employ others report higher levels of happiness than self-employed individuals who work on their own. These variations can happen because people who choose waged-employment might not benefit from as high degrees of freedom and autonomy as the self-employed individuals with employees, a characteristic shown to have a significant influence on overall job satisfaction (Lange, 2012). In light of the previous research, we hypothesize the following:

H4: Self-employed individuals with employees have a higher level of SWB than solo self-employed individuals.

2.5. Cultural Values

Even though the decision to pursue self-employment occurs at the individual level and autonomy, competence, and relatedness needs persist at this individual level, the individuals and their needs do not reside in a vacuum. Contextual factors, such as national culture, affect the way all individuals behave. For example, Moghaddam et al. (2017) examined the effects of culture on the way individuals recognize an entrepreneurial opportunity.

Deci and Ryan (2000) recommend considering the cultural characteristics of the environment and their implications for need satisfaction when applying the SDT (Deci and Ryan, 2000). Regarding the three universal needs formulated in the SDT – autonomy, competence, and relatedness— research has noted that there is considerable variability in the values and goals privileged by different cultures. This means that the meaning of basic need satisfaction and ways to fulfil those needs may differ widely from culture to culture (Deci and Ryan, 2000). In other words, it is important to note that a given need might be satisfied in different ways depending on the cultural norms (Lynch et al., 2009).

Similarly, cultural context can affect SWB. For example, Arrindell et al. (1997) found that low levels of UA predict high national levels of subjective well-being, while in the poorer countries masculinity correlated positively with well-being. In another study, Deci et al. (2001) concluded that satisfaction of needs—

autonomy, competence, and relatedness— was associated with well-being both for both Bulgarian state-owned enterprise workers and American corporate employees.

Studies that utilize multi-nation data-sets are mostly concerned with the universality of the three factors, or the relationship between cultural values and SWB (Arrindell et al., 1997); the cross-level effects of cultural dimensions on the relationship between SDT factors and SWB has not been examined. We have not reviewed if the three needs proposed by SDT are universal (Deci and Ryan, 2008) nor are the direct effects of culture on three needs hypothesized here. As we indicated before, we are examining if cultural values moderate the relationship between autonomy, competence, relatedness, and SWB of self-employed individuals. We argue that even though the three needs under investigation can positively affect SWB, cultural characteristics might moderate these effects. Following Hayton et al. (2002), we used the cultural dimensions, Individualism-Collectivism, Masculinity, and Uncertainty Avoidance, which are most relevant for international entrepreneurship research.

2.5.1. Moderating Role of Individualism-Collectivism

Hofstede defines IC as "the degree to which individuals are supposed to look after themselves or remain integrated into groups, usually around family" (Hofstede, 2001: xx). Cultural norms and practices affect what is expected and accepted within a society as well as the institutions established in that community (Hofstede, 2001). In individualistic cultures, abilities, job qualifications, more challenging jobs, achievement, and freedom are emphasized (Hofstede, 2001). In an individualistic society, it is the societal norm to be self-oriented, to have an emotional independence of individuals from organizations/institutions, and to take care of him/herself and immediate family (Hofstede, 2001: 227). On the other hand, collectivistic cultural norms emphasize belonging and loyalty and protection of the extended family/clan. Individuals in collectivistic societies prefer group decisions, interpersonal relationships, and social networks (Hofstede, 2001: 226).

It is important to note that the conceptualization is not equating autonomy with individualism (Chirkov et al., 2003). For individuals in an individualistic society, freedom to choose their way and liberty to self-select and pursue their personal goals is the norm (Chirkov *et al.,* 2003; Diener *et al.*, 1995). Research has noted that autonomy should not be considered only as an attribute of individualistic behaviours, relevant to wellness within Western societies and that autonomy versus heteronomy is a fundamental human concern (Chirkov *et al.,* 2003). Also, control of self (rather than context) and planning are emphasized in societies that are high in individualism. This study proposes that entrepreneurs in highly individualistic cultures experience more freedom to pursue individual

goals and autonomy, thus need fulfilment of autonomy will not result in higher levels of SWB. In other words, IC will hurt the autonomy-SWB relationship. We propose,

H5: IC will negatively moderate the relationship between autonomy and SWB.

2.5.2. Moderating Role of Masculinity

The masculinity dimension is defined as "the distribution of emotional roles between the genders" (Hofstede, 2001: xx). Gender roles emerge over time, and members of society learn their roles through socialization. In masculine cultures, even though there is a clear distinction between gender roles, both men and women display stricter values; similarly, in feminine societies, even though social gender roles overlap, both males and females hold more tender values (Hofstede, 2001). Challenge and recognition in jobs, advancement, earnings, promotion, and achievement are essential in highly masculine societies. Moreover, ambition, aggressiveness, and competitiveness can be seen in both genders in masculine societies.

In general, entrepreneurs are usually characterized by the desire for self-achievement, accomplishment, creativity and innovation (Marques *et al.,* 2013; Tyrowicz, 2011). Entrepreneurs in highly masculine societies are highly socialized with the notion of achievement, individual decision, and advancement. Work is very central to life, and higher levels of need for achievement are observed. Individuals (including self-employed individuals) in masculine societies experience primary and secondary socialization regarding the importance of advancement, achievement, and ambition. In other words, their baseline expectation/acceptance of these values are higher than for individuals who were socialized in feminine societies. Whatever achievement they feel from being self-employed might not affect their SWB as positively as individuals who were socialized in feminine societies. Considering the higher level of expectations and aspirations already embedded in masculine communities, the positive link between competence and SWB will be suppressed. In other words, higher levels of competence might not lead to higher levels of SWB. Thus, we propose,

H6: Masculinity will negatively moderate the relationship between Competence and SWB.

2.5.3. Moderating Role of Uncertainty Avoidance

Hofstede defines UA as "the extent to which a culture programs its members to feel either uncomfortable or comfortable in unstructured situations" (Hofstede,

2001: xx). Uncertainty about the future is one common problem all humans and societies try to manage. The difference in how individuals cope with uncertainty is captured in the UA dimension. Nations use technology, law, and religion to deal with the change of the future (Hofstede, 2001). According to Hofstede (2001), technology is used to cope with risks caused by nature, laws are used to deal with behaviours of others, and religion is often used to deal with all other difficulties that humans face.

Literature supports a negative relationship between UA and different measures of SWB. Even after controlling for wealth (GNP/capita), Veenhoven's (2012), Diener *et al*. (1995), Diener and Diener's (1995), and Hastings and Hastings' (1981) measures of well-being correlated negatively with UA index (Hofstede, 2001). In high UA societies, lower levels of trust in people, including family members, and higher levels of anxiety and fear of failure are observed. Also noted are higher levels of need for structure; reliance on rules and structures, both in relationships as well as institutions, is the norm. Entrepreneurs in high UA societies might rely less on acceptance by family, friends, and social circle for SWB. The relationship between relatedness and SWB of entrepreneurs will be negatively affected by higher levels of UA; thus, we propose,

H7: UA will negatively moderate the relationship between relatedness and SWB.

3. Methodology

To test the conceptual model presented, we used the sixth round of the European Social Survey (ESS). We chose to use this dataset because of how often data was collected and the number of countries included in the survey. The ESS is a European Research Infrastructure Consortium known as ESS-ERIC, run by a general assembly, including top academics from the European countries surveyed and headquartered at City University London. ESS has been distributed every two years across Europe since 2001 and achieves high response rates, typically of 70 percent or more, and its sample sizes are large and representative (ESS, 2016; Lange, 2012; Sappleton, 2009; Sevä et al., 2016a).

For round six of the ESS, data was collected in 2012 in 29 countries. IC scores for Albania and Iceland were not available; thus, we eliminated these countries from our analysis. Overall, after removing the missing data, our sample consists of 4,856 self-employed individuals. Self-employed individuals were isolated from the work relations variable and then organized into two groups of self-employed persons— those with employees and those without employees. Fifty-nine percent of our sample is self-employed without employees. Out of 4,856 respondents, Israel contributed the most to the total sample with 6.6 percent; the other countries added from 1.2 percent (Kosovo) to 6.4 percent (Ireland) to the full sample.

3.1. Individual-Level Variables

Following previous research, we used the following item to measure the cognitive component of SWB (Berglund et al., 2015; Vogel *et al.*, 2005): the respondents were asked "Taking all things together, how happy would you say you are?" and the item used a 10-point scale, with *extremely happy* and *extremely unhappy* as anchors. Like Martin and Hill (2012), we measured the three universal factors of SDT by using entrepreneurs' levels of satisfaction with the three factors. Autonomy was captured by asking respondents about the degree of freedom of choice and control they have over their lives; the question was worded as "I feel I am free to decide how to live my life" and a 5-point Likert scale was used with *agree strongly* and *disagree strongly* as anchors. For competence, respondents were asked about the level of accomplishment he/she feels from what he/she does; the question was worded as "Most days I feel a sense of accomplishment from what I do" and a 5-point Likert scale was used with *agree strongly* and *disagree strongly* as anchors. Relatedness was measured by asking respondents "To what extent do you feel appreciated by people you are close to," on a 10-point scale (Deci and Ryan 2002; Huppert *et al.*, 2005). We reverse coded all the items so that higher numerical values represent higher levels of the concept measured and thus clearly reflect the direction of the relationship between variables.

3.2. Level-2 Variables

We used Hofstede's IC, Masculinity, and UA country scores (Hofstede, 2001). There are no Hofstede country scores for Cyprus and Kosovo; for Cyprus, Greece's scores were used, and for Kosovo, former Yugoslavia's scores were used as proxy variables.

3.3. Control Variables

At the individual level, entrepreneurship research points out that gender and age are the primary demographic variables that affect individuals' entrepreneurial motivations and SWB (Burke *et al.*, 2002; Dyer, 1994; Sevä *et al.*, 2016a; Van der Meer, 2014). Gender was coded as zero for *male* and one for *female*. We also controlled for the effects of education level (Verheul et al., 2002). The standard of education was coded as zero for individual who attained education equal to or lower than '*advanced vocational qualifications*' and one for people who at least achieved '*bachelor/equivalent from lower tertiary*' degree. In addition, the high correlation between life satisfaction and SWB prompted us to control for the effects of life satisfaction when examining the hypothesized relationships. To measure life satisfaction, respondents were asked "All things considered, how

satisfied are you with your life as a whole nowadays?"; a 10-point scale ranging from *extremely dissatisfied* to *extremely satisfied* was used.

At the national level, we controlled for the effects of economic development by using GDP per capita (purchasing power parity) as a proxy for economic development (Sevä et al., 2016a). To correspond with the sixth wave of ESS, we used a three-year average (2009-2010-2011) GDP per capita (Purchasing Power Parity, current international US$) which was attained from the World Bank.

Table 1 shows the sample characteristics and demographics of the data. Table 2 shows the overall descriptive statistics and associations between variables used.

Table 1. Sample Characteristics and Demographics

Country	N	Average Age	% Male	% Bachelors/ Equivalent Degree or Higher	Average SWB	Average Autonomy	Average Com-petence	Average Relatedness
Belgium	216	53.60	60.19	33.33	7.89	4.28	3.98	3.08
Bulgaria	145	50.25	62.07	32.41	5.90	4.23	4.02	2.72
Cyprus	148	51.52	63.51	26.35	6.91	4.01	3.86	2.14
Czech Rep.	176	48.21	63.64	17.05	7.00	3.97	4.01	3.60
Denmark	139	57.17	70.50	33.81	8.62	4.21	4.18	2.48
Estonia	144	47.25	60.42	35.42	7.17	4.10	3.83	3.13
Finland	239	56.39	65.27	20.50	9.09	4.26	3.94	3.33
France	184	57.73	67.39	21.74	7.27	4.33	3.97	3.08
Germany	293	52.63	62.80	31.06	7.75	4.13	4.18	2.54
Hungary	107	47.30	69.16	26.17	6.84	3.85	3.83	3.31
Ireland	312	53.78	77.56	21.47	7.39	4.21	3.99	3.27
Israel	319	50.69	60.50	33.54	7.92	4.32	4.00	2.70
Italy	138	50.25	63.04	24.64	7.17	3.92	3.91	3.75
Kosovo	57	39.67	78.95	12.28	6.84	4.44	4.07	2.86
Lithuania	90	47.31	62.22	31.11	6.89	3.99	3.81	3.12
Netherlands	202	54.45	64.85	32.18	7.88	4.27	3.90	3.07
Norway	123	54.11	71.54	27.64	8.03	4.20	4.04	2.59
Poland	279	52.93	53.41	14.34	7.25	3.99	3.84	2.99
Portugal	279	59.20	44.09	6.81	6.57	3.90	3.82	3.44
Rus.Fed.	108	40.58	59.26	39.81	6.66	4.28	3.77	3.77
Slovakia	152	46.13	50.00	25.00	6.88	4.07	3.74	3.30
Slovenia	89	49.47	75.28	25.84	7.36	4.27	3.91	3.26
Spain	235	52.05	60.43	20.43	7.61	3.76	3.62	3.19
Sweden	189	56.41	77.25	22.75	8.10	4.21	4.18	2.88
Switzerland	158	56.53	65.82	26.58	8.03	4.06	4.18	2.86
Ukraine	64	41.56	64.06	42.19	6.63	4.03	3.88	3.78
U.K.	271	55.13	69.00	26.94	7.60	4.17	3.85	3.30

Table 2. Associations/Correlations, Means, and Standard Deviations

	Mean	S. D.	1	2	3	4	5	6	7	8	9
Level 1 Variables[a]											
1. SWB	7.43	1.90	1								
2. Age	52.49	15.85	-.004	1							
3. Gender	63.6% male		.001*c	.00	1						
4. Education	74.6%e		.01***c	.02***c	2.27d	1					
5. Life sat.	7.16	2.18	.69**	.06**	.002**	.01***	1				
6. Autonomy	4.13	0.87	.27**	-.02	.004***	.002**	.25**	1			
7. Competence	3.94	0.82	.31**	-.03	.001**	.00	.29**	.34**	1		
8. Relatedness	7.93	1.65	.32**	.01	.00	.01***	.27**	.21**	.24**	1	
9. Ent. Type	57.5% solo entre.		.002**c	.00c	83.04***d	6.95**d	.001c	.003***c	.002**c	.001*c	1
Level 2 Variables[b]											
1. GDP	31346.50	12402.80	1								
2. IC	58.22	18.23	.62**	1							
3. MAS	44.56	25.68	-.09	.20	1						
4. UA	71.15	23.81	-.57**	-.64**	.09	1					

a N=4,856; b N=27; c = eta-square associations reported; d = Chi-square associations reported
e= no bachelors or equivalent degree
GDP: Gross domestic product; IC: Individualism; UA: Uncertainty avoidance; MAS: Masculinity
*** p<.001, **p <.01, * p< .05

3.4. Analysis

To test the hypothesized relationships, we used Hierarchical Linear Modelling (HLM) software, version 6.06 (Bryk and Raudenbush, 2002). Our analysis consists of four steps. In the first step, we entered the control variables. In the second phase, we examined the direct effects of autonomy, competence, and relatedness. In the third level, we examined the main effects of level-2 moderators, IC, masculinity, and UA. In step 4, we entered the moderating effects of IC, masculinity, and UA. We used group mean centering (Hofmann and Gavin, 1998) since we are examining the moderating effects. We relied on Kreft and De Leeuw's (1998) formula to report R-square.

4. Results

The results presented in step 2 of Table 3, show that after accounting for the effects of control variables there is a significant positive relationship between the three most important factors underlined by SDT – autonomy (β = .14; p <.001), competence (β = .20; p <.001), and relatedness (β = .15; p <.001)– and SWB of self-employed individuals. Hypotheses 1, 2 and 3 are supported. The change in

R^2 for the model, reported in step 2, is 8.74%. In other words, this model explains an additional 8.74% variance after the control model reported in step 1a. The results in Step 2 for *Ent. Type* furthermore indicate that Hypothesis 4 is not supported.

Step 4 results show that IC moderated the relationship between autonomy and SWB of entrepreneurs negatively (β = -.003; p <.01) supporting Hypothesis 5. Hypothesis 6, proposing that masculinity will moderate the relationship between competence and SWB, was supported (β = -.002; p <.05). Hypothesis 7 was also supported; UA moderated the relationship between relatedness and SWB of entrepreneurs negatively (β = -.001; p <.05).

Table 3. Hierarchical Linear Modelling Results for SWB

	Step 1		**Step 1a**		**Step 2**		**Step 3**		**Step 4**	
Step 1: Controls	β	***s.e.***	β	***s.e.***	β	***s.e.***	β	***s.e.***	β	***s.e.***
Age	-.01**	.002	-.01**	.002	-.01**	.002	-.005**	.002	-.01**	.002
Gender	.01	.05	-.01	.05	.04	.04	.04	.04	.04	.04
Edu	.04	.04	.04	.04	-.01	.04	-.01	.04	-.01	.04
Life satisfaction	.51***	.02	.61***	.02	.53***	.02	.53***	.02	.53***	.02
GDP			.00004***	.000001	.00003***	.00001	.00002**	.00001	.00002**	.00001
Step 2: L1 IVs										
Autonomy					.14***	.02	.14***	.03	.30***	.05
Competence					.20***	.04	.20***	.04	.29***	.07
Relatedness					.15***	.02	.15***	.02	.24***	.04
Ent. Type					.07	.05	.07	.05	.07	.05
Step 3: L2 Direct Effects										
IC							.002	.004	.005	.004
MAS							-.01**	.002	-.01*	.002
UA							-.01*	.003	-.01*	.003
Step 4: L2 Cross level interactions										
IC x Autonomy									-.003**	.001
MAS x Competence									-.002*	.001
UA x Relatedness									-.001*	.001
R^2 change			0.45		0.09		0.06		0.05	

*** p<.001, **p <.01, * p< .05, +<.1 ; N=27 countries, N=4856 individuals
GDP: Gross domestic product; IC: Individualism; UA: Uncertainty avoidance; MAS: Masculinity

The results indicate that in the context of self-employed individuals, the higher their level of autonomy is, the happier they are, which is in concordance with previous research that found autonomy as one of the primary motivations for entrepreneurship (Burke et al., 2002; Carter et al. 2003). This shows that autonomy has the potential not only to increase job satisfaction and dedication to work, but also to improve the SWB of entrepreneurs. Competence focuses on individual growth, achievement and experiencing satisfaction from the activities performed, in this case, entrepreneurial endeavours (Deci and Ryan, 1985, 2000; Ryan and Deci, 2000). This relationship confirms that entrepreneurs' need for achievement and accomplishment can be a motivation for engaging in the entrepreneurial behaviour (Carter *et al.,* 2003; McClelland, 1961; Naffziger *et al.,* 1994) and affects well-being as a function of its level of satisfaction. Relatedness also has a positive relation with SWB, confirming the importance of social aspects for entrepreneurs and their need for mutual respect, relating to others, and reliance on others (Deci *et al.*, 2001). Our results did not support a significant difference between the SWB levels of self-employed individuals with employees and solo self-employed individuals. It is possible that there is no difference in the universal needs of autonomy, competence, and relatedness of solo self-employed individuals and self-employed individuals with employees. Alternatively, the difference could have been captured in life-satisfaction variables for which we have controlled in the statistical procedure.

Figure 2 shows the interaction effects we tested. The moderating effects of IC on the autonomy-SWB relationship indicate that in individualistic societies, the relationship between entrepreneurs' autonomy and SWB will be less prominent. The difference in slopes of the high and low IC societies can be seen in Figure 2a. The moderating effect of Masculinity on the competence-SWB relationship, shown in Figure 2b, indicated that higher levels of Masculinity would decrease the positive relationship between competence and SWB within the self-employed population. Figure 2c shows that the relationship between relatedness and SWB is affected negatively by UA. In other words, higher levels of uncertainty avoidance decrease the positive relationship between relatedness and SWB.

Figure 2. Moderating Effects of National Culture

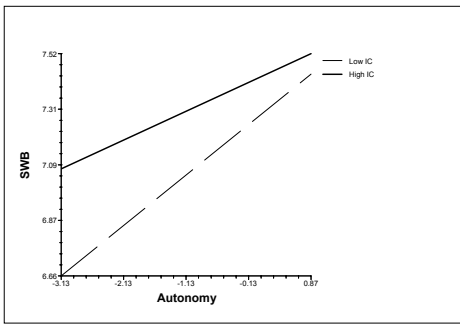


Figure 2a. Effects of IC on Autonomy-SWB relationship

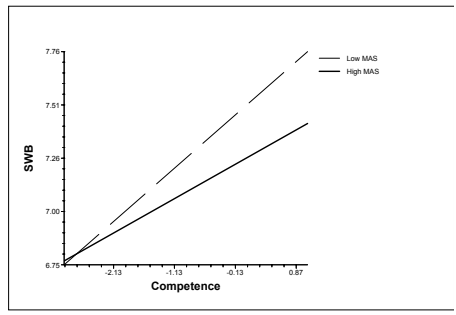


Figure 2b. Effects of Masculinity on Competence-SWB relationship

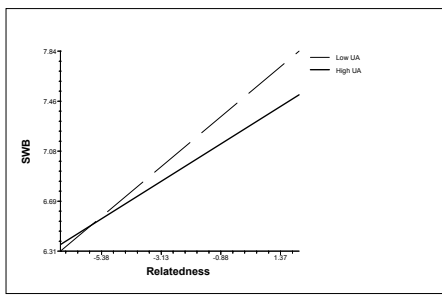


Figure 2c. Effects of UA on Relatedness-SWB relationship

The data did not provide support for a difference in the level of SWB between self-employed individuals with and without employees. This might be due to some degree of heterogeneity even within these two segments of self-employed persons, but might also be related to the fact that the differences between the two groups could stay only at the job satisfaction level and not be transferred to the happiness level. From the control variables, age and life satisfaction significantly influenced SWB.

An additional dataset was compiled to examine the possible effects of positivity by using Mueller *et al.*'s (2009) positivity scores. This analysis consisted of 3,359 respondents across 17 countries. No direct effects of positivity on SWB were observed; we have included the results of this additional analysis in Appendix A. The results must be interpreted with care since the number of countries included in this study is very low (Peterson et al., 2012).

5. Conclusions

Even though previous researchers examined SWB of employed people, SWB of self-employed individuals have not received adequate attention. The aim of this paper was to investigate if higher levels of autonomy, competence, and relatedness result in higher levels of SWB for self-employed individuals and to explore the moderating effects of national culture on the proposed relationships. Our results indicate that levels of autonomy, competence, and relatedness affect SWB of self-employed individuals positively, but that national culture can weaken these effects.

Limitations of our research project include the use of single-item measures, use of only Hofstede's national culture dimensions, and use of self-employment as a proxy for entrepreneurship. We relied on secondary data to test the proposed relationships. We also used previous research to identify items that can proxy for measures of autonomy, relatedness, and competence. Single item measures do not allow for calculation of Cronbach's alpha, reliability, and measurement error, and suffer from validity issues (Fuchs and Diamantopoulos, 2009; Wanous and Hudy, 2001). On the other hand, one can avoid common method bias and tapping into other predictive constructs by using single-item measures (Petrescu, 2013). Without primary data collection in 29 countries, we are not able to examine if using single items to measure autonomy, relatedness, and competence affected our results.

Collecting large-scale primary data specifically for examining SDF factors and SWB can enhance our understanding of the proposed relationships. For example, multi-item measures of SDT factors would allow us to test measure equivalence of the constructs across cultures. Another future research opportunity is to examine if autonomy, competence, and relatedness carry the same meaning across cultures.

We used Hofstede's cultural value dimension scores. Other large-scale studies also contain dimensions that capture similar concepts. For example, the essence of individualism-collectivism, the relationship between the individual, family, and larger groups, is captured in Schwartz's embeddedness and GLOBE's in-group collectivism dimensions. We have compiled additional datasets to examine proposed relationships using value dimension scores from Schwartz Value Survey, GLOBE, and Beugelsdijk et al. (2015). Unfortunately, the number of countries in those additional datasets were not large enough to run HLM analysis (Peterson, Arregle, and Martin, 2012).

Even though we have examined the effects of cultural values at the national level, it is possible that individual values might play a part in reported SWB. Schwartz's (1992, 2005) individual value dimensions can be used to examine the effects of individual-level values. Research also points out that some countries are not homogenous and that regional cultural differences might exist (Peterson, Sondergaard, and Kara, 2017). A future project that focuses on primary data

collection of individual values, as well as regional cultural differences, can address these limitations. Even though self-employment has been used as a proxy for entrepreneurship, examining the effects of SDT factors on SWB of family business owners, patent applicants, and of those who pursue opportunity-based vs. economic-motive entrepreneurship can enhance our understanding of different groups of entrepreneurs.

Overall, the results of this analysis show the applicability of the SDT in the entrepreneurship context and the importance of its three primary variables for the SWB of self-employed individuals across Europe. Another significant contribution is the confirmation of the effect of cultural values. The universality of SDT factors was not under investigation, but the moderating effects of cultural values did shed light on the complexity of SDT and SWB across cultures. Cultural context might affect how SDT manifested. This research project provides additional information for the SWB literature. In addition to direct effects of national cultural differences, the SWB literature can benefit from examining the cross-level moderating effects of national culture when investigating SWB at the individual level.

Entrepreneurs can use the results of this research to their benefit, when assessing the outcome of their work, formulating plans for the future and, nevertheless, when deciding whether to use a solo self-employment model. When employing other people, these findings provide the base to better motivate and engage the employees.

Policymakers develop structures and initiatives to increase entrepreneurship levels. Even though policymakers in the EU emphasized the importance of entrepreneurship, most of the focus is on employment creation, economic prosperity, removing obstacles, and entrepreneurial culture (The European Commission, 2017). For example, the European Commission highlighted these in the 2008 *Small Business Act for Europe*, the 2012 *Communication on Rethinking Education*, the 2013 *Entrepreneurship Action Plan 2020*, and the New Skills Agenda for Europe (The European Commission, 2016). These publications do mention autonomy, competence, and the effects of entrepreneurship on the greater community, but policymakers can use research, including this study, to advertise SWB, job satisfaction, and life satisfaction of entrepreneurs as a recruiting tool.

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Appendix A

Table 1S. Hierarchical Linear Modelling Results for SWB Controlled for Positivity

	β	***s.e.***
Controls		
Age	-.003*	.002
Gender	.03	.04
Edu	-.06	.05
Life satisfaction	.50***	.02
GDP	.00003***	.00001
Positivity	.13	.32
L1 IVs		
Autonomy	.14***	.02
Competence	.15***	.03
Relatedness	.15***	.01
Solo vs.	-.01	.05

*** p<.001, **p <.01, * p< .05, +<.1
N=17 countries, N=3,359 individuals
GDP: Gross domestic product