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## Article

# What's up with the self-employed? A cross-national perspective on the self-employed's work-related mental well-being

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## ABSTRACT

Although many governments actively stimulate self-employment, their work-related mental well-being remains understudied. The aim of current study is to investigate the mental well-being of different types of self-employed, testing whether mental well-being differences among self-employed are explained by the presence of work characteristics that are in accordance with the ideal-typical image of the “successful entrepreneur” (e.g. creativity, willingness to take risks, innovativeness, high intrinsic motivation, skilfulness and the ability of recognizing opportunities). Moreover, we investigate the relation of country-level “entrepreneurial climate” and the individual mental well-being of self-employed. For this purpose, data from the European Working Conditions Survey, round 6 (2015) was analysed, including 5448 cases, originating from the 28 EU-member states. Multilevel random intercepts modelling was used to investigate associations of both individual- and country-level characteristics with mental well-being. We found that motivation, the ability to recognize opportunities, and finding it easy to be self-employed positively influences the mental well-being of self-employed. Respondents with these characteristics are often medium-big employers, while farmers, dependent freelancers and own account workers generally have less of these features and tend to have lower levels of mental well-being. At the country-level, positive entrepreneurship perception relates to more advantageous mental health scores in self-employed. These results implicate that policies promoting self-employment should be (more) concerned with the work-related characteristics of (future) self-employed.

## 1. Introduction

Governments worldwide are trying to stimulate self-employment. The EU2020 employment strategy is illustrative in that regard: it recognises entrepreneurship and self-employment as key for achieving smart, sustainable and inclusive growth and as a way to create new jobs (European Commission, 2017). Many European countries are translating the European Commissions' strategy into their policies to promote self-employment. In 2015, between 6.1 (Luxembourg) and 35.2 (Greece) percent of EU-countries' labour force was self-employed (OECD, 2017). In some EU-countries – e.g. The Netherlands – entrepreneurship policies may have some effect, considering recent increases in the proportion of self-employed. Notwithstanding the policy attention and the fact that self-employed constitute an important minority in the labour force, research on work-related (mental) health of

self-employed is very scarce – certainly when compared to employees (Toivanen, Griep, Mellner, Vinberg & Eloranta, 2016). This is even more so for research looking into determinants of mental health among self-employed (Nordenmark, Vinberg, & Strandh, 2012). Even fewer studies have adopted a cross-national perspective to this study domain – see e.g. Johansson Sevä, Vinberg, Nordenmark, and Strandh (2016) for a notable exception.

The current study aims to investigate variation in mental health between types of self-employed residing in 28 European countries, using data from EUROFOUND's 2015 European Working Conditions Survey (EWCS). Moreover, we will test whether the presence of entrepreneurial characteristics typically attributed to successful self-employment – e.g. creativity, willingness to take risks, innovativeness, high intrinsic motivation, skilfulness and the ability of recognizing opportunities (Gartner, 1990; Hendry, 2004) – are helping to explain

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mental health differences among self-employed. Finally, we will also examine whether country-level “entrepreneurial climate” (Audretsch & Keilbach, 2004) explains country-level variation in the mental well-being of self-employed.

### 1.1. Defining the self-employed

Two approaches towards defining and classifying the self-employed may be adopted. A first, objective, approach derives self-employment from the legal, societal, and contractual framework of each country (Casson, 2003). Although, such an approach typically results in idiosyncratic descriptions, some general criteria can be applied to distinguish self-employed from other types of workers and to make sub-classifications among the self-employed. According to Eurofound (2010), characteristics to identify and classify self-employed are: the absence of a wage-labour-relation (at least formally); a certain degree of economic and organisational independency; working alone or having employees; and the magnitude of the economic activity (De Moortel & Vanroelen, 2017). In order to turn the objective approach into an element of research, multiple combinations of attributes and characteristics can be used to make typologies (Webster, 1977). In this research, a 7-category classification based on a consensus model developed for EUROFOUND is used, distinguishing between (1) medium-to-big employers, (2) small employers, (3) independent freelancers, (4) dependent freelancers, (5) liberal professions, (6) farmers, no employer and (7) others (De Moortel & Vanroelen, 2017) – this classification is further discussed in the methods section.

The second approach is of a subjective nature, and attaches the definition of self-employment to the discourse of the “entrepreneurial self” (Peters, 2001). According to entrepreneurial discourse, key characteristics of an ideal and successful “entrepreneur” are creativity, willingness to take risks, innovativeness, high intrinsic motivation, skilfulness and the ability of recognising opportunities (Anderson & Warren, 2011; Gartner, 1990; Hendry, 2004). According to this discourse, the self-employed person is projected as a hero and seen as the engine of society (Laermans, De Cauter, & Vanhaesebrouck, 2016). The characteristics of the self-employed are even something to aspire to for everyone (Anderson & Warren, 2011). So, from this subjective perspective, “real self-employed” are those people disposing of the attributes associated with the entrepreneurial self (Anderson & Warren, 2011). According to critics, pursuing the entrepreneurial characteristics traps people in a new highly ideological ideal of neoliberalism (Boltanski & Chiapello, 2005), of which it can be questioned to what extent even “real self-employed” actually meet up to. It can certainly be assumed, that different types of self-employed meet up to the ideal of the entrepreneur to different extents. Therefore, in this study we will test whether these characteristics embedded in the entrepreneurial discourse are able to explain mental well-being differences between types of self-employed.

### 1.2. The mental well-being of self-employed

If entrepreneurial characteristics are a recipe for a successful life, it is logical to assume that the self-employed should experience positive individual consequences from their work, since it can be assumed that they have high amounts of entrepreneurial characteristics. This assumption is supported with some empirical evidence, showing that self-employed experience more autonomy, self-determination and freedom in their job (Nordenmark et al., 2012; Stephan & Roesler, 2010). In general, self-employed appear to be more motivated and engaged with their work (Dijkhuizen, Gorgievski, van Veldhoven & Schalk, 2016), which could be the reason for findings of higher job satisfaction (Binder & Coad, 2013; Meager, 2015), life satisfaction (Andersson, 2008) and mental well-being (Crum & Chen, 2015; Stephan & Roesler, 2010), compared to other groups of workers.

Other studies however, show that better health status of self-

employed is largely due to selection effects of healthy people into self-employment, while engaging in self-employment itself is not particularly beneficial for health (Rietveld, Van Kippersluis, & Thurik, 2015). High economic insecurity (Annink, Gorgievski, & Den Dulk, 2016), low support (Syrett, 2016), high workloads and long working hours (Hyytinen & Ruuskanen, 2007; Nordenmark et al., 2012) may have negative consequences for the mental well-being of self-employed. A too strong work-commitment may also lead to insufficient effort into other domains of life, affecting mental well-being negatively (Binder & Coad, 2013).

Of course, general comparisons of the self-employed versus other types of workers are highly misleading. Research into differences in mental health and their determinants among self-employed is crucial in order to get a deeper understanding of the work-related drivers of their mental well-being (Dijkhuizen et al., 2016). Some evidence exists regarding differences in mental well-being between categories of self-employed. One of the more problematic groups in terms of working conditions and mental well-being are freelancers, also called contractors or independent professionals, who have a tendency towards work over-commitment (Syrett, 2016) and the related phenomenon of Effort-Reward-Imbalance (Ertel, Pech, Ullsperger, Von Dem Knesebeck & Siegrist, 2005). Often freelancers also experience low autonomy, economic dependence and financial hardship (Böheim & Mühlberger, 2006). Also, self-employed farmers are often considered as a group with more mental health issues. They are having the highest suicide rate before any other occupational group in the UK (Gregoire, 2002; Hounsome, Edwards, Hounsome & Edwards-Jones, 2012). Farmers often have unpredictable and long working hours, experience financial insecurity, and lack basic social contact and social support (Gregoire, 2002). Another group that has been investigated separately are small-to-medium enterprise owners or managers (SME managers). Cocker, Martin, Scott, Venn, and Sanderson (2013) found that around one third of the SME-managers mentioned feelings of serious psychological stress. Shepherd, Marchisio, Morrish, Deacon, and Miles (2010) relate burnout in this population to role conflicts and role overloads. In contrast, larger business owners and those in the liberal professions appear to experience more beneficial work characteristics. Those groups appear to have fluent access to financial support, information, and social contact with people of the same occupational status (Sorgner & Fritsch, 2013). Larger business owners have often been self-employed for a large period of time, which results in more experience and a more stable business and workforce (Bradley & Roberts, 2004).

**Hypothesis 1.** Farmers, freelancers, and small business owners have worse mental well-being, compared to medium-to-large employers and liberal professions.

It can be assumed that differences in mental well-being between groups of self-employed partly relate to the different work quality they are exposed to. Certainly, in those cases where “reality” does not meet the standards set out by the entrepreneurial discourse, harmful psychosocial consequences might be expected. In such cases, the entrepreneurship discourse may turn into a trap: it may lead the self-employed person to feel obliged to commit to the life projected in the discourse also when this life is unattainable and uncertain (Boltanski & Chiapello, 2005). In other words, one could argue that those self-employed who are lacking the above described characteristics central to “ideal typical entrepreneur”, find themselves in a situation of “role inconsistency”, which could be harmful for mental health (Mirowsky & Ross, 1986).

**Hypothesis 2.** (a) A lack of entrepreneurial characteristics is related to lower mental well-being scores; and (b) entrepreneurial characteristics mediate the relationship between types of self-employed and mental well-being.

**Table 1**  
Description of the population studied (N) and their average score (and standard deviation) on poor mental well-being. (Self-employed, EWCS 2015, EU 28).

	Overall (Mean)	*** (N)	(Std. Deviation)
Other	1.81	256	1.09
Liberal profession	1.48	360	0.92
Farmer: no employer	1.67	540	1.09
Dependent own account worker & freelancer	1.57	951	1.08
Independent own account worker & freelancer	1.52	2001	1.02
Manager: small employer	1.52	1035	1.01
Manager: medium to big employer	1.36	305	0.92
<b>Total</b>	<b>1.54</b>	<b>5448</b>	<b>1.03</b>
<b>Solving unforeseen problems <sup>a</sup></b>		***	
Yes	1.52	4874	1.02
No	1.72	574	1.10
<b>Total</b>	<b>1.54</b>	<b>5448</b>	<b>1.03</b>
<b>Learning new things <sup>b</sup></b>		***	
Yes	1.47	3851	0.99
No	1.72	1597	1.08
<b>Total</b>	<b>1.54</b>	<b>5448</b>	<b>1.03</b>
<b>Skills in your own work <sup>c</sup></b>		***	
Underskilled	1.38	598	0.92
Corresponding skills	1.64	3128	1.01
Overskilled	1.41	1722	1.07
<b>Total</b>	<b>1.54</b>	<b>5448</b>	<b>1.03</b>
<b>Country</b>		***	
Belgium	1.53	341	1.10
Bulgaria	1.42	166	1.00
Czech Republic	1.22	148	0.70
Denmark	1.09	62	0.81
Germany	1.38	231	0.92
Estonia	1.68	104	0.93
Greece	1.78	353	0.96
Spain	1.37	577	1.06
France	1.66	131	1.17
Ireland	1.29	222	0.92
Italy	1.73	382	0.92
Cyprus	1.70	181	0.84
Latvia	1.49	131	1.04
Lithuania	1.74	131	1.01
Luxembourg	1.47	103	1.18
Hungary	1.36	148	0.94
Malta	1.51	123	1.01
Netherlands	1.20	160	0.85
Austria	1.31	147	0.88
Poland	1.90	148	1.14
Portugal	1.65	286	0.97
Romania	1.54	187	0.92
Slovenia	1.56	203	0.98
Slovakia	1.47	104	1.00
Finland	1.42	193	0.82
Sweden	1.10	75	0.84
United Kingdom	1.67	251	1.12
Croatia	1.81	160	1.13
<b>Total</b>	<b>1.54</b>	<b>5448</b>	<b>1.03</b>
<b>Not finding it hard to be self-employed <sup>d</sup></b>	Pearson Cor.	***	
	-0.230	5448	1.30
<b>Poor motivation <sup>e</sup></b>	Pearson Cor.	***	
	0.490	5448	0.85
<b>Inability to recognize opportunity <sup>f</sup></b>	Pearson Cor.	***	
	0.207	5448	1.02

\*\*\* p. ≤ 0.001; \*\* p. ≤ 0.01; \* p. ≤ 0.05

All mean; Pearson Cor. and std. deviation values are weighted by w5\_EU28, all N cases are unweighted; a – Q53c “... main paid job involve solving unforeseen problems on your own?”; b – Q53f “...main paid job involve learning new things?”; c – Q64 “Describe your skills in your own work – {1 – I need further training to cope well with my duties, 2 – My present skills correspond well with my duties, 3 – I have the skills to cope with more demanding duties}; d – Q91d “I find it hard bearing the responsibility of running my business” {1 – Strongly agree, 5 – Strongly disagree}; e – Poor motivation {5 – poor motivation, 0 – high motivation}; f – Recognizing opportunities {5 – inability to recognize opportunities, 0 - ability to recognize opportunities}

### 1.3. The entrepreneurial climate

The experiences of self-employment are also shaped by the entrepreneurial climate of a country, including legal, institutional and cultural factors (Audretsch & Keilbach, 2004). Spiegel (2017) speaks of “entrepreneurial ecosystems”. These ecosystems are sets of conditions in the cultural, social and material context that co-determine the conditions under which self-employed have to operate. For example, Syrett (2016) mentions that many freelancers have the feeling of not being treated correctly by their government, having for instance, a lack of social security arrangements. This is but one example of how the life of self-employed may be influenced by the surrounding context of their businesses (Aldrich, 1992). Shane (2003) hereby adds the importance of the socio-cultural context, as presented by the position and prestige in society of self-employed. Research on macro-determinants in relation to the mental well-being of self-employed is scarce (Helliwell, 2003). In this paper, we will study the well-being effects of the cultural, social and material environment for the self-employed, using country-level indicators.

**Hypothesis 3. (a)** There exists country variation in the mental well-being of self-employed; and **(b)** this variation can partly be explained by proxy-determinants representing a country’s entrepreneurial ecosystem.

## 2. Methods

### 2.1. Data

Data from the sixth wave (2015) of the EWCS were used. Detailed information on the population, sample and selection can be found in the technical report of the 6<sup>th</sup> wave of the EWCS (Eurofound, 2016). All respondents were residents of the country of interview and were aged 15 or more, except for Bulgaria, Spain and the UK, where respondents were included from the age of 16. Although, the EWCS targets all people who performed at least one hour of paid work in the week before the interview, in the current study only self-employed persons were included. The countries that were included in our research were the EU28 member states (Eurofound, 2016). This resulted in a total unweighted sample of 5448 respondents. The country with the least amount of cases was Denmark (62 cases), while Spain had the highest amount of cases (577 cases). The overall mean age was around 49 years old, with the youngest respondent being 15 and the oldest respondent being 87 years old. Of this sample 39.2 percent was female.

### 2.2. Measures

#### 2.2.1. Individual level

*Mental well-being* was operationalized by the World Health Organisation’s WHO-5 Well-being index (Psychiatric Center North Zealand, 2017). A 0–5 ranged sum scale was created out of five items each consisting of a 6-point Likert scale (ranging from “All of the time” to “At no time”): “I have felt cheerful and in good spirits”; “... calm and relaxed”; “... active and vigorous”; “I woke up feeling fresh and rested”; and “My daily life has been filled with things that interest me” ( $\alpha$  0.882). High scores (5) represented poor mental well-being.

*Self-employment type* was constructed through combining three dimensions: self-perceived status in employment (“manager”, “farmer”, “freelancer or subcontractor”, “liberal professions”, “other”), magnitude of economic activity (“large or medium sized business owners” with > 8 employees, “small employers” having 1–8 employees, “no employees”) and economic independency (“very dependent”, “dependent”, “independent”). This indicator emerged from a EUROFO-UND-study (De Moortel & Vanroelen, 2017). The final types of self-employed were: manager (medium to big employer); manager (small employer); independent freelancers; dependent freelancers; farmers;

**Table 2** Distribution of entrepreneurial characteristics among the different types of self-employed (percentages and means) (EWCS, 2015, EU 28).

	*** Solving unforeseen problems a (% Yes)	*** Learning new things b (% Yes)	*** Overskilled c (%)	*** Underskilled d (%)	*** Poor motivation e (M)	*** Inability to recognize opportunity f (M)	*** Not finding it hard to be self-employed g (M)	*** Age (M)	*** Sex (% Male)
Other	79.00	48.00	38.30	6.50	1.43	1.37	3.43	48.57	47.00
Liberal profession	97.10	91.20	27.80	27.20	1.06	0.67	3.68	48.14	55.70
Farmer: no employer	89.30	53.50	23.40	6.70	1.34	0.81	3.43	52.22	60.30
Dependent own account worker & freelancer	84.40	64.50	36.60	7.00	1.31	1.15	3.50	47.56	62.30
Independent own account worker & freelancer	92.10	76.40	32.80	11.70	1.15	0.75	3.63	46.32	60.70
Manager: small employer	95.10	75.30	31.00	10.20	1.04	0.46	3.47	47.56	70.10
Manager: medium to big employer	97.00	84.60	28.30	17.30	0.99	0.41	3.65	47.04	74.70
<b>Total</b>	<b>91.30</b>	<b>72.70</b>	<b>32.00</b>	<b>11.50</b>	<b>1.17</b>	<b>0.77</b>	<b>3.56</b>	<b>47.49</b>	<b>62.50</b>

\*\*\* p. ≤ 0.001; \*\* p. ≤ 0.01; \* p. ≤ 0.05

Notes: Cases weight by w5 EU28 (all countries); a – Q53c “... main paid job involve solving unforeseen problems on your own?”; b – Q53f “... main paid job involve learning new things?”; c – Q64 “Describe your skills in your own work – I need further training to cope well with my duties”; d – Q64 “Describe your skills in your own work – I have the skills to cope with more demanding duties”; e – motivation indicator on a scale of five points, five points representing a low motivation, and zero points representing high motivation; f – recognizing opportunities indicator on a scale of five points, five points representing a low ability to recognize opportunities, and zero points representing a high ability to recognize opportunities; g – Q91d “I find it hard bearing the responsibility of running my business” {1 – Strongly agree, 5 – Strongly disagree}

**Table 3** Relation between poor mental well-being and types of self-employment, entrepreneurial characteristics, and country-level characteristics (EWCS 2015, EU 28).

	M0 (Intercept only)		M1 (Bivariate models)		M2 (Controls)		M3 (M2 + Type)		M4 (M3 + Individual Level)		M5 (M4 + Country Level)				
	(B)	CI	Intercept	(B)	CI	(B)	CI	(B)	CI	(B)	CI	(B)	CI		
<b>Fixed parts</b> (Intercept)	1.50	1.43 - 1.58	.000	1.31	1.18 - 1.44	.000	1.25	1.09 - 1.42	1.04	0.86 - 1.22	.000	1.04	0.87 - 1.22	.000	
<b>Controls</b>															
Sex (Reference = Female)			1.56	-0.09	-0.14 - -0.03	.002	-0.09	-0.13 - -0.03	.001	-0.08	-0.13 - -0.03	.004	-0.07	-0.12 - -0.02	.003
Age			1.26	0.01	0.00 - 0.01	.000	0.01	0.00 - 0.01	.000	0.00	0.00 - 0.01	.000	0.00	0.00 - 0.01	.000
<b>Type of self-employment</b> Reference = Manager: Medium-big employer Other			1.40	0.26	0.09 - 0.42	.002	0.21	0.05 - 0.38	.011	-0.02	-0.16 - 0.12	.806	-0.02	-0.16 - 0.12	.801
Liberal profession				0.04	-0.11 - 0.19	.595	0.01	-0.14 - 0.16	.854	-0.04	-0.17 - 0.08	.495	-0.05	-0.18 - 0.08	.476
Farmer: no employer				0.23	0.09 - 0.37	.002	0.18	0.04 - 0.32	.013	-0.08	-0.21 - 0.04	.174	-0.09	-0.21 - 0.03	.159
Dependent own account worker & freelancer				0.17	0.05 - 0.30	.007	0.15	0.02 - 0.28	.022	-0.10	-0.21 - 0.01	.064	-0.11	-0.22 - 0.00	.059
Independent own account worker & freelancer				0.09	-0.03 - 0.21	.147	0.07	-0.05 - 0.19	.233	-0.04	-0.14 - 0.06	.465	-0.04	-0.14 - 0.06	.447
Manager: small employer				0.03	-0.10 - 0.15	.654	0.02	-0.10 - 0.15	.727	-0.05	-0.15 - 0.06	.401	-0.05	-0.15 - 0.06	.386
<b>Individual level</b>															
Solving unforeseen problems <sup>a</sup>			1.69	-0.21	-0.29 - -0.12	.000	0.03	-0.05 - 0.10	.511	0.02	-0.05 - 0.10	.528	0.02	-0.05 - 0.10	.528
Learning new things <sup>b</sup>			1.64	-0.19	-0.25 - -0.13	.000	0.04	-0.01 - 0.10	.134	0.04	-0.01 - 0.10	.109	0.04	-0.01 - 0.10	.109
Poor motivation <sup>c</sup>			0.84	0.61	0.58 - 0.64	.000	0.56	0.53 - 0.59	.000	0.56	0.53 - 0.59	.000	0.56	0.53 - 0.59	.000
Underskilled <sup>d</sup> (Reference = overskilled/skilled)			1.51	-0.05	-0.14 - 0.03	.222	-0.02	-0.10 - 0.05	.589	-0.02	-0.10 - 0.05	.589	-0.02	-0.09 - 0.06	.604
Overskilled <sup>e</sup> (Reference = underskilled/skilled)			1.54	-0.11	-0.16 - -0.05	.000	-0.03	-0.08 - 0.02	.182	-0.03	-0.08 - 0.02	.177	-0.03	-0.08 - 0.02	.177
Inability to recognize opportunity <sup>f</sup>			1.34	0.21	0.18 - 0.23	.000	0.07	0.05 - 0.09	.000	0.07	0.05 - 0.09	.000	0.07	0.05 - 0.09	.000
Not finding it hard to be self-employed <sup>g</sup>			2.10	-0.17	-0.19 - -0.15	.000	-0.09	-0.11 - -0.08	.000	-0.09	-0.11 - -0.08	.000	-0.09	-0.11 - -0.07	.000
<b>Country level</b>															
GDP Per Capita (Z-score)			1.50	-0.06	-0.10 - -0.02	.007	0.02	-0.02 - 0.06	.265	0.02	-0.02 - 0.06	.265	0.02	-0.02 - 0.06	.265
Positive Entrepreneurship Perception (Z-score)			1.52	-0.09	-0.13 - -0.04	.000	-0.05	-0.10 - 0.00	.039	-0.05	-0.10 - 0.00	.039	-0.05	-0.10 - 0.00	.039
Enterprise Birth Rate (Z-score)			1.50	0.04	-0.01 - 0.10	.103	0.01	-0.03 - 0.05	.586	0.01	-0.03 - 0.05	.586	0.01	-0.03 - 0.05	.586

(continued on next page)

Table 3 (continued)

	M0 (Intercept only)		M1 (Bivariate models)		M2 (Controls)		M3 (M2 + Type)		M4 (M3 + Individual Level)		M5 (M4 + Country Level)	
	(B)	CI	p (sig.)	Inter-cept	(B)	CI	p (sig.)	(B)	CI	(B)	CI	p (sig.)
<b>Random parts</b>												
Variance individual level	0.96 (.000)				0.95 (.000)			0.95 (.000)		0.69 (.000)		0.69 (.000)
Variance country level	0.03 (.002)				0.03 (.002)			0.03 (.002)		0.02 (.004)		0.01 (.005)
ICC	0.034				0.031			0.023		0.023		0.019
-2LL	15,282.47				15,249.06			15,228.69		13,471.25		13,466.06

**Bold** values are statistically significant ( $p \leq 0.05$ ); Values in brackets are *p* values; (B) values are estimates; a – Q53c “... main paid job involve solving unforeseen problems on your own?”; b – Q53f “... main paid job involve learning new things?”; c – Motivation indicator {5 – poor motivation, 0 – high motivation}; d – Q64 “Describe your skills in your own work – I need further training to cope well with my duties”; e – Q64 “I have the skills to cope with more demanding duties”; f – Recognizing opportunities indicator {5 – inability to recognize opportunities, 0 – ability to recognize opportunities}; g – Q91d “I find it hard bearing the responsibility of running my business” {1 – agree, 5 – disagree}

liberal professions; and “other” (includes cases that were impossible to classify according to the above-mentioned criteria) – see Table 1. In two of the countries, Czech Republic and Germany, there were no respondents who corresponded to the farmer category.

*Entrepreneurial characteristics* were conceptualised using six proxies. Creativity, was operationalized based on the statement: “Generally, does your main paid job involve... Solving unforeseen problems on your own?” (yes or no). Innovativeness was operationalized based on the item: “Generally, does your main paid job involve... Learning new things?” (yes or no). Motivation, was composed of three items: “At my work I feel full of energy”; “I am enthusiastic about my job”; and “Time flies when I am working”. The resulting sum scale ( $\alpha$  0.727) was recoded on a 0–5-range, with 5 representing the highest level of poor motivation. Whether skills match between available and required skills was based on the item: “Which of the following statements would best describe your skills in your own work?”. Respondents indicating: “I need further training to cope well with my duties”, were classified as “underskilled”, those indicating “I have the skills to cope with more demanding duties”, were classified as “overskilled”. Those indicating that their skills correspond well with their duties were used as the reference category. Recognising opportunities, was composed out of two items: “...involved in improving the work organization or work processes of your department or organization”; “...able to apply your own ideas in your work”. The resulting sum scale ( $\alpha$  0.707) was recoded on a 0–5-range, with a score of 5 representing a poor ability to recognize opportunities. Being risk-taking, was based on the following item: “... I find it hard bearing the responsibility of running my business”. Respondents could reply with a 5-point Likert scale ranging from “strongly agree” (1) to “strongly disagree” (5). These six proxy-indicators had low mutual correlations (all below 0.3).

Sex and age (continuous) were included as control variables.

### 2.2.2. Country level

*GDP per capita* represented the general economic context and originated from the Eurostat-indicator “gross domestic product at market prices (Euro per capita – Current prices)” for 2015 (Eurostat, 2017b). The original maximum value for this variable was 89,900 (Luxembourg), and the minimum value was 6300 (Bulgaria).

The *enterprise birth rate* was considered a proxy for the economic entrepreneurship climate (Eurostat, 2017a) and was described as the number of enterprise births in the reference period of 2014 (latest available year), divided by the number of enterprises active in 2014 (Eurostat, 2017a). The original maximum value of the indicator was 24.50 (Lithuania), the lowest value was 4.37 (Belgium). Since no data was available for Greece, the Greek cases were given the mean value of the other countries.

*Entrepreneurship perception* represented the broader socio-cultural climate regarding self-employment. This variable was based on indicators from the Flash Eurobarometer 354: “Entrepreneurs create new products and services that benefit us all”; “Entrepreneurs only think about their own pockets”; “Entrepreneurs are job creators”; “Entrepreneurs take advantage of other people’s work” (agree/disagree) (TNS Opinion & Social, 2012). The questions were recoded to make sure that for each item a high score meant a positive perception. The country-level aggregated mean had an original maximum value of 3.33 (Denmark) and a minimum value of 2.54 (Croatia). All original values were standardized to z-scores in the multilevel models.

### 2.3. Analyses

To deal with drop-out of cases, we have imputed missing data through an Expectation-Maximization Algorithm (E-M) (McLachlan & Krishnan, 1997) for the following indicators: the inability to recognize opportunities (N missing: 1325) and not finding it hard to be self-employed (N missing: 597).

In a first step, descriptive analyses related the independent and control variables to mental well-being. This was done for all countries

separately (results not shown) and for the overall sample (Tables 1 and 2). Then, multilevel random intercepts modelling was applied. Applying this technique was justified by the hierarchical nature of the data (Luke, 2004), and the research objectives regarding the investigation of country-level characteristics affecting mental well-being of self-employed. A significant *intraclass correlation coefficient* (ICC) supported using multilevel modelling. The multivariate models were subsequently expanded in line with our research objectives: an intercepts-only model (M0); bivariate models (M1); a control variables model (M2); a model adding the types of self-employment (M3); a model adding entrepreneurial characteristics (M4); and a model with country-level variables (M5).

### 3. Results

#### 3.1. Determinants of mental well-being

Table 1 provides overall descriptive statistics on mental well-being for each type of self-employed and for the entrepreneurial characteristics. The average score of the mental well-being index in our sample is 1.54.

For the different types of self-employed, the highest mental well-being ( $M=1.36$ ) is found in managers (medium to big employers), while farmers have the poorest average mental well-being (1.67).

Self-employed people who solve unforeseen problems (1.52), have better mental well-being than those who do not (1.72). The same can be said about learning new things (1.47), compared to those stating not to learn new things (1.72). On average, self-employed who are under-skilled (1.38), and those who are over-skilled (1.41), are in a better mental well-being than those who believe their skills correspond well with their duties (1.64). Not finding it hard to be self-employed is negatively correlated to poor mental well-being (-0.23). Poor motivation and inability to recognize opportunities are positively correlated to poor mental well-being (0.49 and 0.21). Each of the descriptive associations mentioned in this section is significant at the level  $p=0.05$ .

#### 3.2. The relationship between types of self-employment and entrepreneurial characteristics

The medium to big employers less frequently report a lack of entrepreneurial characteristics (see Table 2). They also tend to find it easy to be self-employed. The group of liberal professions less frequently lacks entrepreneurial characteristics (solving unforeseen problems, learning new things and being motivated). Few of the people in liberal professions feel over-skilled, while 27.2% feel under-skilled. Dependent freelancers, on average, more often report a lack of entrepreneurial characteristics (less frequently solving unforeseen problems, not learning new things, poor motivation and not being able to recognize opportunities). Similar to the liberal professions, they also tend to feel under-skilled. In contrast, the dependent freelancers have one of the highest percentages of being over-skilled. Farmers also tend to report a lack of entrepreneurial characteristics (not learning new things, poor motivation, finding it hard to be self-employed), but they less frequently feel under- or over-skilled, compared to other types of self-employed. Small employers are on average more motivated, and are generally more often able to solve unforeseen problems or recognize opportunities. However, they more often find it hard bearing the responsibility of running their own business. Independent freelancers appear to occupy an intermediate position. For a number of indicators, their scores are close to the overall mean: solving unforeseen problems, being over-skilled and under-skilled, poor motivation and not being able to recognize opportunities. In contrast, the proportion of independent freelancers indicating to learn new things in their job is slightly higher than average.

#### 3.3. Entrepreneurial well-being explained: Type of self-employment, entrepreneurial characteristics and entrepreneurial ecosystems

In Table 3, the results of the multilevel models are shown. The intercepts only model (M0) shows that the estimated poor mental well-being score, over all individuals of all countries is 1.50 ( $p = 0.000$ ). The ICC expresses that a significant part of 3.4% of the variance in poor mental well-being between individuals is due to country-level characteristics. The bivariate models (M1) show that most of the effects of individual-level entrepreneurial characteristics are statistically significant, except for being under-skilled.

The effects of the control variables (model 2), sex and age, are significant. A self-employed man has better mental well-being than a self-employed woman. Moreover, there is a small positive association between age and mental well-being.

Model 3 looks at the effects of the different types of self-employment, controlled for sex and age. Compared to medium and big employers, farmers and dependent freelancers have a significantly higher score for poor mental well-being. The other self-employment types are not significantly different from the reference category.

In model 4 the indicators representing entrepreneurial characteristics are added simultaneously. After controlling for all entrepreneurial characteristics, gender and age, the positive effect of poor motivation, the positive effect of the inability to recognize opportunities, and the negative effect of not finding it hard to be self-employed remain. Model 4 also shows that by adding the indicators of entrepreneurial characteristics to the model, the effects of self-employment type, that were statistically significant in the previous model, lose significance. These results suggest that the differences between self-employment types observed in earlier models, can be explained by the presence or absence of entrepreneurial characteristics. Especially poor motivation seems to be an important explanatory factor for poor mental well-being.

Comparing model 3 and 4, a decrease in the ICC is observed. In model 3, 3.1% of the variance in poor mental well-being between individuals is due to variables on the country level, this drops towards 2.3% in model 4. Individual differences thus partly explain the aggregate effects. Likelihood-ratio tests show that all nested models, from M0 to M4, have a higher explanatory value than their preceding model.

Adding the country level variables in model 5, shows a significant effect of entrepreneurship perception: respondents from countries where the perception about self-employed is more positive than average, also have on average better mental well-being scores ( $\beta -0.05 - C.I. -0.10; 0.00$ ). No effects are seen for GDP per capita and enterprise birth rate. The ICC decreases with 17% because of adding these three country-level effects to the model. However, adding the country-level indicators causes little changes to the individual level indicators. A likelihood-ratio test shows that adding only entrepreneurship perception to M4 improves the explanatory value of the model (results not shown).

### 4. Discussion

Our study has three main findings: 1) farmers and dependent freelancers and own account workers have worse mental well-being than medium to big employers; 2) entrepreneurial characteristics are able to explain mental well-being differences between types of self-employed and 3) country-level perception of entrepreneurs influences their mental well-being.

Previous research on differences in mental well-being across types of entrepreneurs is scarce. Our study generally confirms the findings from these few studies, but goes a step further by suggesting explanations for these findings.

We found that farmers and dependent freelancers have worse mental well-being when compared to medium to big employers. This is partly in line with our Hypothesis 1 and the findings in the literature (Gregoire, 2002; Hounsome et al., 2012; Syrett, 2016). The average

mental well-being of self-employed is slightly higher compared to that of European employees. Using the same measure of mental well-being, De Moortel, Thévenon, De Witte, and Vanroelen (2017) found an average score of 3.3 for men and 3.6 for women on a ten-point scale for poor mental well-being in European employees (we found an average of 1.5 on a five-point scale in our study). So, while self-employed generally have higher scores, being a farmer or a dependent freelancer lowers the mental well-being to a level comparable to employees.

Drawing on the idea that entrepreneurship constitutes a type of discourse (i.e. an evaluation framework casting the entrepreneur as a hero and engine of society (Laermans et al., 2016)), we examined the distribution of entrepreneurial characteristics across types of self-employed. These entrepreneurial characteristics were: being creative, risk-taking, innovative, motivated, skilful, and able to recognize opportunities (Gartner, 1990; Hendry, 2004). Our study showed that these “ideal” entrepreneurial characteristics are mostly found among medium to big employers, while less among farmers, and the dependent freelancers.

The absence of some of these entrepreneurial characteristics is positively related to poor mental well-being in self-employed. This holds for poor motivation and being unable to recognize opportunities. The results have also shown that feeling at ease with self-employment, makes it more likely to have a better mental well-being. Another characteristic that is part of the entrepreneurial discourse was being skilful (Gartner, 1990; Hendry, 2004). Being overskilled decreased the poor mental well-being score. Probably workers who are overskilled have more abilities to keep “things in control”. However, being over-skilled lost significance when controlled for other entrepreneurial characteristics.

As these results show, Hypothesis 2a can be partially confirmed, disposing over entrepreneurial characteristics seems to be crucial for the mental well-being of self-employed. One can assume that the absence of such characteristics puts self-employed in a position of being “entrepreneur only in name, but not in reality”. Such failure to meet up to the entrepreneurial ideal could negatively influence mental well-being.

Confirming Hypothesis 2b, the relationship between poor mental well-being and self-employment types disappears when accounting for entrepreneurial characteristics. Particularly motivation, the ability to recognize opportunity and finding it easy to be self-employed seem to have influence on poor mental well-being differences between types of self-employed. Lacking these entrepreneurial characteristics seems to be typical for “necessity entrepreneurship” – i.e. becoming self-employed as an escape from economic misery even when the conditions for self-employment are sub-optimal (Binder & Coad, 2013; Warnecke, 2013). This scenario might be more applicable for dependent self-employed than for farmers. Farmers’ mental well-being might be more vulnerable because of their long working hours, financial insecurity, geographical and social isolation (Gregoire, 2002). In contrast, for “opportunity entrepreneurs”, becoming self-employed is a voluntary choice in light of the perspective of better earnings and/or more interesting work, compared to (remain) working as an employee. Such a position could explain better (mental) well-being (Binder & Coad, 2013; Warnecke, 2013).

Dependent freelancers and farmers stand out as the least favourable statuses in self-employment, when considering mental well-being. As discussed earlier, at least part of this association can be attributed to entrepreneurial characteristics. However, it should be clear that these groups are also over-proportionally composed of lower educated and are, on average, more exposed to low incomes. Additional analyses have shown that this is also the case in our data. Controlling for SES clearly diminishes differences in mental well-being between types of self-employment (results not shown). This finding opens an interesting discussion on the patterns of causality between SES, working conditions, poverty, and health. But also puts into sharp relief considerations on equity: Is it “just” that the lower educated are over-exposed to sub-

optimal occupational conditions, negatively affecting their (mental) health? These considerations made us decide not to control our results for SES-factors, since this would rather disguise than clarify the dynamics affecting the mental well-being of self-employed.

According to the theory of entrepreneurial ecosystems, three domains of context could influence mental well-being: the cultural, social or material attributes of a society (Spigel, 2017). Our study revealed that country variation in the mental well-being of self-employed does exist (confirming Hypothesis 3a), although only the socio-cultural entrepreneurship component is significantly related to mental well-being in self-employed (partially confirming Hypothesis 3b), while the material indicators were not. In societies where people on average think more positively about self-employment, the mental well-being of the latter group appears to be better. The influence of this particular macro-variable might be explained by the developments in Western countries concerning the amount of start-up enterprises. Lohmann, Luber, and Müller (1999) explain that an increase in the amount of enterprises is either put in motion by an increased demand for specific services by individuals, usually in times of economic prosperity (“prosperity pull”), or by exceptional high numbers of unemployment (“unemployment push”). In the former case, when enterprises are very customer-based, entrepreneurs might be more appreciated by the general public. In the latter case however, the average perception on entrepreneurs and businesses might not be as positive. A majority of people in the EU agreed with positive statements (*entrepreneurs are job creators & entrepreneurs create new products that benefit us all*) about entrepreneurs and somewhat disagreed with negative statements (*entrepreneurs take advantage of other people’s work & entrepreneurs only think about their own pockets*) about entrepreneurs (TNS Opinion & Social, 2012). These statements, combined as positive entrepreneurship perception, were negatively correlated with poor mental well-being. However, in some countries mental well-being of self-employed and entrepreneurship perception scores are lower, while at the same time higher unemployment rates exist (Croatia: 13.3%; Cyprus: 13%; Greece: 23.6%) (Eurostat, 2017c). These countries correspond to the unemployment push-scenario. Other countries (Denmark: 6.2%; Germany: 4.1%; Sweden: 6.9%) (Eurostat, 2017c) show an opposite pattern and thus rather conform the prosperity pull-scenario.

#### 4.1. Strengths and limitations

A limitation of this research is the difficulty in categorising the heterogeneous group of self-employed. The method used for this research was deemed suitable, however it is noteworthy that other methods could have been used as well. One of the groups resulting from the classification that felt problematic is the “other” group. This group often showed clear relations with mental well-being and some of the entrepreneurial characteristics, but the heterogeneous composition of the group made it difficult to draw conclusions. Another possible source of bias was the lack of information for Greece with regard to the enterprise birth rate. Therefore, the enterprise birth rate for Greece was equalised to the centred mean (zero). A sensitivity analysis leaving out Greece demonstrated that attributing such a fictitious value to Greece did not affect the results for the other countries. Moreover, at the individual level “entrepreneurial characteristics” are presented by proxy-indicators based on the information available in the EWCS. Probably entrepreneurial characteristics can be more accurately approached when using a purposefully developed scale instead of secondary data. We nevertheless believe that the entrepreneurial discourse offered us a good theoretical guideline to choose between the available indicators of work quality in the EWCS. In addition, although unable to reproduce the entrepreneurial characteristics in their accurate theoretical meaning, the EWCS is by far the most suitable existing dataset for the objectives of our research. The indicators included show clear relations with mental well-being and some of them have shown to be important for employees too (Dill, Erickson, & Diefendorff, 2016; Mirowsky,



2011). Finally, it should be acknowledged that our study uses cross-sectional data, which implies that no strong claims on causality can be made.

Nevertheless, we believe that this paper moves research on work-related mental well-being of self-employed from the descriptive to the explanatory level. We have incorporated explanatory factors with a clear relation to a theoretical framework. This offered us the possibility to study and explain diversity among the self-employed in terms of their mental well-being, nuancing the polarised views on self-employment as a “rosy success story” (Blanchflower 2004; Laermans et al. 2016) or as a “source of precarious work” (Blanchflower, 2004). The multilevel analytical perspective could demonstrate country-level variation in the mental well-being of self-employed. The findings on the country level offer empirical support to the on-going debate on international differences in self-employment.

#### 4.2. Recommendations for future policy and research

Multiple types of self-employed, with different characteristics exist. These distinctions show that self-employment is not always associated with good mental well-being and that it may not be the most suitable choice for everyone (Blanchflower, 2004). More specifically, policymakers should be aware of the fact that encouraging self-employment as an escape from unemployment may negatively affect mental well-being of those involved. Other activation methods might be more appropriate for some (Blanchflower, 2004). Our findings reflect the relevance of making a distinction between necessity and opportunity entrepreneurship (Binder & Coad, 2013; Warnecke, 2013), where only opportunity entrepreneurship seems to be the desirable option for policymakers to support. From a mental health perspective, there is little evidence that becoming self-employed out of necessity is beneficial. In contrast, self-employed with the motivation and spirit to be self-employed could experience personal growth and success (Binder & Coad, 2013). Another suggestion for future policymaking is to set up campaigns to create a more positive perspective on the self-employed throughout society. It is expected that when this positive perspective increases, self-employed will also have better mental well-being.

#### 5. Conclusion

Our results show that the ideal entrepreneur, as described by Gartner (1990) and Hendry (2004), mostly corresponds to the image of the medium to big employers. These self-employed are most likely to experience the specific characteristics that are in line with the ideal-typical entrepreneurial discourse. Many farmers and dependent own account workers however, might find self-employment a trap, due to a lack of these same entrepreneurial characteristics. Such situations end up negatively affecting mental well-being (Binder & Coad, 2013).

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