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**Self-Employment and Eudaimonic Well-being: Energized by Meaning, Enabled by
Societal Legitimacy**

ABSTRACT

This study investigates *why* and *where* self-employment is related to higher levels of eudaimonic well-being. We focus on meaningfulness as an important eudaimonic process and subjective vitality as a eudaimonic well-being outcome that is central to entrepreneurs' proactivity. Building on self-determination theory, we posit that self-employment, relative to wage-employment, is a more self-determined and volitional career choice, which enhances the experience of meaningfulness at work and perceptions of work autonomy. In a multi-level study of 22,002 individuals and 16 European countries, meaningfulness at work mediates the relationship between self-employment and subjective vitality and explains this relationship better than work autonomy. We identify moderating effects of context: the societal legitimacy of entrepreneurship in a country affects the choice set of alternative career options that individuals can consider and thus shapes the experience of meaningfulness at work and work autonomy, and thereby indirectly subjective vitality. These findings expand our understanding of eudaimonic well-being, entrepreneurs' work, and the role of context in entrepreneurship and well-being research. They complement existing research on hedonic well-being of entrepreneurs and extend the scarce literature on their eudaimonic well-being.

Keywords

well-being; eudaimonic well-being, meaningfulness at work; autonomy; vitality; entrepreneurship; self-employment

JEL Codes

L26 Entrepreneurship
I310 General Welfare, Well-Being
O520: Economywide Country Studies: Europe

1. Executive summary

After working for 10 years in a well-known IT company in Finland, Jari decided to become self-employed and to develop mobile app solutions. Although he still works in the same sector, he feels much more alive and energized, because his work seems more worthwhile and meaningful. He can now make sure that his work fits with his values and makes best use of his skills, which was not always the case when he was an employee at the IT company. Nora recalls her career decision, 9 years ago. Living in a country where being self-employed is a legitimate and desirable career choice (the Netherlands), she considered whether she should start her own business, or whether she should take a job as a wage-employee? After deliberating the pro's and con's of self- and wage employment, she chose wage employment. Looking back, Nora is glad that she had that much choice in selecting her career. Because of it she also finds her work meaningful and thrives in her work.

Entrepreneurs' well-being is typically associated with high work autonomy and assessed as hedonic well-being (e.g., being satisfied with work or life) (Stephan, 2018; Wiklund et al., 2019). Self-employment has also been argued to offer great potential for eudaimonic well-being (Ryff, 2019) such as self-realization, meaning and vitality (Ryan & Deci, 2001). First studies highlight that eudaimonic well-being, more so than hedonic well-being, benefits entrepreneurs' performance, persistence, and innovativeness (e.g., Hahn et al., 2012). However, we understand surprisingly little about whether self-employment indeed offers greater potential for eudaimonia than wage employment, and why that might be. Jari's example illustrates how self-employment can entail experiencing meaningfulness at work and feeling energized.

Building on self-determination theory (Deci & Ryan, 2008), we posit that self-, relative to wage-employment, is a more self-determined career choice, which results in experiencing work as more meaningful (and offers higher work autonomy) and, in turn, leads to greater subjective vitality. Thus, our study advances insights about the nature of work-related

eudaimonic processes (meaningfulness at work (MW)) and about eudaimonic well-being outcomes (subjective vitality) in entrepreneurship. Moreover, as Nora's story shows, how strongly self- vs. wage employment is related to eudaimonic well-being may also depend on the country's normative context, which shapes individuals' ability to make truly self-determined career choices. Heeding calls for more context sensitive research (Welter, 2011), we examine the national societal legitimacy of entrepreneurship as an important boundary condition for how self- vs wage employment relate to eudaimonic processes.

In our multilevel study of 22,002 individuals in 16 European countries, the self-employed experience their work as more meaningful and report higher work autonomy as well as higher subjective vitality than wage employees. In mediation analyses, higher MW (more so than work autonomy) explains why the self-employed experience more subjective vitality than wage employees. The legitimacy of entrepreneurship among a country's population has a moderating effect: In countries where entrepreneurship is a desirable career choice, the gap in the experienced MW between self- and wage-employment is narrowed. This benefits especially wage employees; whereas the self-employed experience high MW in all contexts.

This study advances the understanding of eudaimonia in entrepreneurship and the role of context for eudaimonic well-being. It highlights meaningfulness at work as a more critical driver for entrepreneurs' well-being than autonomy, thereby complementing past research that focuses on autonomy as the main source of entrepreneurs' well-being. Our research has also practical implications. Policymakers seek to stimulate self-employment to create jobs and foster economic growth, which will be important to mitigate the effects of the Covid-19 pandemic. Our results suggest that by enhancing the societal acceptance of self-employment as a legitimate career path, policy makers not only support entrepreneurship but can also improve, the eudaimonic well-being (MW and, through that, vitality) of wage employees.

2. Introduction

The share of self-employment in the workforce is growing and currently stands at 15.54% in the European Union (OECD, 2019). Yet, the economic returns for the individual self-employed or entrepreneur¹ are often limited. The self-employed may not earn more than in wage employment (van Praag & Versloot, 2007), but they may find their work more fulfilling and may be happier (Nikolaev, Boudreaux, & Wood, 2020). This has increased researchers' interest in well-being as a benefit that individuals may derive from self-employment (Stephan, 2018; Wiklund, Nikolaev, Shir, Foo, & Bradley, 2019). Indeed, entrepreneurs often regard their well-being as a marker of their success (Wach, Stephan, & Gorgievski, 2016).

Two types of well-being can be differentiated. Eudaimonic well-being is associated with activation (energy and vitality) and focuses on self-realization and meaning (Ryan & Deci, 2001), whereas hedonic well-being² is more passive and focuses on attaining pleasure and avoiding pain (Ryan & Deci, 2001). For instance, life and job satisfaction, which reflect a sense of positive contentment with one's life and job, are frequently used measures of general and work-related hedonic well-being in entrepreneurship research (Stephan, 2018). Such research finds that entrepreneurs tend to have higher life and job satisfaction than the wage-employed (Binder & Coad, 2013, 2016) including in cross-country cross-sectional (Blanchflower, 2000; Nikolaev et al., 2020) and longitudinal studies (Hamilton, 2000). These findings are typically explained by the higher work autonomy that entrepreneurs enjoy (Stephan, 2018). In other words, their ability to independently decide how, when and with whom to work (Parker, 2014). Economists suggest that this independent way of working provides 'procedural utility' - utility from the process of work rather than its outcome - which may help explain the higher job satisfaction of the self-employed (Benz & Frey, 2004, 2008).

¹ We use an occupational definition of entrepreneurship, which includes the self-employed (see section 3.1).

² Hedonic well-being is defined as high positive, and low negative, affect and high life satisfaction (Diener, Lucas, & Oishi, 2018).

The near neglect of eudaimonic well-being in entrepreneurship research is surprising and limiting (Ryff, 2019; Stephan, 2018; Wiklund et al., 2019). It is surprising because there is much about being self-employed that should specifically increase eudaimonic well-being. From the self-determined choice to pursue such a career in the first place, to the opportunity to express one's identity through work, shape work in line with one's values, skills and needs, and the personal commitment to and legal responsibility for all work-related decisions and actions (Baron, 2010). Hence, self-employment, more than wage employment, offers unique possibilities to engage in intrinsically motivating work that allows to authentically express and realize the self. It is, thus, more meaningful to the individual and, in consequence, more energizing and vitalizing. By contrast, wage employment is the 'standard' employment choice in developed economies, requiring individuals to align with the values, goals and constraints of their employing organization. The wage-employed have fewer possibilities to make self-determined choices at work and to engage in intrinsically motivating work that expresses the self. Thereby they have less opportunity to experience work as meaningful and vitalizing.

The relative disregard of entrepreneurs' eudaimonic well-being in the literature is limiting since entrepreneurs and their performance benefit from the experience of optimal psychological functioning, feeling alive, authentic and thriving which defines eudaimonic well-being (Ryan & Deci, 2001). Key to entrepreneurial performance is proactivity and persistence in the face of uncertainty (Frese, 2009; McMullen & Shepherd, 2006), which uniquely profit from the positive energy that eudaimonic well-being provides, rather than from hedonic well-being, which is more passive (Hahn, Frese, Binnewies, & Schmitt, 2012).

Consequently, we focus in this paper on subjective vitality (positive energetic activation) as an essential indicator of eudaimonic well-being and the outcome of eudaimonic processes (Ryan & Deci, 2001; Ryan & Deci, 2008). Subjective vitality as the experience of possessing positive energy and a state of physical and mental aliveness (Ryan & Frederick,

1997) is central to understanding eudaimonic well-being (Ryan & Deci, 2008). Compared to other eudaimonic variables, such as the satisfaction of psychological needs, personal growth or environmental mastery, vitality is a more proximal and direct marker of well-being that, as an energetic state, has a physical basis. In addition to enabling proactive action (Hahn et al., 2012), vitality has been linked to health and longevity (Chida & Steptoe, 2008), creativity and performance (see Ryan & Deci, 2008 and section 3.2.).

Entrepreneurship scholars have investigated eudaimonia as a composite state of general psychological functioning that affects hedonic well-being (Nikolaev et al., 2019) or have combined measures of hedonic and eudaimonic well-being into one index (Shir, Nikolaev, & Wincent, 2018). These studies provide valuable first insights into entrepreneurs' eudaimonia. Yet, because they examine general context-free measures of psychological functioning (Nikolaev et al., 2019) and psychological needs (Shir et al., 2018) across life domains, it is still unclear to what extent being an entrepreneur is a source of eudaimonia at work, and what aspects of entrepreneurs' work may enhance eudaimonic well-being outcomes. Is it really work autonomy that past research emphasizes so much? Or is it the fact that the self-employed attribute more meaning to the work they do? And how does this relate to experienced vitality (energetic activation) as a key indicator of eudaimonic well-being (Ryan & Deci, 2008)?

Meaningfulness at work (MW)³ refers to the personal significance of work (Rosso, Dekas, & Wrzesniewski, 2010). Finding purpose in one's work and being able to answer the question "why am I here?" (Pratt & Ashforth, 2003) is an important source of eudaimonic well-being (Ryan & Deci, 2001). Related work on entrepreneurial passion (Cardon, Wincent, Singh, & Drnovsek, 2009) and calling (Lysova & Khapova, 2019) draws attention to the fact that, because for entrepreneurs work is an expression of their identity and is shaped by their values, skills and needs, entrepreneurs may be prone to experience their work as deeply meaningful,

³ We follow others (Lepisto & Pratt, 2017; Rosso et al., 2010) and use the terms meaningfulness at work (MW) and meaningful work interchangeably.

i.e., as ‘a calling’ rather than ‘just a job’. We focus on MW as an eudaimonic process that might be especially important to explain differences between self- and wage employees’ vitality, an eudaimonic outcome. Entrepreneurship research on well-being has not yet considered this central role of MW in shaping the benefit that the self-employed derive from their work. We found only one study that captured meaningfulness as a small part of a composite measure of psychological functioning and related it to hedonic well-being (Nikolaev et al., 2019).⁴

In sum, to date we have a broad understanding that entrepreneurship holds potential for eudaimonic well-being, but we have yet to ‘unpack’ what it is about entrepreneurs’ employment setting and their work that matters for eudaimonia and to differentiate eudaimonic process from eudaimonic well-being as an outcome. In line with research on well-being, outside of (Diener, Lucas & Oishi, 2018; Ryan & Frederick, 1997) and in entrepreneurship research (Hahn et al., 2012), we focus on a key work-related eudaimonic process (meaningfulness at work) that can lead to eudaimonic well-being as an outcome (vitality). Moreover, we directly compare this eudaimonic process with one that positions work autonomy, the day-to-day decision-making freedom at work, as the central driver of entrepreneurs’ well-being informed by the important role attributed to work autonomy in past research (Stephan, 2018). We thereby advance our understanding of the mechanisms that relate entrepreneurship to well-being.

Although emerging research links eudaimonia and self-employment (Hahn et al., 2012; Nikolaev et al., 2020; Shir et al., 2018), it has not yet considered possible boundary conditions of this relationship. Yet, it is theoretically and practically important to know whether self-employment is positively linked to eudaimonia in general or whether this relationship only holds in certain contexts. On the one hand, self-determination theory highlights the importance of contexts that enable individuals to make volitional choices in research on employees (Deci,

⁴In Nikolaev et al. (2019) meaningfulness in life (rather than work) was 1 of 15 items in their composite measure of psychological functioning alongside questions about resilience, competence, engagement, self-acceptance and autonomy. Two studies drew on the job characteristic model to relate entrepreneurs’ work characteristics to job satisfaction, but did *not* include measures of the meaningfulness at work (Hytti et al., 2013; Schjoedt, 2009).

Olafsen, & Ryan, 2017, for a review) and in career decision making research (Katz, Cohen, Green-Cohen, & Morsiano-Davidpur, 2018). On the other hand, a review (Stephan, 2018) pointed to the lack of consideration of context for the explanation of well-being benefits of entrepreneurship. It suggested that specific cultural norms, for example how socially accepted and legitimate entrepreneurship is, may shape the well-being benefits of entrepreneurship.

Greater cultural acceptance, or the societal legitimacy, of entrepreneurship (Kibler, Kautonen, & Fink, 2014; Stephan & Uhlaner, 2010) can expand the choice set of socially desirable career options. If entrepreneurship is seen as a desirable career, those that previously had only considered traditional wage-employment may be more likely to also consider becoming self-employed. Thus, following self-determination theory we explore if and how the societal legitimacy of entrepreneurship shapes (moderates) the relationship of self- vs. wage-employment with eudaimonia.

We explore our predictions in a multilevel study of 22,002 individuals in 16 European countries controlling for alternative explanations. We find that the self-employed experience their work as more meaningful, as having more work autonomy, and they exhibit higher eudaimonic well-being (subjective vitality) than wage employees. The experienced meaningfulness at work, rather than work autonomy, is the main mediator of the positive effect of self-employment on subjective vitality. We also identify moderating effects of country context: the legitimacy of entrepreneurs among a country's population leads the wage- and self-employed to experience their work in different ways and through this impacts their vitality.

Our study contributes to research on entrepreneurship and well-being. First, it complements existing research on entrepreneurs' well-being which has focused on hedonic well-being, has established differences in hedonic well-being between entrepreneurs and wage employees, and has identified work autonomy as a key driver of these differences (see Stephan, 2018). It responds to calls to consider entrepreneurs' eudaimonic well-being (Ryff, 2019;

Wiklund et al., 2019) by building on and extending the scarce existing research on eudaimonia and entrepreneurship. Previous research has examined context-free general eudaimonic processes and related them to measures of mainly hedonic well-being outcomes (Nikolaev et al., 2019; Shir et al., 2018). By contrast, our study provides a theoretical framework and evidence that helps to understand why and how *work-related* eudaimonia differs for entrepreneurs and wage employees. Thereby, it highlights meaningfulness at work as a hitherto overlooked benefit of entrepreneurs' work, which we find is more consequential for eudaimonic well-being (and possibly other outcomes) than work autonomy.

Second, our study advances a context-sensitive understanding of entrepreneurs' well-being. Country differences have been documented for engagement in entrepreneurship and for entrepreneurs' well-being (Amoròs & Bosma, 2014; Benz & Frey, 2008). However, research on *how* particular aspects of context may impact well-being is lacking (Stephan, 2018). We start to develop such theory by integrating insights from self-determination theory (SDT) about contexts enabling self-determined (career) choices (Deci et al., 2017; Katz et al., 2018) with research on the relevance of cultural norms and, in particular, the societal legitimacy of entrepreneurship (Kibler et al., 2014; Stephan & Uhlaner, 2010). Doing so advances the understanding about normative influences on volitional career choice through impacting the choice-set of *both*, the wage- and self-employed, as well as about the significance of volitional career choice for the subsequent experience of work (meaningfulness and autonomy). It also expands SDT by newly introducing social normative pressure (societal legitimation) as an element of context that shapes self-determined choice.

Our study also offers implications for the literature on meaningfulness at work. It identifies the employment setting as a predictor of meaningfulness at work, and self-employment as a type of work with a high potential for meaningfulness, which has not yet been considered in this literature. This is an important contribution in light of emerging new forms

of work that share features of self-employment (e.g. in the gig economy). Moreover, we offer new insights on how meaningful work can be shaped by societal contexts that past reviews on meaningful work have called for (e.g., Bailey, Yeoman, Madden, Thompson, & Kerridge, 2019). Drawing on self-determination theory, our findings highlight the relevance of the societal legitimation of alternative career options (including less commonly chosen careers such as self-employment) to enable everyone to make truly volitional choices about their career. This complements existing explanations of how context affects meaningfulness at work, which emphasize congruence with societal values and norms (Florian, Costas, & Kärreman, 2019; Lepisto & Pratt, 2017) rather than enhancing the diversity of choice sets.

3. Theoretical background

3.1 Self-employment and entrepreneurship

Entrepreneurship is an occupational choice to work for one's own account and risk (Hébert & Link, 1982). This definition of entrepreneurship as self-employment includes solo-workers, business owners or working for oneself (e.g., OECD, 2019). It is common in research on entrepreneurs' well-being (Stephan, 2018) and consistent with our interest in contrasting the self- versus wage employed (Gorgievski & Stephan, 2016). Additionally, we explore differences between necessity and opportunity self-employed in one robustness check.

3.2 Eudaimonic well-being: Subjective Vitality

Different theoretical models of eudaimonic well-being offer varying and rich sets of constructs to characterize the fully functioning human being (Ryan & Deci, 2001; Ryff, 1989; Waterman et al., 2010) including fulfilment of psychological needs of autonomy, competence and relatedness, purpose in life, self-acceptance, personal growth, environmental mastery, autonomy, positive relationships with others, self-discovery, etc.. Some constructs have been argued to represent sources of well-being rather than well-being itself (Diener et al., 2018).

Hence, as argued in section 2, we focus on subjective vitality as a key indicator of eudaimonic well-being and the outcome of eudaimonic processes (Ryan & Deci, 2001; Ryan & Deci, 2008).

Subjective vitality is “one’s conscious experience of possessing energy and aliveness” and having positive energy for “regulatory control of one’s self” (Ryan & Frederick, 1997, p.530). It entails “the activation of physical and mental resources” (Schmitt, Belschak, & Den Hartog, 2017, p. 444) and arises from engaging in self-determined choices and actions that involve a sense of personal agency (Ryan & Deci, 2008; Ryan & Frederick, 1997). Subjective vitality is also referred to as vigor (Shirom, 2011), energy (Fritz, Lam, & Spreitzer, 2011), calm energy (Thayer, 1996) or energetic activation (Quinn, Spreitzer, & Lam, 2012) informed by Ryan and Deci (2008, p.703) who summarize vitality as “positively toned, energized state”, that “one can harness or regulate for purposive actions”.

Subjective vitality has been researched in organizational behavior due to its performance benefits. Subjective vitality provides resources needed for motivational processes (Baumeister, Schmeichel, & Vohs, 2007), for one’s engagement in action and in approach-oriented behaviors (Shirom, 2011) such as creativity at work (Kark & Carmeli, 2009) and other discretionary activities (Quinn et al., 2012) as well as performance (Shirom, 2011). Subjective vitality is also associated with positive long-term health outcomes, including life longevity (Chida & Steptoe, 2008). People high in subjective vitality can mobilize their resources better to deal with disease and fatigue (Muraven, Gagné, & Rosman, 2008), are more resilient, and appraise their personal problems less negatively (Thayer, 1996).

While subjective vitality within organizations is well understood, research on entrepreneurs’ subjective vitality is in its infancy. As outlined above, the initial career choice as well as the nature of work, including constraints and challenges, are different for the self- and wage employed, not allowing us to generalize findings on vitality from the wage- to the self-employed. The lack of research on entrepreneurs’ subjective vitality is surprising as vitality

is arguably crucial for engaging in self-starting proactive and innovative behaviors (Gorgievski, Moriano, & Bakker, 2014) that are key to the performance of entrepreneurs' businesses (Campos et al., 2017; Rooks, Sserwanga, & Frese, 2016). Subjective vitality should also equip entrepreneurs with the energy to persist and overcome barriers and to assemble resources to explore the environment for new opportunities (Hahn et al., 2012). In line with these arguments, as part of the broader concept of work engagement, vigor has been found to be higher among the self- than the wage-employed in one cross-sectional study in the Netherlands (Gorgievski, Bakker, & Schaufeli, 2010). Moreover, a two-year study of 122 German business owners found that those who scored higher on vitality at the beginning of the study (measured as vigor) showed more proactive task- and relation-oriented proactive behaviors at the end of the study (Hahn et al., 2012). In the same study, life satisfaction, an indicator of hedonic well-being, had no effect on proactive behavior. This illustrates the importance of distinguishing eudaimonic from hedonic well-being and the need to complement existing research with investigations of eudaimonic well-being (Stephan, 2018; Wiklund et al., 2019).

Having established why subjective vitality is an important aspect of well-being consequential for entrepreneurs' health and performance, we now turn to our research model and hypotheses, presented in Figure 1. These seek to understand how self-employment relates to subjective vitality.

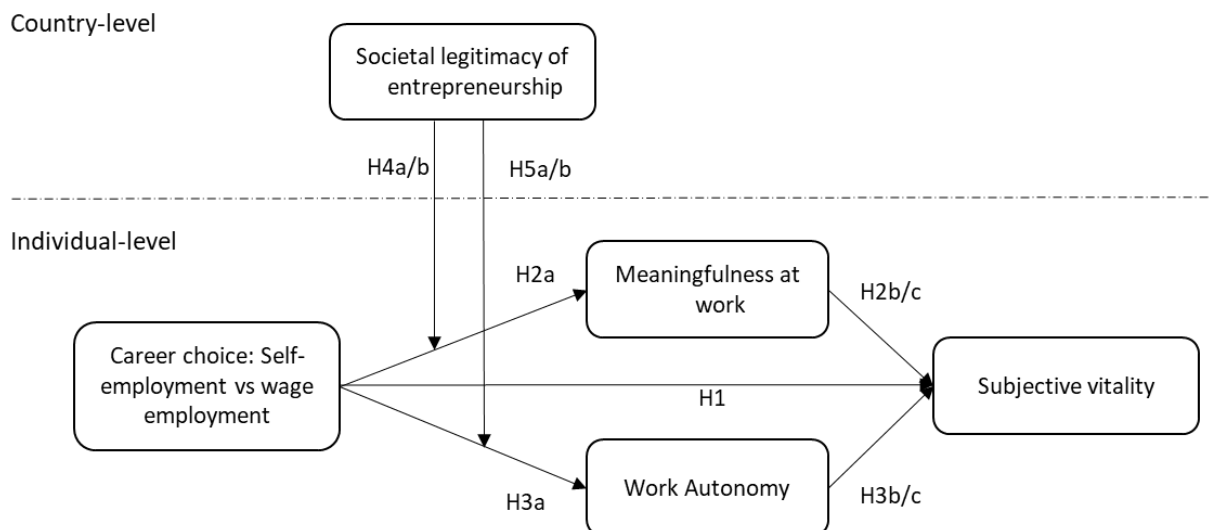


Figure 1. Research model and hypotheses. Hypotheses H2c and H3c specify mediation effects. Hypotheses H4b and H5b specify moderated mediation effects.

3.3. Self-Employment and Subjective Vitality

According to self-determination theory (SDT, Deci & Ryan, 2008), self-regulated activity is the result of an individual's volitional choice (Moller, Deci, & Ryan, 2006). It stems from the self, reflects the self and feels authentic (Ryan, 1992). Higher levels of volitional self-regulation entail a sense of personal agency that is vitalizing (Deci & Ryan, 2008; Ryan & Frederick, 1997). Research finds positive associations between volitional self-regulation of one's actions and subjective vitality (Kasser & Ryan, 1999; Nix, Ryan, Manly, & Deci, 1999). In contrast, non-self-determined actions (termed externally controlled action), are experienced as demands to feel, think or behave in specific ways (e.g., prescribed by social norms) which can deplete individuals' energy and vitality (e.g. Nix et al., 1999; Ryan & Frederick, 1997).

Self-employment relative to wage employment, is a more self-determined volitional career choice. Although self-employment is on the rise in most developed economies, including in Europe, it is by no means the 'norm'. Rather, wage employment is the default option and few people choose to become self-employed (Lechmann & Schnabel, 2014). In fact, the self-employed remain a minority in the workforce (typically 10 to 20 percent, OECD, 2019)⁵. Following SDT and considering that the career decision for self-employment typically entails greater volitional choice than the career decision for wage employment, we propose:

Hypothesis 1 (H1): Self-employment is positively related to subjective vitality.

⁵ While we emphasize the positive choice for self-employment, we acknowledge that some individuals also pursue self-employment out of necessity to escape unemployment. We control for unemployment and offer robustness checks for opportunity-necessity entrepreneurship in the results. The majority of self-employed report opportunity motives including in the recent recession (Stephan et al., 2015). Our setting are European countries where unemployment benefits are widely available and thus even necessity entrepreneurs' make a choice to become self-employed instead of collecting unemployment benefits.

3.3.1 *Self-Employment and Subjective Vitality: The Mediating Role of Meaningfulness at Work*

Meaningfulness at work (MW) is the experience of work as personally enriching and useful. It is a positive experience where work is viewed as contributing to one's personal growth (Steger, Dik, & Duffy, 2012), as significant (i.e., important to the individual), and giving the individual a sense of purpose (Pratt & Ashforth, 2003).

Lepisto and Pratt (2017) propose to differentiate two perspectives on meaningful work, which they label "realization" and "justification". The *realization* perspective frames meaningfulness as the result of the fulfilment of needs, motivations, and desires at work, relating to self-actualization. It points to working conditions as constraints on the ability of the self to "being or becoming fully expressed and realized in one's work" (Lepisto & Pratt, 2017, p.106). Thus, MW mediates the impact of work characteristics on well-being (Hackman & Oldham, 1975). By contrast, the *justification* perspective relates MW more fundamentally to the worthiness of work. It represents meaningfulness as the worth and value one attributes to one's work, answering the question "why is my work worth doing?" (Lepisto & Pratt, 2017, p. 108). This perspective reflects the meaning-making processes individuals engage in to justify the worthiness of their work, which goes beyond the specific characteristics of a job.

We suggest that these two perspectives can help to understand differences in MW between employees and the self-employed. The *realization perspective* (Rosso et al., 2010, for a review) may be especially applicable to understand how wage-employees derive meaning from their work. Wage-employees must align with the goals and constraints determined by the employing organization and often have little opportunity to craft their job in line with their values, needs and skills (especially compared to the self-employed). Therefore, for wage-employees, MW might depend mainly on their job characteristics. The *justification perspective* is especially helpful to understand the meaning-making processes involved in self-employment. For the self-employed, the process of attributing meaning to their work precedes the design of

their job. Rather it starts with the choices they make about the job (a job they consider worth doing) and the work setting that they are going to develop for themselves. For the self-employed, MW may also derive from the day-to-day characteristics of their work (realization perspective) but it is even more deeply rooted in their initial volitional career choice.

The volitional choice to be self-employed gives the self-employed uniquely the opportunity to shape and design their work in line with their values, needs, and skills into work they deem worth doing and which results in high congruence (or 'fit') between work and the self (Baron, 2010, also for job crafting, Wrzesniewski & Dutton, 2001). This means that work gives the self-employed the possibility to express their identity and themselves authentically (Baron, 2010), which are prerequisites for experiencing work as meaningful (Lips-Wiersma & Morris, 2009; Rosso et al., 2010). In other words, work as a way to express the self and a source of intrinsic motivation leads to a greater sense of purpose and significance, i.e. meaningfulness (Allan, Autin, & Duffy, 2016; Duffy, Autin, & Bott, 2015). Thus, work for the self-employed compared to wage employees is richer in meaning (Cardon et al., 2009).

Hypothesis 2a (H2a). Self-employment is positively related to meaningfulness at work.

Evidence from studies of employees corroborates that the experience of meaningfulness at work (MW) can be an important psychological resource (Niessen, Sonnentag, & Sach, 2012; Soane et al., 2013; Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005), which can fuel one's well-being (Allan, Batz-Barbarich, Sterling, & Tay, 2019; Steger et al., 2012; Tavares, 2016) and work engagement (Lips-Wiersma & Wright, 2012; May, Gilson, & Harter, 2004; Soane et al., 2013). However, few studies have related MW to the energetic resources of the individual such as vitality and, to our knowledge, no studies explored this relationship in the self-employed. Niessen et al. (2012) found that when employees experience MW in the morning they tended to feel higher levels of vitality by the end of the workday. Lam, Wan, and Roussin (2016) observed that employees who experience a sense of MW at the end of the workday were

more likely to find their job energizing and to report higher levels of vigor at the end of the day. Likewise, reflecting on the meaning of one's work was related to feeling energized at work (Fritz et al., 2011). Thus, the experience of MW likely enhances subjective vitality. To the extent that the self-employed experience more MW (H2a), MW may mediate the relationship between self-employment and vitality.

Hypothesis 2b (H2b). Meaningfulness at work is positively related to subjective vitality.

Hypothesis 2c (H2c). Meaningfulness at work mediates the relationship between self-employment and subjective vitality.

3.3.2 Self-Employment and Subjective Vitality: The Mediating Role of Work Autonomy

As outlined in the introduction, research on entrepreneurship and well-being has highlighted work autonomy as an important resource for entrepreneurs' well-being. Indeed, it was the most frequently studied work resource in Stephan's (2018) review of this literature. Self-employment is not only a more self-determined career choice, it also offers individuals day-to-day work autonomy. In other words, the chance to make ongoing independent decisions about how, with whom and when they work (Parker, 2014). Compared to wage employees, the self-employed, as own account workers or business-owner managers, have fewer constraints on their decision-making freedom and on how to organize their work.

Empirical studies confirm the higher work autonomy of the self- relative to the wage-employed (Benz & Frey, 2008; Hytti, Kautonen, & Akola, 2013) and its positive impact on hedonic well-being (job satisfaction). In related research, Shir et al. (2018) find the psychological need for autonomy, understood as experiencing few constraints on how to live one's life, mediates the relationship of self-employment with a broad indicator of mostly hedonic well-being. We know of no research linking work autonomy to vitality in the self-employed. Conceptual arguments and research on employees suggest that having control over one's day-to-day work allows individuals to satisfy their need for autonomy and thus increases

intrinsic motivation resulting in feeling more vitality and thriving (Deci et al., 2017; Parker, 2014; Ryan & Deci, 2008). Thus, parallel to H2a to H2c, we propose

Hypothesis 3a (H3a). Self-employment is positively related to work autonomy

Hypothesis 3b (H3b). Work autonomy is positively related to subjective vitality.

Hypothesis 3c (H3c). Work autonomy mediates the relationship between self-employment and subjective vitality.

3.4. The Moderating Role of the National Societal Legitimation of Entrepreneurship

So far, our predictions concerned the individual level. Yet, whether and how strongly employment status is related to MW, work autonomy and ultimately vitality, may depend on the country context in which individuals make the occupational choice for self- vs. wage employment. National contexts can constrain, or enable, the occupational choices individuals make and, thus, may act as a boundary condition for the relationship of employment status with eudaimonia. Past research demonstrates substantial country variation in hedonic well-being and entrepreneurship (Amorós & Bosma, 2014). By defining what is expected and acceptable behavior, cultural norms help explain such country differences (e.g., Autio, Pathak, & Wennberg, 2013; Steel, Taras, Uggerslev, & Bosco, 2018; Stephan & Uhlaner, 2010). Regarding well-being, Stephan (2018) suggested that a particularly relevant cultural norm is the societal legitimation of entrepreneurship, i.e., the shared understanding within a country of how desirable and accepted entrepreneurship is (Kibler et al., 2014; Stephan & Uhlaner, 2010)

Building on the predictions of self-determination theory on the effects of volitional choice (e.g., Moller et al., 2006), we suggest that the national societal legitimation of entrepreneurship (NSLE) may interact with self-employment status in the prediction of experienced MW. Key to this effect is that a high NSLE can enhance the portfolio of alternative desirable career options for everyone and thereby enables more individuals to make self-determined career choices. Choice is important, as Deci and Ryan (1985) put it: “a behavior is truly chosen only if the person could seriously consider not doing it. (...) Not being able to

seriously consider other options suggests that the behavior does not represent true choice, even if it was decided on” (p. 155). Thus, when NSLE is high and entrepreneurship widely considered a desirable career, opting for being a wage-employee is the result of an active choice between two attractive employment options (self- or wage employment). When NSLE is low, wage employees are likely to simply follow the standard employment path which is wage employment (only 10 to 20% of the workforce are self-employed, OECD, 2019). This reasoning is consistent with research in career psychology that builds on SDT. Such research documents that contexts that make more choice options available lead to more self-determined career choices, which, in turn, lead to more engagement with the chosen career option, more satisfaction, less distress, and better performance (Katz et al., 2018).⁶

In line with SDT, greater self-regulation or choosing is the central means by which individuals exercise control (Geers et al., 2013) and reinforce their sense of agency, which leads to higher intrinsic motivation (Deci et al., 2017) and may enhance the perceived meaningfulness of the chosen option (Allan et al., 2016). Consequently, we expect that wage employees living in countries where entrepreneurship is seen as more legitimate (high NSLE) would perceive their work as more meaningful than their counterparts living in countries with low NSLE, because it results from an active choice for wage employment and against self-employment. Therefore, in high NSLE contexts, the difference in the experienced MW between the self- and wage-employed would be smaller and their level of MW would, on average, be more similar.

There are two countervailing explanations for how NSLE impacts the experienced MW of the self-employed: one based on SDT and the effects of choice (Moller et al., 2006) and one based on the justification perspective of MW. First, when NSLE is low, being self-employed means going against the social norm regarding the dominant and socially accepted career

⁶ SDT research shows that eudaimonic processes (such as MW) may be shaped by context, but that the way these processes lead to eudaimonic well-being outcomes is not impacted by cultural contexts (Chen et al., 2015; Church et al., 2012). This is in line with the notion that eudaimonic processes have universal qualities (Deci et al., 2017) and the reason why we do not hypothesize context moderation effects on the MW-vitality relationship.

pattern (wage employment). Therefore, it is more likely to involve a self-regulated decision that results from an active choice process by the individual (Deci & Ryan, 1985) and more likely an expression of his/her values and identity (Cardon et al., 2009). Hence, the self-employed would experience their work as more meaningful in low, compared to high, NSLE contexts. Second, work on the MW justification perspective suggests a different mechanism that predicts the opposite. It suggests that the experience of MW occurs in alignment with prevailing social norms and values based on “an increased experience of social validation and support” (Lepisto & Pratt, 2017, p. 115; also Florian et al., 2019). Applied to our context, high NSLE should reinforce the experience of MW for the self-employed, because the evaluation of the worthiness of one’s work is argued to be shaped by the social, cultural and institutional context (Lepisto & Pratt, 2017) and high NSLE would offer social validation and legitimation of their career choice. Hence, low NSLE contexts would diminish the experienced MW for the self-employed.

Which of the two mechanisms impacts the MW of the self-employed more strongly? The first explanation highlights the relevance of self-determined choice in career decision-making for MW and suggests that there is stronger association between self-employment status and MW in low NSLE contexts (than in high NSLE). The second explanation focuses more on the experience of MW based on shared cultural expectations regarding what is a legitimate and worthy career (social normative influence). We expect the first explanation to be more influential because it is consistent with self-employment as a self-determined choice through which individuals create and design a job for themselves that they view as worthy rather than rely on external social validation of worth. In terms of SDT, the second explanation is consistent with external (rather than self-) determination of one’s actions and should be less applicable to the self-employed. In sum, our arguments suggest that low NSLE widens the gap in the experienced MW between the self- and wage employed, whereas high NSLE narrows it.

Hypothesis 4a (H4a). The national societal legitimation of entrepreneurship moderates the positive relationship between self-employment and meaningfulness at work, such

that the relationship is weaker in countries where entrepreneurship is more (compared to less) legitimate.

Following from H4a and on our reasoning that MW mediates the relationship between self-employment and vitality (H2c), we expect a moderated mediation effect such that,

Hypothesis 4b (H4b). The national societal legitimation of entrepreneurship moderates the indirect positive effect of self-employment on individual's subjective vitality via meaningfulness at work, such that the indirect positive effect is weaker in countries where entrepreneurship is more (vs. less) legitimate.

NSLE might also shape the relationship of self-employment status with work autonomy.

Although our argument here is more tentative and explorative. The self-employed might have more actual work autonomy in countries where entrepreneurship is viewed as a positive career option. This is because their stakeholders (e.g., customers, suppliers) are more likely to see the self-employed as legitimate and, thus, are more likely to buy and trade with them (Stephan & Pathak, 2016, p. 509; Zimmerman & Zeitz, 2002). This would enhance their access to resources and thereby remove constraints to decision making. With regard to the wage employed, we argue that, in societies with high NSLE, their choice for wage-employment is more self-determined since the pool of alternative career options is larger as opposed to contexts where the legitimacy of entrepreneurship is low and wage employment remains the main or normative option. The individuals who become wage employees in this setting, made a more active choice against taking up self-employment. Thus, they actively decided against pursuing what is widely regarded as a more autonomous job (Kolvereid, 1996; Van Gelderen & Jansen, 2006) - self-employment. In countries with high NSLE, wage-employees may use the self-employed as a comparator and, thus, come to view their own daily work autonomy as more limited. In countries with low NSLE, this comparator is less salient and thus less relevant to how the wage employed perceive their work autonomy. Hence,

Hypothesis 5a (H5a). The national societal legitimation of entrepreneurship moderates the positive relationship between self-employment and work autonomy, such that the relationship is stronger in countries where entrepreneurship is more (vs. less) legitimate.

Following from H5a and on our reasoning that work autonomy mediates the relationship between self-employment and vitality (H3c), we expect a moderated mediation effect such that:

Hypothesis 5b (H5b). The national societal legitimation of entrepreneurship moderates the indirect positive effect of self-employment on individual's subjective vitality via work autonomy, such that the indirect positive effect is stronger in countries where entrepreneurship is more (vs. less) legitimate.

4. Methodology

4.1 Sample and Procedure

Our dataset contains individual-level data obtained from the 2010's data wave of the European Working Conditions Survey (EWCS) merged with country-level data on NSLE obtained from Global Entrepreneurship Monitor (GEM; Kelley, Bosma & Amoros, 2011) and control variables from Eurostat, referring also to 2010. The EWCS is an academically driven survey of representative samples focusing on the workplace experience, attitudes, behaviors, and beliefs. It is conducted bi-annually in Europe. The GEM database is the largest international database on entrepreneurship and its societal perception, based on representative samples of the adult population (Reynolds et al., 2005). Eurostat is the official statistical office of the European Union, which provides harmonized data across countries. Our dataset was confined to the countries which were present simultaneously in EWCS and GEM datasets in the year of 2010. We analyzed data from 16 European countries and 22 002 individuals. Table 1 shows the countries included in our dataset, displays descriptive statistics for all country- and individual-level variables.

TABLE 1. Descriptive Statistics: Country Level and Individual Level

	N (%)	Country Level			Individual level															
		Unemployment rate	NSLE	Country self-employment rate ^a (%)	Wage-Employed								Self-employed							
					N (%)	Gender ^b N (%)	Age Mean (SD)	Education Mean (SD)	Wage ^c Mean (SD)	Work autonomy Mean (SD)	Meaningfulness at work Mean (SD)	Subjective vitality Mean (SD)	N (%)	Gender ^b N (%)	Age Mean (SD)	Education Mean (SD)	Wage ^c Mean (SD)	Work autonomy Mean (SD)	Meaningfulness at work Mean (SD)	Subjective vitality Mean (SD)
Belgium	3752 (17.1)	8.30	60.02	14.4	3226 (86.0)	1712 (53.1)	39.48 (10.74)	3.70 (1.24)	8.14 (1.22)	2.03 (1.15)	4.27 (0.75)	4.34 (1.02)	526 (14.0)	344 (65.4)	42.30 (10.42)	3.94 (1.21)	8.67 (1.37)	2.65 (0.81)	4.60 (0.58)	4.55 (0.93)
Germany	1939 (8.8)	7.00	53.07	11.6	1722 (88.8)	892 (51.8)	42.66 (11.04)	2.76 (1.28)	7.20 (0.65)	1.84 (1.20)	4.18 (0.74)	4.38 (0.96)	217 (11.2)	129 (59.4)	45.25 (10.47)	3.28 (1.45)	7.70 (0.99)	2.40 (1.00)	4.48 (0.65)	4.40 (0.93)
Greece	1005 (4.6)	5.70	65.59	35.6	640 (63.7)	356 (55.6)	39.89 (10.74)	3.47 (1.37)	7.84 (1.33)	1.53 (1.26)	4.06 (1.00)	4.28 (1.13)	365 (36.3)	242 (66.3)	44.55 (10.79)	2.92 (1.47)	8.35 (1.34)	2.76 (0.68)	4.48 (0.72)	4.27 (1.06)
Spain	970 (4.4)	19.90	65.42	16.7	848 (87.4)	420 (49.5)	38.52 (10.67)	3.42 (1.46)	7.84 (1.30)	1.72 (1.26)	4.29 (0.87)	4.59 (0.88)	122 (12.6)	69 (56.6)	45.61 (10.74)	3.18 (1.61)	8.44 (1.50)	2.75 (0.68)	4.51 (0.69)	4.53 (0.89)
France	2816 (12.8)	9.30	65.19	11.5	2474 (87.9)	1078 (43.6)	39.87 (10.67)	3.50 (1.19)	7.40 (0.82)	1.83 (1.20)	4.24 (0.83)	4.28 (1.04)	342 (12.1)	208 (60.8)	43.31 (11.10)	3.43 (1.61)	7.70 (1.28)	2.61 (0.77)	4.59 (0.67)	4.59 (1.11)
Ireland	951 (4.3)	13.90	51.78	17.2	792 (83.3)	383 (48.4)	38.03 (11.79)	3.61 (1.19)	7.53 (1.01)	1.69 (1.27)	4.23 (0.88)	4.67 (0.97)	159 (16.7)	109 (68.6)	45.76 (10.94)	3.61 (1.28)	7.71 (1.11)	2.67 (0.76)	4.60 (0.59)	4.64 (0.92)
Italy	1382 (6.3)	8.40	69.12	25.3	1055 (76.3)	502 (47.6)	41.55 (10.68)	3.26 (1.06)	7.68 (1.20)	2.09 (1.15)	4.23 (0.79)	4.08 (1.09)	327 (23.7)	192 (58.7)	44.30 (10.45)	3.29 (1.14)	8.17 (1.34)	2.65 (0.82)	4.51 (0.66)	4.09 (1.07)
Latvia	971 (4.4)	19.50	58.79	11.5	913 (94.0)	325 (35.6)	43.42 (11.91)	3.83 (1.02)	6.09 (1.07)	2.17 (1.05)	4.36 (0.74)	3.82 (1.07)	58 (6.0)	26 (44.8)	42.97 (11.02)	4.12 (0.90)	6.33 (1.34)	2.81 (0.58)	4.66 (0.52)	4.07 (0.97)
Hungary	945 (4.3)	11.20	55.03	12.3	832 (88.0)	394 (47.4)	42.37 (11.08)	3.41 (1.00)	6.33 (1.18)	1.94 (1.18)	4.19 (0.85)	4.01 (1.11)	113 (12.0)	75 (66.4)	47.73 (10.39)	3.75 (1.02)	6.94 (1.58)	2.74 (0.64)	4.67 (0.54)	4.01 (1.12)
Netherlands	927 (4.2)	5.00	85.37	15.1	774 (83.5)	402 (51.9)	43.36 (11.79)	3.55 (1.32)	7.54 (0.98)	2.22 (1.03)	4.39 (0.65)	4.39 (0.89)	153 (16.5)	104 (68.0)	47.53 (9.78)	3.67 (1.28)	8.00 (1.29)	2.73 (0.67)	4.55 (0.48)	4.56 (0.79)
Portugal	905 (4.1)	12.00	67.48	23.1	758 (83.8)	355 (46.8)	42.01 (11.10)	2.14 (1.35)	6.89 (1.02)	1.80 (1.25)	4.44 (0.71)	4.05 (1.23)	147 (16.2)	71 (48.3)	47.71 (11.29)	1.97 (1.39)	6.90 (1.15)	2.84 (0.48)	4.75 (0.55)	4.03 (1.18)
Romania	906 (4.1)	7.00	66.45	-	741 (81.8)	398 (53.7)	41.44 (10.38)	3.47 (1.04)	6.06 (1.26)	1.64 (1.27)	4.40 (0.72)	4.28 (1.01)	165 (18.2)	100 (60.6)	45.25 (11.90)	2.99 (1.15)	5.58 (1.48)	2.77 (0.70)	4.51 (0.67)	3.95 (1.13)
Slovenia	1238 (5.6)	7.30	53.18	17.3	1122 (90.6)	496 (44.2)	41.71 (10.01)	3.51 (1.03)	7.04 (1.01)	1.92 (1.14)	4.40 (0.66)	4.07 (1.11)	116 (9.4)	83 (71.6)	42.73 (9.88)	3.52 (0.94)	7.29 (1.38)	2.34 (1.02)	4.62 (0.59)	4.16 (1.20)
Finland	929 (4.2)	8.40	46.07	13.4	852 (91.7)	359 (42.1)	42.67 (12.61)	3.73 (1.25)	7.51 (0.69)	2.43 (0.87)	4.06 (0.69)	4.36 (0.78)	77 (8.3)	41 (53.2)	49.43 (12.03)	3.61 (1.25)	7.55 (1.14)	2.56 (0.83)	4.34 (0.71)	4.49 (0.80)
Sweden	895 (4.1)	8.60	56.93	10.9	809 (90.4)	354 (43.8)	46.76 (11.48)	3.94 (1.18)	8.01 (1.04)	2.28 (0.90)	4.25 (0.70)	4.49 (0.93)	86 (9.6)	64 (74.4)	49.85 (12.09)	3.83 (1.20)	8.01 (1.16)	2.77 (0.64)	4.56 (0.48)	4.65 (0.80)
UK	1471 (6.7)	7.80	50.98	14.0	1281 (87.1)	579 (45.2)	41.23 (12.00)	3.02 (1.35)	7.46 (1.28)	1.91 (1.23)	4.01 (0.98)	4.30 (1.08)	190 (12.9)	118 (62.1)	45.46 (11.85)	3.10 (1.45)	7.80 (1.56)	2.69 (0.75)	4.51 (0.66)	4.51 (1.02)
Total	22002	16	16		18839 (85.6)	9005 (47.8)	41.21 (11.25)	3.41 (1.28)	7.39 (1.21)	1.95 (1.18)	4.25 (0.80)	4.28 (1.04)	3163 (14.4)	1975 (62.44)	44.83 (11.00)	3.37 (1.40)	7.74 (1.52)	2.66 (0.78)	4.56 (0.63)	4.37 (1.04)

Individual level: N = 22 002; country level N = 16. NSLE = National societal legitimation of entrepreneurship,

^a National self-employment rate, data from OECD's 2019 report, collected in 2010. This statistic is provided for information only, it is not included in the analyses.

^b Gender – % of male. ^c Wage= log of the value in Euros.

4.2 Measures

Self-employment status. To assess employment status, we created a dummy variable from the 2010 EWCS dataset. The underlying question asked respondents whether they were self-employed or an employee. Self-employment status was coded as $0 = \text{wage-employed}$ and $1 = \text{self-employed}$. Individuals who responded ‘other’ or ‘don’t know’ were excluded from the sample. Self-declared self-employment status is commonly used in entrepreneurship research on well-being that utilizes representative surveys (Nikolova, 2019; Stephan & Roesler, 2010).

Subjective vitality. Feelings of subjective vitality were measured using four items from the 2010’s EWCS ($\alpha = 0.85$), adapted from WHO-5 well-being index (World Health Organization, 1998). Participants are asked to report how frequently they felt a certain way over the preceding two weeks: “*I have felt active and vigorous*”, “*I woke up feeling fresh and rested*”, “*I have felt cheerful and in good spirit*”, and “*I have felt calm and relaxed*”. These items were answered in a 6-point scale ranging from $1 = \text{all the time}$ to $6 = \text{at no time}$ and were reversed so that higher levels of the variable would correspond to higher levels of subjective vitality.

Meaningfulness at work (MW). MW was assessed using two items from the 2010’s EWCS dataset (Spearman-Brown coefficient, $r_{SB} = 0.73$). Individuals rated how often “*You have the feeling of doing useful work*” and “*Your job gives you the feeling of work well done*”. These items were preceded by “*Select the response which best describes your work situation*”, and responses were given on a 5-point Likert scale from $1 = \text{always}$ to $5 = \text{never}$. The items were reversed so that higher levels of the variable would correspond to higher levels of MW.

To assess the construct validity of our MW measure, we compared it to previous validated scales of meaningfulness at work by conducting a validation study using Mturk. In addition to the two items from EWCS, we included the following validated scales: Steger et al.’s (2012) Work as Meaning Inventory (10 items), Spreitzer’s (1995) subscale of Meaning (3 items) from her Psychological Empowerment in the Workplace Scale, and Hackman and

Oldham's (1975) two items measuring Experienced Meaningfulness from the Work in the Job Diagnostic Survey. We evaluated the correlations between our MW measure and the latter, both for a sample of wage-employees ($N_{\text{wage employees}} = 159$) and a sample of self-employed ($N_{\text{self-employed}} = 154$) obtained with Mturk. To ensure data quality, we controlled for insufficient effort responding bias, as recommended by Cheung et al. (2017) and Huang et al. (2014), which yielded a wage-employees sample ($N = 114$) and self-employed sample ($N = 103$). We analyzed the Pearson correlations between our 2-item MW measure and the validated meaningfulness scales for both samples. Our 2-item MW measure correlates substantially and positive, as expected, with Steger et al.'s (2012) Work as Meaning Inventory ($r_{\text{wage-employees}} = .83$; $r_{\text{self-employed}} = .78$), Spreitzer's (1995) subscale of Meaning ($r_{\text{wage-employees}} = .75$; $r_{\text{self-employed}} = .71$), and Hackman and Oldham's (1975) two items measuring Experienced Meaningfulness of the Work ($r_{\text{wage-employees}} = .82$; $r_{\text{self-employed}} = .76$). Therefore, although the EWCS used an operationalization of MW that is somewhat different from other measures in the literature, our additional study provides evidence for the construct validity of the 2-item measure of MW used in this study and specifically that it captures peoples' perceptions that their work is meaningful.

Work autonomy. Work autonomy was measured using 3 items from EWCS dataset coded as a dummy variable (0 = no; 1 = yes): “are you able to choose or change your order of tasks?”, “are you able to choose or change your methods of work?”; “are you able to choose or change your speed or rate of work?” ($\alpha = 0.78$). A composite variable was computed with a minimum = 0 and a maximum = 3.

National societal legitimation entrepreneurship (NSLE). NSLE was measured as a country-level variable, using one item from GEM 2010's survey, which referred to the percentage of the adult population (aged between 18 and 64 years old), in each country, that answered yes to “In my country people consider starting a business as a good career choice”⁷.

⁷ GEM includes two further items, which are often used to capture the legitimacy of entrepreneurship referring to media-presentation of entrepreneurship and new business starters having a high level of status and respect.

The year-to-year stability (re-test reliability) of NSLE was $r=1.00$, $p<.001$, $N=16$ for 2010-2011, $r=.92$, $p<.001$, $N=14$ for 2010-2012.

Control variables. We controlled for variables at the individual and the country level that are known to correlate with well-being. At the individual level, we controlled for gender, age, wage, and education level available on the 2010's EWCS dataset. *Gender* was coded as a dummy variable ($0= female$; $1= male$). *Wage* was defined as the log of the value in Euros reported by the participants in reply to the question "*How much are your net monthly earnings from your main paid job?*" Because many participants did not reply to this question, but answered the question "*What letter best matches your total net earnings from your main job?*", where each of the 21 letters correspond to a given interval of salary values, we used the midpoint of the selected interval to fill-in the missing values, from a minimum of 625 euros to a maximum of 60000 euros. *Education* was operationalized with the question "*What is the highest level of education or training that you have successfully completed?*", answered in a 7-point scale ranging from $1 = No\ education$ to $7 = Advanced\ level\ of\ tertiary\ education$.

At the country level, we controlled for the *unemployment rate* as a possible alternative explanation for the effects of societal legitimation and to account for possible effects of necessity entrepreneurship (see also Robustness Checks 5.1.2). A high unemployment rate means that there are few other employment opportunities and people are more likely to enter entrepreneurship out of necessity to find work (Dvouletý, 2018; Estrin, Mickiewicz, & Stephan, 2016). The unemployment rates taken from Eurostat (2010) are the percentage of the labor force of each country (aged from 15 to 74 years) that was without work during the referenced week, who was available to start working within the next two weeks or who had been actively seeking work in the past four weeks.

However, these two items did not correlate substantively with the item about entrepreneurship being a desirable career choice (neither on the country nor on the individual level) in our sample of 16 European countries. Since our conceptual arguments pertain to career decision making, we focus on that item as our measure of the societal legitimacy of entrepreneurship.

In additional *robustness checks* (available upon request), we also controlled for *national wealth* (measured as GDP and obtained from Eurostat) and confirmed all effects. We do not include GDP in the main results, because its effect was not significant. Moreover, it correlates at .60 with the national unemployment rate, which likely creates multicollinearity and thus unstable regression results. In a second robustness check, we explored whether the effects of societal legitimation of entrepreneurship might be better explained by *unemployment* (i.e. a push vs. pull into entrepreneurship). Substituting unemployment for societal legitimation in the interaction with self-employment status yielded a non-significant interaction effect.

4.3. Analytical Strategy

Our data are nested (individuals within countries). We therefore estimate linear two-level mixed-effects models with random intercepts at the country level to test our hypotheses. To test the moderated mediation effects, we use a two-step approach (Bauer, Preacher, & Gil, 2006). The first step involved estimating the total effects of self-employment on work autonomy, MW and subjective vitality (Table 3: H1, H2a, H3a) and then testing simple mediation models (Table 4 and Table 5: H2b, H2c, H3b, H3c). The second step (Table 6) involved testing the proposed cross-level moderation effect (H4a, H5a) and the overall moderated mediation model (H4b, H5b) including estimating the direct, indirect and total effects. To test the validity of the random effect assumption required by all models, we applied the Hausman test.⁸ To test the magnitude and significance of the hypothesized indirect and total effects in the mediation models, and to obtain 95% bias-corrected confidence intervals (BCs

⁸ In three out of the ten models assessed, the Hausman test produced a negative statistic. Theoretically, the Hausman statistic should be non-negative. Although this is a well-known issue of the Hausman test in empirical work and most researchers interpret such result as evidence favouring the null hypothesis of random effects, we repeated all the analysis in the paper using a linear model with country effects. The results obtained, which are available upon request, were very similar to those produced by the mixed-effects model. The ICC estimates for country-level effects were .02 for autonomy, .02 for meaningfulness and .04 for vitality. Our interest was not in explaining country-level variation in the intercepts of these variables, but rather to examine a cross-level moderation effect, which can exist even in the absence of substantial intercept variation (i.e. when ICCs are low).

CI) for them, we used bootstrapping procedures based on 5000 samples. All calculations were performed in Stata.

5. Results

Means, standard deviations, correlations, and internal reliabilities are shown in Table 2.

TABLE 2. Means, Standard Deviations, and Correlations.

	<i>Level</i>	<i>Mean</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9
1. Gender ^a	1	49.90 ^d	-									
2. Age	1	41.73	11.29	0.05								
3. Education	1	3.40	1.30	0.08***	-0.08***							
4. Wage ^b	1	7.43	1.26	0.15***	0.04***	0.18***						
5. Self-employment ^c	1	14.38 ^e	-	0.10***	0.15***	0.08***	0.09***					
6. Subjective vitality	1	4.29	1.04	0.09***	-0.06***	0.02*	0.07***	0.05***				
7. Meaningfulness at work	1	4.29	0.78	0.02	0.09***	0.04***	0.02*	0.15***	0.23***			
8. Work autonomy	1	2.05	1.16	0.03*	0.08***	0.19***	0.10***	0.23***	0.04***	0.20***		
9. Unemployment rate	2	9.46	3.69	0.10***	-0.03***	0.03***	-0.13***	0.16***	0.03***	-0.02**	-0.02**	
10. NSLE	2	60.44	8.20	0.10***	-0.00	-0.01	0.04***	0.17***	0.08***	-0.01	0.01	-0.07***

Individual level: N = 22 002; country level N = 16. NSLE = National societal legitimization of entrepreneurship. Correlations: Pearson and Cramer V.

^a 0 = female, 1 = male.

^b Wage= log of the value in Euros.

^c 0 = employed, 1 = self-employed.

^d Percentage of males.

^e Percentage of self-employed.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

5.1 Results for Hypotheses

Table 3 presents the total effects of self-employment status on meaningfulness at work (MW), work autonomy, and subjective vitality. After accounting for age, gender, education, and wage (Level 1 control variables) and the country unemployment rate (Level 2 control variable), self-employment status was positively related to subjective vitality ($B = 0.08, p < 0.001$), to MW ($B = 0.28, p < 0.001$) and to work autonomy ($B = 0.75, p < 0.001$), supporting Hypotheses 1, 2a and 3a, respectively.

TABLE 3. Total effects of self-employment on meaningfulness at work, work autonomy, and subjective vitality.

	Meaningfulness at work		Work autonomy		Subjective vitality	
	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Intercept	3.767***	0.085	0.822***	0.126	4.354***	0.147
<i>Level 1 variables</i>						
Gender ^a	-0.024*	0.012	-0.067***	0.017	0.166***	0.015
Age	0.006***	0.001	0.005***	0.001	-0.005***	0.001
Education	0.025***	0.005	0.167***	0.007	-0.003	0.006
Wage ^b	0.012*	0.005	0.055***	0.008	0.011	0.007
Self-employment ^c	0.283***	0.018	0.749***	0.026	0.084***	0.024
<i>Level 2 variables</i>						
Unemployment	0.009	0.007	-0.004	0.010	-0.002	0.012
<i>Variance components</i>						
Level-1 variance	0.583***	0.006	1.208***	0.013	1.033***	0.011
Level-2 variance	0.012***	0.005	0.028***	0.010	0.044***	0.016
<i>Pseudo R² level 1</i>	0.03		0.08		0.02	
<i>ΔPseudo R²(Δcontrols)</i>	0.01		0.04		0.001	
<i>LR test^d</i>	244.35***		274.77***		465.53***	
<i>Hausman test^e</i>	-11.28		9.11		4.90	
<i>Log-likelihood</i>	-20937.1		-27750.6		-26233.8	
<i>N</i>	18198		18317		18258	

Note: Two-level mixed-effects ML estimates. $\Delta Pseudo R^2$ - effect of self-employment beyond control variables

^a 0 = female, 1 = male. ^b Wage= log of the value in Euros. ^c 0 = employed, 1 = self-employed. ^d LR test for one-level ordinary linear regression. ^e Hausman test for random-effects. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Table 4 reports the first set of tests of the hypothesized mediation models. The results indicate that MW was positively associated with individual’s subjective vitality ($B = 0.34, p < 0.001$), even after controlling for age, gender, education, wage, countries’ unemployment rate, and for work autonomy (Models 3 and 5, Table 4). This supports H2b that MW relates positively to vitality.

TABLE 4. Regression results for the mediation model.

	Meaningfulness at work (Model 1)	Work Autonomy (Model 2)	(Model 3)	Subjective vitality (Model 4)	(Model 5)
	<i>b</i> (<i>SE</i>)	<i>b</i> (<i>SE</i>)	<i>b</i> (<i>SE</i>)	<i>b</i> (<i>SE</i>)	<i>b</i> (<i>SE</i>)
Intercept	3.672***(0.087)	-0.049 (0.136)	3.085***(0.156)	4.314***(0.148)	3.074 (0.156)
<i>Level 1 variables</i>					
Gender ^a	-0.016 (0.011)	-0.062***(0.016)	0.177***(0.015)	0.169***(0.015)	0.177***(0.015)
Age	0.005***(0.001)	0.004***(0.001)	-0.007***(0.001)	-0.006***(0.001)	-0.007***(0.001)
Education	0.006 (0.005)	0.161***(0.007)	-0.012*(0.006)	-0.010 (0.006)	-0.012 (0.006)
Wage ^b	0.006 (0.005)	0.053***(0.008)	0.006 (0.007)	0.009 (0.007)	0.007 (0.007)
Work autonomy	0.113***(0.005)	---	---	0.039***(0.007)	-0.001 (0.007)
Meaningfulness at work	---	0.234***(0.011)	0.339***(0.010)	---	0.339***(0.010)
Self-employment ^c	0.200***(0.018)	0.678***(0.026)	-0.014 (0.024)	0.053*(0.025)	-0.017 (0.024)
<i>Level 2 variables</i>					
Unemployment	0.009 (0.007)	-0.006 (0.011)	-0.004 (0.013)	-0.001 (0.013)	-0.004 (0.013)
<i>Variance components</i>					
Level-1 variance	0.566***(0.006)	1.175***(0.012)	0.965***(0.010)	1.030***(0.011)	0.965***(0.010)
Level-2 variance	0.013***(0.005)	0.031***(0.011)	0.048***(0.017)	0.045***(0.016)	0.048***(0.017)
<i>Pseudo R² level 1</i>	0.06	0.11	0.08	0.02	0.08
Δ <i>Pseudo R²</i>	0.04	0.07	0.07	0.00	0.07
<i>LR test^d</i>	277.53***	313.78***	546.77***	470.34***	543.33***
<i>Hausman test^e</i>	-11.37	9.07	5.82	5.32	5.80
<i>Log-likelihood</i>	-20619.5	-27248.9	-25392.2	-26137.5	-25326.8
<i>N</i>	18154	18154	18098	18207	18056

Note: Two-level mixed-effects ML estimates.

Δ Pseudo-R² relative to model with control variables only.

^a 0 = female, 1 = male. ^b Wage= log of the value in Euros. ^c 0 = employed, 1 = self-employed.

^d LR test for one-level ordinary linear regression.

^e Hausman test for random-effects.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

In Table 4, Model 4 shows that work autonomy was positively associated with individual's subjective vitality ($B = 0.04$, $p < 0.001$) when controlling for age, gender, education, wage and countries' unemployment rate supporting H3b. However, once MW was added to the model (Table 4, Model 5), this effect became non-significant ($B = -0.001$, $p > 0.05$). Therefore, H3b is rejected. Consequently, H3c supposing that work autonomy would mediate the relationship between self-employment and subjective vitality is not supported.

Furthermore, the results of the regression analyses presented in Table 4 revealed that the positive relationship between self-employment and subjective vitality was no longer significant when MW was introduced in the regression model (direct effect $B = -0.02$, $p > 0.05$, Model 5). This provides first support for H2c: MW mediates the relationship between self-employment status and subjective vitality. Table 5 offers a formal test of the indirect (mediating) effect. It summarizes the direct, indirect, and total effects of self-employment status on subjective vitality. It shows that the indirect effect of self-employment status on subjective vitality through MW, controlling for age, gender, education, wage, countries' unemployment rate and work autonomy, had a point estimate of .07 (95% BCa CI = 0.06, 0.08) and was statistically significant ($p < 0.001$). This supported H2c: self-employment status is positively associated with individual's subjective vitality via the experienced MW.

The results in Table 5 further suggest that, if MW would not be considered, self-employment status would have a significant effect on subjective vitality that would be partially mediated by work autonomy (indirect effect with a point estimate of .03, $p < 0.001$, and a 95% BCa CI = 0.02, 0.04). However, when MW was introduced in the regression model, this indirect effect via work autonomy was no longer significant -0.00 , *n.s.* and a 95% BCa CI = -0.01 ; 0.01. This indicates that the experience of MW is the more important mediator. In short, meaningfulness at work 'trumps' work autonomy in its effect on subjective vitality.

TABLE 5. Direct, indirect and total effects of self-employment on subjective vitality.

	Mediator	Effects		
		Direct	Indirect	Total
Self-employment ^a	-	0.084 ^{***} (0.024) [0.037; 0.132]	-	0.084 ^{***} (0.024) [0.037; 0.132]
Self-employment ^a	Meaningfulness at work	-0.014 (0.024) [-0.060; 0.032]	0.096 ^{***} (0.006) [0.085; 0.108]	0.082 ^{***} (0.024) [0.038; 0.134]
Self-employment ^a controlling for work autonomy	Meaningfulness at work	-0.017(0.024) [-0.064; 0.030]	0.068 ^{***} (0.006) [0.056; 0.079]	0.051 [*] (0.025) [0.003; 0.100]
Self-employment ^a	Work autonomy	0.053 ^{**} (0.025) [0.004; 0.101]	0.029 ^{***} (0.005) [0.019; 0.041]	0.081 ^{***} (0.024) [0.037; 0.133]
Self-employment ^a controlling for MW	Work autonomy	-0.017 (0.024) [-0.064; 0.030]	-0.000 (0.005) [-0.010; 0.009]	-0.017 (0.023) [-0.062; 0.030]

Note: Standard errors are reported in parentheses and limits for 95% confidence intervals are between brackets. Results are based on Table 3 and Table 4. Inference for indirect and total effects is based on 5000 bootstrap samples and use bias-corrected confidence intervals.

^a Controlling for Level-1 control variables (gender, age, education, wage) and Level-2 control variables (unemployment rate)

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Table 6 presents the results of the hypothesized cross-level interaction effect between self-employment status (level 1) and national societal legitimation of entrepreneurship (level 2) in the prediction of MW (level 1) - which corresponds to H4a - and in the prediction of work autonomy (level 1) - which corresponds to H5a. Table 6 also reports the conditional indirect effect (multi-level moderated mediation) via MW (H4b) and work autonomy (H5b).

After controlling for age, gender, education, wage and work autonomy at the individual level and unemployment rate at country level, the cross-level interaction of self-employment status and national societal legitimation of entrepreneurship predicting MW was significant and negative ($\gamma = -0.01$, $p < 0.001$), supporting H4a.

TABLE 6. Regression results for the moderating effect of national societal legitimation of entrepreneurship on the relation between self-employment and meaningfulness at work and work autonomy, and conditional indirect effects on subjective vitality.

	Meaningfulness at work			Work Autonomy		
	<i>b</i>	<i>SE</i>	<i>95% CI</i>	<i>b</i>	<i>SE</i>	<i>95% CI</i>
Intercept	3.160***	0.182	2.803; 3.516	0.219	0.332	-0.431; 0.869
<i>Level 1 control variables</i>						
Gender ^a	-0.016	0.011	-0.039; 0.006	-0.062***	0.016	-0.094; -0.029
Age	0.005***	0.001	0.004; 0.006	0.004***	0.001	0.002; 0.005
Education	0.006	0.005	-0.004; 0.015	0.161***	0.007	0.148; 0.175
Wage ^b	0.005	0.005	-0.005; 0.016	0.052***	0.008	0.038; 0.067
Autonomy	0.113***	0.005	0.103; 0.123	---	---	---
Meaningfulness at work	---	---	---	0.235***	0.011	0.214; 0.256
<i>Level 2 control variables</i>						
Unemployment	0.011*	0.006	0.000; 0.022	-0.007	0.010	-0.027; 0.013
<i>Level 1 independent variables</i>						
Self-employment ^c	0.682***	0.127	0.433; 0.931	0.075	0.183	-0.284; 0.434
<i>Level 2 independent variables</i>						
NSLE	0.008**	0.003	0.003; 0.013	-0.004	0.005	-0.014; 0.005
<i>Cross-level interaction</i>						
Self-employment * NSLE	-0.008***	0.002	-0.012; -0.004	0.010**	0.003	0.004; 0.016
<i>Variance components</i>						
Level-1 variance	0.566***	0.006	0.554; 0.577	1.174***	0.012	1.150; 1.199
Level-2 variance	0.009***	0.003	0.004; 0.018	0.030***	0.011	0.014; 0.061
<i>Pseudo R² / ΔPseudo R² level 1</i>	0.06/ 0.00			0.11/ 0.00		
<i>Pseudo R² / ΔPseudo R² level 2</i>	0.29/ 0.30			0.06/ 0.04		
<i>LR test^d</i>	182.52***			297.81***		
<i>Hausman test^e</i>	-0.91			9.31		
<i>Log-likelihood</i>	-20608.9			-27243.2		
<i>N</i>	18154			18154		
<i>Indirect effects of self-employment on subjective vitality</i>						
1 SD below the mean of NSLE	0.093***	0.008	0.077; 0.109	-0.000	0.004	-0.008; 0.007
At the mean of NSLE	0.071***	0.006	0.060; 0.083	-0.000	0.005	-0.010; 0.008
1 SD above the mean of NSLE	0.049***	0.007	0.036; 0.063	-0.000	0.005	-0.011; 0.010

Note: Calculations for indirect effects use the results of the last model in Table 4. Inference for indirect effects based on 5000 bootstrap samples and use bias-corrected confidence intervals. NSLE = National societal legitimation of entrepreneurship. ΔPseudo R² relative to models shown in Table 4.

^a 0 = female, 1 = male., ^b Wage= log of the value in Euros., ^c 0 = employed, 1 = self-employed.

^d LR test for one-level ordinary linear regression.

^e Hausman test for random-effects.

* *p* < 0.05. ** *p* < 0.01. *** *p* < 0.001.

To illustrate the interaction effect on MW, we plotted the simple slopes for respondents from countries where entrepreneurship has lower societal legitimacy (one standard deviation below the mean) and for respondents from countries with higher legitimacy (one standard deviation above the mean). Figure 2 shows the moderating effects of the national societal legitimization of entrepreneurship on the relationship between self-employment status and MW and the 95% confidence intervals.



Figure 2. Meaningfulness at work as a function of self-employment status and national societal legitimization of entrepreneurship (95% confidence intervals); ‘low’ and ‘high’ correspond to 1SD below and above the mean of NSLE, medium is the mean

Figure 2 shows that there are no significant differences in the MW reported by the self-employed in countries with different levels of national societal legitimization of entrepreneurship (the slope is not significantly different from zero $\gamma = 0.000$, $p > 0.05$; 95% CI = -0.006, 0.007). Thus, for the self-employed the experienced MW was always higher than for wage-employees, regardless of the legitimacy of entrepreneurship in their national context. However, for wage-employees, the higher the legitimacy of entrepreneurship, the more employees experienced MW ($\gamma = 0.008$, $p < 0.001$; 95% CI = 0.003, 0.013). In countries that were more favorable to

entrepreneurship (1 *SD* above the mean), the difference in the MW reported by wage-employees and the self-employed was significantly smaller than in countries that were less favorable to entrepreneurship (1 *SD* below the mean). Thus, H4a is supported, NSLE negatively moderates the positive relationship between self-employment and MW. The difference between self- and wage-employed individuals in MW is higher in countries where entrepreneurship is seen as less legitimate, when compared with countries where entrepreneurship is seen as more legitimate.

The results in Table 6 (last three rows) also revealed that the conditional indirect effect of self-employment on individual's subjective vitality via MW was stronger when society views entrepreneurship less rather than more positively. This is due to the diminished difference in MW between self-employed and wage employees in countries with higher levels of NSLE. The estimates were all positive and significant at 0.09 (95% BCa CI = 0.08, 0.11), 0.07 (95% BCa CI = 0.06, 0.08) and 0.05 (95% BCa CI = 0.04, 0.06) when NSLE was low, medium and high, respectively (Table 6). Therefore, H4b is supported.

Regarding the possible cross-level interaction between self-employment status and NLSE in the prediction of work autonomy (H5a), the results revealed that, after controlling for country's unemployment and individuals' age, gender, education, wage and MW, the cross-level interaction was significant and positive ($\gamma = 0.01$, $p < 0.01$, Table 6), supporting H5a. Figure 3 shows the moderating effects of societal legitimation on the relationship between self-employment status and work autonomy and the 95% confidence intervals for respondents from countries with low (one standard deviation below the mean), medium (at the mean) and high legitimacy of entrepreneurship (one standard deviation above the mean).

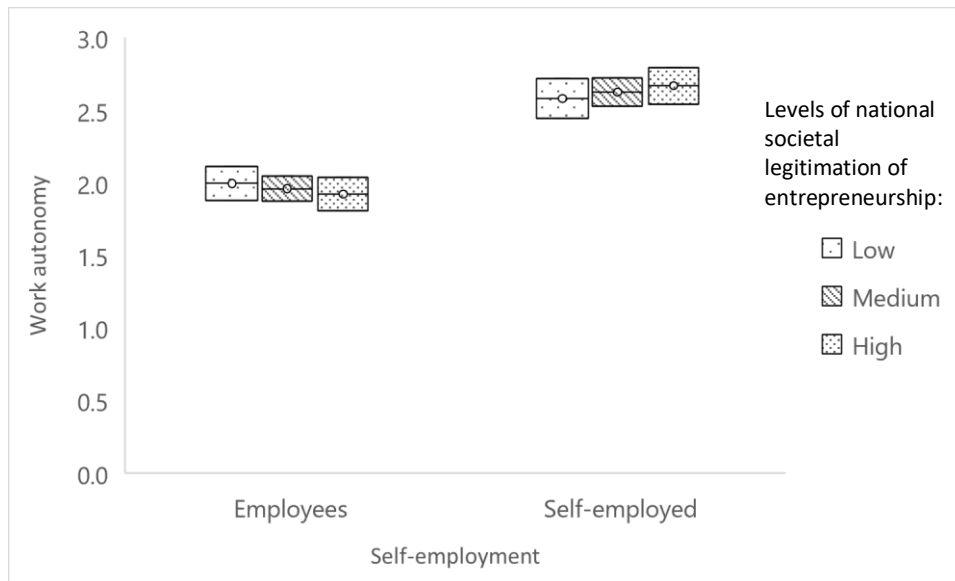


Figure 3. Autonomy at work as a function of self-employment status and national societal legitimation of entrepreneurship (95% confidence intervals); 'low' and 'high' correspond to 1SD below and above the mean of NSLE, medium is the mean

Figure 3 indicates that there are no significant differences in the work autonomy reported by the self-employed in countries with different levels of national societal legitimation of entrepreneurship (NSLE, $\gamma = 0.005$, $p > 0.05$; 95% CI = -0.005, 0.016). For these individuals, the perceived work autonomy is always higher than for wage-employees, regardless of the national context. Similarly, the perceived work autonomy of wage-employees did not change significantly when we compared participants from countries with different levels of NSLE ($\gamma = -0.004$, $p > 0.05$; 95% CI = -0.014, 0.005). However, in countries where entrepreneurship was seen as a more legitimate career choice by the population (NSLE 1 SD above the mean), the difference in perceived work autonomy between the self-employed and wage-employees is higher ($\gamma = 0.744$, $p < 0.001$; 95% CI = 0.680, 0.809) than in countries with lower levels of NSLE (1 SD below the mean) ($\gamma = 0.584$, $p < 0.001$; 95% CI = 0.509, 0.660). This supports H5a, which expected that NSLE moderates the relationship between self-employment and work autonomy such that the difference between wage-employees and the self-employed in work

autonomy is higher in countries where entrepreneurship is seen as more legitimate compared with countries where NSLE is low.

In line with our previous results, which showed that work autonomy was not a significant mediator of the relationship between self-employment status and subjective vitality (H3c was not supported, see Tables 4 and 5), we found no significant conditional indirect effect of self-employment on individual's subjective vitality via autonomy at work at any level of NSLE (see Table 6 last three rows). Therefore, we found no support for H5b.

5.2. Robustness checks

5.2.1. Check for selection effects

As a robustness test for the effects of self-employment status on MW, work autonomy and subjective vitality, we used propensity score (PS) methods with self-employed workers being the treatment group and wage-employees the control group. We used a logit model to estimate the PS conditional on the following variables, which are assumed to influence the probability of being self-employed: gender, age, education, and unemployment rate at country level⁹. Then, three alternative PS methods were considered: matching, inverse probability weighting (IPW) and use of PS as an additional covariate in all models estimated in the previous section. Using the first method, we matched each self-employed individual with the untreated individual (or individuals – wage employees) that displays the closest predicted propensity score(s), and vice-versa. Next, we estimated the response differences for each match. Finally, we estimated the average treatment effect (ATE) by averaging those differences for the whole sample. The second method, IPW, reweights individuals in such a way that the weights of those who received unexpected exposures are increased in the response regression model used to

⁹ In contrast to the controls in our main analysis, we did not include wage as a control variable in the selection tests because the measure of wage available refers to wage from current (self-)employed. It is thus an outcome of (self-)employment not a selection variable.

estimate the treatment effects. We used a double robust IPW approach and included in the regression model all control variables considered in our main analysis. Finally, the third PS method simply adds the estimated PS as an additional covariate in the models considered in our main analysis. The results reported in Table 7 are consistent with those reported in Table 3, providing further confidence in our findings.

TABLE 7. Treatment Effects for Self-employment: Propensity Score Matching Estimates

	Meaningfulness at work	Work autonomy	Subjective vitality
Main analysis ^a	0.283*** (0.018)	0.749*** (0.026)	0.084*** (0.024)
PS matching (ATE) ^b	0.312*** (0.016)	0.698*** (0.020)	0.093*** (0.026)
PS-IPW	0.290*** (0.017)	0.723*** (0.020)	0.081*** (0.026)
PS as added covariate	0.283*** (0.018)	0.751*** (0.026)	0.081*** (0.024)
<i>N</i>	21717	21873	21769

Note: ^a Effect of self-employment on autonomy at work, meaningfulness at work and subjective vitality controlling for gender, age, education, wage (Level 1) and unemployment (Level 2). Results presented previously in Table 3.

^b Robust standard errors, based on the correction by Abadie and Imbens (2016), are reported in parenthesis.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

5.2.2 Necessity-opportunity entrepreneurship.

To address the concern that we may identify different effects for people that chose to be self-employed out of opportunity versus necessity, we ran additional robustness checks. We checked for differences in the means of MW, work autonomy, and subjective vitality between individuals that immediately before becoming self-employed were employed (a proxy for opportunity entrepreneurship) and individuals that previously to being self-employed were unemployed (a proxy for necessity entrepreneurship, following the approach used by Binder & Coad, 2013; Nikolova, 2019). The results show that after controlling for gender, age, education and wage, there are no significant differences between opportunity vs. necessity entrepreneurs in the means of MW (the regression coefficient of opportunity vs. necessity on MW was $b = 0.050$, $p = 0.513$), work autonomy ($b = -0.011$, $p = 0.900$), and subjective vitality ($b = -0.103$, $p = 0.380$). Results were similar and non-significant when we controlled additionally for work autonomy and MW respectively.

6. Discussion

In a multi-level study of 22,002 individuals from 16 European countries, we found self-employment to be associated with higher eudaimonic well-being (subjective vitality) which was explained by the self-employed experiencing their work as more meaningful than wage employees, in line with our predictions drawing on self-determination theory. The findings could not be better explained by differences in work autonomy or self-selection. Although the self-employed reported higher work autonomy than wage employees, it was meaningfulness at work, and not work autonomy, that explained why the self-employed experienced higher vitality than wage employees. These processes were shaped by context, in line with predictions that in countries in which entrepreneurship is seen as an attractive career, everyone makes more self-determined career choices, which enhances the meaningfulness of the chosen option (especially for wage employees), while magnifying differences in perceived work autonomy. Our study expands the understanding of eudaimonia and self-employment.

6.1 Theoretical Implications

6.1.1 Advancing the understanding of entrepreneurs' eudaimonic well-being

Our study responds to calls to consider entrepreneurs' eudaimonic well-being (Ryff, 2019; Stephan, 2018; Wiklund et al., 2019) and advances our understanding of eudaimonic well-being in entrepreneurship. It develops the scarce existing research on entrepreneurs' eudaimonic well-being (Hahn et al., 2012; Nikolaev et al., 2020; Shir et al., 2018) by newly drawing attention to meaningfulness at work as an critical eudaimonic process and to vitality as an important eudaimonic outcome. In doing so, our study provides new insights into the mechanisms of eudaimonia. It also complements existing research on entrepreneurs' well-being

which has focused mainly on hedonic well-being, its antecedents and consequences, and has highlighted work autonomy as a key driver of these differences (see Stephan, 2018).

Our study provides a theoretical framework and evidence that helps to understand why and how *work-related* eudaimonia differs for entrepreneurs and wage employees and reveals MW and vitality as overlooked non-pecuniary benefits of self-employment. Our findings are consistent with the notion that the initial volitional career choice to be self-, rather than wage-, employed allows individuals to choose a job that they find worth doing, which drives eudaimonic benefits (MW and subjective vitality).

Our findings suggest that this initial self-determined choice (through creating meaningful work) is more consequential than the ongoing day-to-day decision-freedom (work autonomy) for eudaimonic well-being. The meaning entrepreneurs attribute to their work helps to understand why self-employment is positively related to vitality, even though it can, at times, also contain menial work as the self-employed have to be ‘jack of all trades’ (e.g., Lazear, 2005) and can even be precarious work (e.g., working in the gig economy or for a sole client, Lewchuk, 2017; Petriglieri, Ashford, & Wrzesniewski, 2018). This finding also fits with emerging research. For instance, on the one hand, research suggests that on a daily basis the self-employed may experience many constraints and limits to their work autonomy (van Gelderen, 2016; Van Gelderen, Shirokova, Shchegolev, & Beliaeva, 2019). On the other hand, research on precarious work highlights that if this work is experienced as meaningful, it can still offer some well-being benefits (Deery, Kolar, & Walsh, 2019). In sum, while existing work has often hailed positive job characteristics as an advantage of self-employment and a source for well-being, our results suggest an alternative lens. The experienced MW is more central to understanding entrepreneurs’ vitality and thriving, and possibly other well-being outcomes and performance than job characteristics.

Finally, our research not only enhances our understanding of the nature of entrepreneurs' work experience by drawing attention to MW; it also newly highlights vitality as an essential component of eudaimonic well-being and of particular importance to entrepreneurship. Vitality appears critical for entrepreneurial agency and performance (Hahn et al., 2012). Yet, vitality rarely receives theoretical or empirical attention in entrepreneurship literature and thus remains poorly understood. We hope our study helps to instigate research interest in vitality. In addition to links with performance, vitality can also be important to understand the micro-dynamics of entrepreneurs' well-being over a day or week, and thus develop new theoretical and practical insight to support entrepreneurs in managing their energy and productivity. Diary studies of employee's energy management can provide inspiration for such research (Fritz et al., 2011; Niessen et al., 2012).

In sum, we complement emerging research that draws attention to general context-free eudaimonic processes and their association with mainly hedonic well-being (Nikolaev et al., 2019; Shir et al., 2018). We do so by shining a light on *work-related* eudaimonic processes which advance our understanding of how and why self-employment can be an energizing work setting.

6.1.2 Contextualizing entrepreneurs' (eudaimonic) well-being

Our study contributes by theorizing and testing the role of context for eudaimonic processes and establishes the societal legitimacy of entrepreneurship as an important boundary condition for these processes. It advances a context-sensitive understanding of entrepreneurs' well-being that complements past research, which rarely accounts for context effects (Stephan, 2018). Equally, the emerging research on entrepreneurs eudaimonic well-being is based on single country samples (Hahn et al., 2012; Shir et al., 2018) or controls country influences

'away' instead of theorizing them in multi-level frameworks (Nikolaev et al., 2019). We hope our multi-level theorizing can inspire more research on eudaimonia in different contexts.

More specifically, our contribution develops theory by integrating, on the one hand, predictions from self-determination theory on the types of contexts that enable individuals to make self-determined (career) choices (Deci et al., 2017; Katz et al., 2018) with cultural research on the relevance of norms and, in particular, the legitimacy of entrepreneurship (Kibler et al., 2014; Stephan & Uhlaner, 2010). This complements culture-entrepreneurship fit explanations that are commonly evoked to theorize the effect of context on entrepreneurship (Hayton, George, & Zahra, 2002). Equally, we do not constrain our arguments, as is common, to consider only the effect of cultural norms on the self-employed and the support they can mobilize from others in their culture (Autio et al., 2013; Kibler et al., 2014; Stephan & Uhlaner, 2010). Instead, we conceptualize and demonstrate that cultural norms enhance volitional career choice for both the self- and wage- employed. Thus, future research on culture should expand its theorizing to consider additionally how culture effects the non-entrepreneur 'others'.

In sum, there have been repeated calls for more context-sensitive theory and research in entrepreneurship (Welter, 2011; Zahra & Wright, 2011), in organizational behavior (Johns, 2006, 2017) and on entrepreneurs' well-being (Stephan, 2018). Our study responds to such calls. Moreover, it proposes important nuances and guidance 'where to look' for context effects in research on well-being. In line with self-determination theory, context is less likely to shape or moderate basic psychological processes such as the link between experienced meaningfulness and vitality (Chen et al., 2015; Church et al., 2012). Yet, context can shape antecedent conditions whether meaningfulness at work arises in the first place.

6.1.3 Implications for the study of meaningfulness at work and self-determination theory

Drawing on self-determination theory and the role of volitional choice, our study identifies the employment setting (self- vs. wage-employed) as a relevant predictor of meaningfulness at work. Specifically, we find self-employment has a high potential for MW that has not yet been recognized in this literature. Considering that volitional choice and autonomy are important antecedents in models of meaningfulness at work (e.g., Allan et al., 2016), we suggest that this literature would benefit from considering self-employment more seriously. As Lips-Wierma and Morris (2009, p. 494) suggest, “the mark of true meaningfulness is that it is based on personal discovery and free choice rather than prescription and domination” – a description fitting self-employment particularly well. We suggest that the consideration of self-employment, as an important determinant of MW, may not only help to extend research on meaningfulness at work but also benefit policies of inclusion in the labor market. Self-employment can uniquely offer meaningful work to individuals who are seen to have disadvantages when it comes to fitting into standard wage-employment settings, such as neuro-diverse individuals with ADHD, dyslexic or autistic tendencies (Wiklund, Hatak, Patzelt, & Shepherd, 2018) and those with disabilities (Pagán, 2009).

Moreover, we offer new insights on how meaningful work can be shaped by societal contexts that past reviews on meaningful work have called for (Bailey, Yeoman, Madden, Thompson, & Kerridge, 2019, p. 22). While there is first research that suggests that the changing legitimacy of social issues can impact the meaningfulness of volunteers’ work (Florian et al., 2019), we offer a complementary lens. This lens emphasizes how social legitimacy of more ‘niche’ career options, which are typically only picked up by a minority of individuals in the workforce, enables volitional choice even for those who do not embrace this career and thereby enhances their meaningfulness of work.¹⁰

¹⁰ We note that we find no impact of NSLE on the MW of the self-employed. Our findings suggest a ceiling effect for self-employment, consistent with our theorizing that self-employment is particularly infused with meaningfulness for those who pursue it.

Whereas research on the meaningfulness at work emphasizes that meaningfulness derives from the congruence with societal values and norms (Lepisto & Pratt, 2017), we find evidence consistent with an alternative explanation based on self-determination theory. Our theorizing emphasizes the role of self-determined choice for meaningfulness at work, which has been established at the individual level (Duffy et al., 2015; Tims, Derks, & Bakker, 2016), but has not yet been theorized with regard to (country) context in a multi-level model. Moreover, an important difference between our study and theorizing on meaningfulness at work (Lepisto & Pratt, 2017) is the focus on the self-employed. Lepisto and Pratt (2017) and the meaningfulness at work literature focus on dependent wage employment. Societal worth attributed to a job might be more important for wage employees. It may compensate for the relative lack of other intrinsic sources of meaningfulness.

Regarding self-determination theory (SDT), our research expands the view of what aspects of context are relevant for shaping eudaimonic processes by newly highlighting how social pressures and legitimacy can impact choice options. SDT mainly theorizes the role of autonomy supportive contexts and typically considers proximal levels of context, such as the family or supervisors in work organization. Their autonomy supportive behavior is key in supporting volitional choice of children or employees (Deci et al., 2017; Katz et al., 2018). Our findings introduce the idea that social pressures and especially the social legitimation of alternatives constrains or enhances the set of choice options that can be considered. As there is only volitional choice if there are options to choose from (Deci & Ryan, 1985), such social pressures and legitimacy can be an important constraint or enabler of self-determination.

While SDT has been successfully employed to understand work, work motivation and well-being (Deci et al., 2017), its application to career decision and career choices has been more limited (Katz et al., 2018). We hope our study can inspire future work on SDT and career choices, including choices for less ‘standard’ careers such as self-employment.

One surprising pattern of results in our study suggests that experienced MW may shape perceptions of having work autonomy. Our data are cross-sectional and this pattern needs to be corroborated by future longitudinal research. Yet, it is intriguing considering that the dominant view in organizational behavior research is that work autonomy and other features of ‘good’ job design enable experiences of meaningfulness (Hackman & Oldham, 1975; Parker, 2014) in line with the realization perspective of MW (Lepisto & Pratt, 2017). Our findings imply that experiencing work as significant, purposeful and as an extension of oneself might enable individuals to generate spaces where they feel they can make self-determined decisions. Conversely, if work is experienced as meaningless, useless and without impact, individuals are less likely to be motivated to exercise decision-making autonomy even if it is provided. In other words, our findings suggest that MW generated through the justification perspective facilitates meaningfulness from the realization perspective. It thus offers first insights into Lepisto and Pratt’s (2017, p.116) call for research to explore how the two perspectives work together. We hope future research can explore such patterns in more depth as they offer insights beyond entrepreneurship to research on meaningful work and the outcomes of meaningful work.

6.2 Limitations and Future Research

First, this study is limited in its ability to make causal inferences due to the cross-sectional nature of the research design. All research comes with trade-offs and the use of data from 16 different countries enabled us to test a multi-level model, but it meant that we had to rely on cross-sectional data. We know of no dataset that can provide harmonized longitudinal data for that many countries. At the same time, our findings are consonant with previous literature that uses stronger research designs and which suggest that MW is a predictor of individuals’ energetic resources (Blanco-Donoso et al., 2017; Fritz et al., 2011; Lam et al., 2016; Niessen et al., 2012). Nevertheless, using a longitudinal design in future research would

allow to test possible reciprocal relationships between MW and subjective vitality. It is possible that people feeling more energized and cognitively alive would use that appraisal as input information to evaluate the purpose and significance of their work (cf. Affect infusion model, Forgas, 1995), reporting thus higher levels of MW.

Second, as is common in research on well-being (e.g. Nikolaev et al., 2019; Shir et al., 2018), we relied on self-report data for MW, work autonomy, and subjective vitality. Since MW and vitality are constructs based on subjective experience, self-reports are appropriate, and they showed good internal reliability in our study.

Third, we used a short general measure of subjective vitality. Future research could employ longer multi-faceted measures of subjective vitality to refine our understanding of the physical, emotional and cognitive resources involved in the concept of vitality (Shirom, 2003). Such an approach is likely to be particularly suitable for survey or diary studies, rather than for cross-country studies such as ours, which often must economize on scale length. Future research could explore how vitality and MW are relevant for the long-term success of entrepreneurs and survival of their enterprises, and whether prior performance may influence the purpose and meaningfulness that the self-employed attribute to their work.

Fourth, by considering the societal legitimacy of entrepreneurship we investigated a specific aspect of context that is particularly relevant for the setting of self-employment in a relatively small sample of 16 European countries. Yet, we were able to establish that context (societal legitimacy of entrepreneurship) acts as a boundary condition even in this relatively small and homogenous set of countries. Institutional conditions are similar in these 16 countries because they all operate within the legal frameworks of the European Union. This helped to isolate the effects of societal legitimation. It is likely that societal legitimacy and other cultural norms would have even more pronounced effects when more varied countries are considered, and in emerging economies where the career choice set might look very differently (due to lack

of wage employment options, e.g., Estrin, Mickiewicz, Stephan, & Wright, 2018). Moreover, our time frame was 2010, it would be interesting to expand our findings to further time periods.

Fifth, there is considerable heterogeneity in self-employment. Our main analyses sought to control for necessity-based entrepreneurship by including the national unemployment rate in our empirical models. Interestingly, additional robustness checks did not find differences between necessity and opportunity entrepreneurship in MW, work autonomy, and subjective vitality. However, past research established systematic differences in the hedonic well-being of opportunity and necessity entrepreneurs (Stephan, 2018 for a review). One reason might be that our measure of opportunity-necessity was too crude (although it was the same as in Binder & Coad, 2013 and Nikolova, 2019). Future research could use direct measures of entrepreneurial motivation as well as more nuanced measures that differentiate challenge- and purpose-driven motivations and relate these to eudaimonic well-being.

Sixth, as we indicated in section 3.2, different models of eudaimonic well-being exist. Nikolaev et al. (2019), Shir et al., (2018) and our study investigate different aspects of eudaimonia and thus offer complementary insights. Our study only investigates one eudaimonic process and outcome. Future research might try to combine the different models of eudaimonic well-being (Deci & Ryan, 2008; Ryff, 1989; Waterman et al., 2010) into one study to disentangle diverse eudaimonic processes and outcomes and determine which are most relevant for entrepreneurship. However, such research needs to be mindful that concepts and models of eudaimonic well-being partly overlap, and that context-free measures of eudaimonia of psychological functioning and psychological well-being (Ryff, 1989) show medium to large relationships with the Big 5 personality traits (Anglim, Horwood, Smillie, Marrero, & Wood, 2020). This challenges researcher to disentangle what eudaimonic well-being benefits originate from the choice to engage in self-employment and the nature of self-employed work as opposed to the self-employed's personality traits.

Finally, while we depict subjective vitality as a positive energetic resource in line with eudaimonic models of well-being, we also encourage future research to investigate the long-term consequences of high subjective vitality for entrepreneurs. It could be that vitality is a double-edged sword, leading entrepreneurs to engage in more work and ‘over-work’ themselves without enough time for rest and recovery. This would in the long run enhance entrepreneurs’ stress and diminish their well-being.

6. 3 Practical Implications

Our findings also have implications for policymakers. The European Commission (EC) presents entrepreneurship as a political priority considering it is “a powerful driver of economic growth and job creation” (European Commission, 2013: *Entrepreneurship 2020 Action Plan*, p. 3). Policymakers around Europe have sought to stimulate self-employment to deal with the aftereffects of the 2008 economic crisis to improve employability levels, mitigate unemployment and foster economic growth. An ambition that is likely to be salient again to deal with the aftereffects of the Covid-19 pandemic. The EC in its *Entrepreneurship 2020 Action Plan* posits that “we must work on ensuring that being an entrepreneur is an attractive prospect for Europeans” (EC, 2013, p. 5), but it also admits that in Europe there is still “a widespread culture that does not recognize or reward entrepreneurial endeavors enough and does not celebrate successful entrepreneurs, as role models who create jobs and income” (p. 4). Our results suggest that the lack of appreciation of entrepreneurship is, not only detrimental to entrepreneurial activity, but can also diminish the quality of work life among wage employees. Improving the societal legitimation of entrepreneurship would also change what it means to be a wage employee in that national context.

In this sense, our study provides further re-enforcement for the EC’s ambition to celebrate and appreciate self-employment more. Public communication campaigns promoting

entrepreneurship and entrepreneurial role models, as well as conveying the benefits, rewards and challenges of this career choice, are certainly a helpful tool (EC, 2013). We would add that role models should be varied, not only representing high-growth entrepreneurs but also appreciating that entrepreneurship may be small scale self-employment, which has an important economic function (Welter, Baker, Audretsch, & Gartner, 2017). One challenge in enhancing the legitimacy of self-employment is that it is a relative 'niche' segment in the workforce (most people are in wage employment). This is because legitimacy is typically conferred to entities that are common, widespread and therefore can be taken for granted (Stephan & Uhlaner, 2010; Zimmerman & Zeitz, 2002). Hence, aside from showcasing role models, incorporating entrepreneurship in school, vocational and university curricula would ensure that knowledge about, and acceptance of, self-employment becomes more widespread and thus that self-employment would be increasingly seen as a legitimate career path.

7. Conclusion

Research on entrepreneurship and well-being is focused on hedonic well-being; with little attention given to eudaimonic processes. Our study widens the scope of entrepreneurship and well-being research by drawing attention to a hitherto overlooked eudaimonic process (meaningfulness at work) and outcome (subjective vitality) and how they are shaped by context (the societal legitimacy of entrepreneurship). Our findings showcase that the meaningfulness at work is more central to explaining eudaimonic well-being (subjective vitality) than work autonomy. They develop our understanding of meaningfulness at work as an important well-being resource for entrepreneurs and complement past research that focuses on work autonomy as the main contributor to entrepreneurs' well-being. We outline contributions to the understanding of eudaimonia in entrepreneurship and the role of context for (eudaimonic) well-

being. Our research has also implications for the organizational literature on meaningfulness at work and self-determination theory in relation to career choices.

8. References

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