

Entrepreneurship and Subjective Well-Being: The Mediating Role of Psychological Functioning

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Abstract

Well-being is an essential outcome of engagement in entrepreneurship, but the pathway from self-employment to well-being is poorly understood. To address this, we develop a model in which psychological functioning—purposeful engagement with life, realization of personal talents and capabilities, and fulfillment of intrinsic needs such as autonomy and competence—mediates the relationship between entrepreneurship and subjective well-being. We test our model with data from the European Social Survey using structural equation modeling and a series of robustness tests (e.g., propensity score matching estimators and accounting for model uncertainty). Results suggest that entrepreneurship is associated with substantial benefits in terms of psychological functioning—both personal and social—which almost entirely mediate the relationship between entrepreneurship and subjective well-being. These findings highlight psychological functioning as a critical pathway between entrepreneurship and subjective well-being.

Keywords

entrepreneurship, self-employment, subjective well-being, psychological functioning

Entrepreneurship is a highly dynamic and uncertain endeavor, and thus individuals who seek self-employment must confront the reality that the journey is often a roller-coaster ride (Cardon, Foo, Shepherd, & Wiklund, 2012; Cardon & Patel, 2015; Pollack, Vanepps, & Hayes, 2012). While the valleys of the ride are characterized by anticipated adversity, unforeseen challenges, and even failure (Pollack et al., 2012; Shepherd, 2003), the peaks offer enticing rewards such as personal autonomy, meaningful work, and financial success (e.g., Shepherd & Patzelt, 2017; Shir, Nikolaev, & Wincent, 2018). From a scholarly perspective, the culmination of traversing these peaks and valleys is increasingly synthesized into the holistic concept of entrepreneurs' subjective well-being—the presence of positive affect, the absence of negative affect, and the

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experience of happiness/satisfaction—that reflects experiencing life in positive ways (Diener, 1984). A growing literature on the topic has already documented that various aspects of subjective well-being can be critical drivers of opportunity evaluation, creativity, risk-taking, and effort on future-oriented entrepreneurial tasks (e.g., Baron & Tang, 2011; Dolan, Peasgood, & White, 2008; Foo, 2011; Foo et al., 2009; Nikolaev, Shir, & Wiklund, 2018; Welpel, Grichnik, Michl, & Audretsch, 2012). Engaging in entrepreneurship can also lead to higher levels of job and life satisfaction, which are critical to well-being (e.g., Binder & Coad, 2013; GEM, 2014; Stephan & Roesler, 2010).

While these findings are immensely insightful, the literature so far has mostly overlooked “eudaimonic” aspects of well-being related to psychological functioning (e.g., intrinsic psychological needs, goals, and aspirations) as a critical pathway to subjective well-being (Huppert, Marks, Vázquez, & Vittersso, 2012; Ryan & Deci, 2017; Seligman, 2012). This is salient because studies to date offer inconsistent empirical findings and preliminary evidence suggests that this may be, at least in part, due to omission of key psychological variables (Baron, Franklin, & Hmieleski, 2016; Lange, 2012; Laguna, Razmus, & Żaliński, 2017; Roche, Haar, & Luthans, 2014; Totterdell, Wood, & Wall, 2006). This suggests that psychological functioning could loom large in the relationship between entrepreneurship and well-being. In addition, questions about whether well-being flows differentially to entrepreneurs who employ and supervise others or work as solo-entrepreneurs (Prottas & Thompson, 2006; Warr, 2017), concerns about whether well-being is a reflection of job fit self-selection (Roche et al., 2014; Warr, 2017), and the lack of consideration of psychological functioning in studies on the link between entrepreneurship and well-being further highlight potential stumbling blocks.

This study seeks to address these limitations by focusing on elements of psychological functioning as critical mediators of the relationship between entrepreneurship and subjective well-being while controlling for values-based self-selection. To that end, we theorize that aspects of psychological functioning—purposeful engagement with life, adapting to challenging and uncertain situations, realization of personal talents and capabilities, and fulfillment of intrinsic needs of autonomy, competence, and relatedness—serve as pathways through which entrepreneurs experience subjective well-being as an aftershock of engagement in entrepreneurship (Ryff, 1989; Ryan & Deci, 2000; Seligman, 2012). Hence, we introduce elements of psychological functioning as the missing link in the entrepreneurship and well-being equation.

We rigorously test these conceptualizations with a sample of self-employed people who *employ and supervise others* (i.e., entrepreneur-supervisors) drawn from the European Social Survey (ESS). Using structural equation modeling (SEM) and a battery of robustness tests, including propensity score matching (PSM) estimators, we find that entrepreneurship is associated with substantial benefits in terms of psychological functioning—both personal and social—which almost entirely mediate the relationship between entrepreneurship and subjective well-being. We further explore which elements of psychological functioning are more instrumental to a different aspect of subjective well-being. Our findings highlight psychological functioning as a critical roadway from entrepreneurship to subjective well-being and further shed light on whether the well-being benefits from entrepreneurship depend on employing and supervising others (Prottas and Thompson, 2006; Warr, 2017) and whether these benefits are merely a reflection of personal values and job fit self-selection.

Our study makes a rich contribution to the entrepreneurship literature and at the same time provides new insights for researchers in disciplines where psychological functioning may be of interest. In entrepreneurship, the model and findings we present add understanding by conceptualizing psychological functioning as a previously overlooked pathway in the entrepreneurship and subjective well-being relationship, an advancement that takes a step toward reconciling the aforementioned pattern of inconsistent findings. Components of psychological functioning have

been documented as essential to the formation of subjective well-being (Ryan & Deci, 2017; Seligman, 2012), yet have largely been sidelined in entrepreneurship studies (see Stephan, 2018; Wiklund, Patzelt, & Dimov, 2016). This means that while some psychological elements such as personal autonomy, optimism, and self-efficacy have been theorized as underpinning the relationship between entrepreneurship and well-being (Baron et al., 2016; Warr & Inceoglu, 2018), they represent only a fraction of psychological functioning components. Self-acceptance, purpose and meaning, competence and engagement, and positive social relationships are also critical to the formation of subjective well-being (Ryan & Deci, 2017), but have not been considered. Hence, we provide a more complete theoretical picture of entrepreneurs' subjective well-being.

Beyond entrepreneurship, our study provides insights for the application of psychological functioning to a range of occupational phenomena that might meaningfully link to well-being. Organization behavior scholars, for instance, are keen to explore topics such as work-life balance (Beauregard & Henry, 2009; Sturges & Guest, 2004) or job and work design (Parker, 2014), which can be essential to one's well-being (Haar, Russo, Suñe, & Ollier-Malaterre, 2014; Kinman & Jones, 2008). To the best of our knowledge, however, psychological functioning has not been considered as a link between entrepreneurship, as an alternative occupational choice, and well-being in this context. Likewise, management scholars have explored factors such as mindfulness (attention focused state of consciousness) as influential for occupational task completion (cf., Dane, 2011), yet thus far have not integrated cognitive science research linking mindfulness to well-being (Gu, Strauss, Bond, & Cavanagh, 2015). Together, these examples illustrate how as research on the link between antecedents such as work-life balance, job design, or mindfulness toward task completion and well-being unfolds, researchers in varied disciplines could look at the link between entrepreneurship and well-being through the psychological functioning approach we advance in this paper as a blueprint.

Conceptual Foundations

We begin the development of a model of entrepreneurship, psychological functioning, and subjective well-being with a review of relevant perspectives that inform key concepts to our theorizing. Specifically, it is important to have a clear understanding of the concepts of subjective well-being and psychological functioning and how they link together.

Subjective Well-Being

The concept of subjective well-being involves aspects of experiencing life in positive ways, encompassing both affective states and cognitive assessments of global life judgments and domain satisfaction (e.g., see Diener, 1984). Broadly speaking, subjective well-being is based on two distinct well-being accounts—hedonic and evaluative. According to the hedonic account, well-being is defined as the presence of positive affect (pleasure) and the absence of negative affect (pain) (Diener, 1984; Kahneman, Diener, & Schwarz, 1999). At the empirical level, hedonic well-being has been operationalized with a wide range of positive and negative feeling states—emotions and moods such as happy, calm, sad, nervous, or fatigued—that individuals experience in their daily lives (e.g., Barsade & Gibson, 2007; Watson, Clark, & Tellegen, 1988). The evaluative account of well-being, on the other hand, considers well-being as a cognitive evaluation of how well one's life is going (e.g., Diener, Emmons, Larsen, & Griffin, 1985). This model assumes that people are the best judges of their own lives because they can assess their well-being by assigning relative weights to various hedonic experiences over time (Kahneman et al., 1999; Kahneman & Krueger, 2006). Evaluative well-being is most commonly assessed

with life satisfaction scales that represent a retrospective assessment of life in general or specific life domains (Diener et al., 1985).

Together, these two accounts of well-being—hedonic and evaluative—represent the concept of subjective well-being (henceforth SWB), which captures aspects of positive affect and life satisfaction as well as the absence of negative affect (Diener, 1984). While it is widely accepted that these aspects of the human experience are intrinsically valuable, it is by now also recognized that SWB fails to reflect the richness of what it means to live a fully functioning life (Ryan & Deci, 2000; Seligman, 2012). This is problematic because, despite over three decades of research, the predominant approach to assess how well one's life is going has been primarily relegated to unidimensional constructs of happiness, life satisfaction, or positive affect (e.g., see Ryff, 2014). This is also true for research in entrepreneurship, which has only recently started examining self-employment as an essential contributor to mental health and well-being.¹ Hence, a more comprehensive theoretical framework and empirical approach are needed to capture overlooked aspects of psychological functioning that underlie SWB because of entrepreneurial engagement (Stephan & Roesler, 2010). For insight on this, we turn to a stream of research commonly called the “eudaimonic” approach to well-being that advances *psychological functioning* as a critical component of living a fulfilling life and thus a pivotal pathway to SWB (Huppert et al., 2012; Ryan & Deci, 2017; Seligman, 2012). While the eudaimonic approach has operationalized psychological functioning in various ways, we follow Huppert et al.'s integrative well-being module in the 2012 ESS, combining elements of psychological functioning from some of the most established eudaimonic well-being accounts in the literature (Ryan & Deci, 2000; Ryff & Singer, 2013; Seligman, 2012).

Psychological Functioning

Psychological functioning is centered on positive life engagement where “purpose-seeking, realization of personal talents and capabilities, and enlightened self-knowledge” are central to the notion of living well (Ryff, 2014, p. 10). More specifically, psychological functioning involves pursuing life goals (e.g., accomplishing challenging tasks, maintaining meaningful relationships, persevering in the face of adversity, or engaging in purposeful activities) that are valuable for their own sake in the sense that they engender realization of one's full potential as a human being (Ryan & Deci, 2017). This is to say that psychological functioning reflects a dynamic process in which the satisfaction of intrinsic psychological needs, goals, and aspirations come together to drive positive feelings and satisfaction with life (Ryan & Deci, 2017; Seligman, 2012).

Because psychological functioning is “both a public process and a private conduct” (Keyes, 1998, p. 121), we differentiate between personal and social functioning (Diener et al., 2010; Ryff & Singer, 2013). In this respect, the literature delineates between personal and social expectations (Biddle, 1986) and further highlights how people manage incongruity between private and public life (Keyes, 1998; Goffman, 1959). Besides, most tasks force people to make trade-offs between private benefits or social generativity (e.g., Keyes, 1998; Erikson, 1963). Consequently, the personal and social sides of life are two separate sources of meaning, challenges, and engagement, which have “distinct consequences for judging a well-lived life” (Keyes, 1998, p. 121).

This conceptualization is essential in the context of entrepreneurship because it shifts the emphasis from the mere *state* of positive or negative emotions that flow from engaging in entrepreneurial action to the *enabling conditions* that allow individuals to experience various aspects of psychological functioning as part of their entrepreneurial journey—a journey that requires “facing up to the future” while bearing uncertainty, but also doing so “fueled by purpose and hope” (Dimov, 2017, p. 73; McKelvie, Haynie, & Gustavsson, 2011). In that way, entrepreneurship presents a unique context that enables individuals to define their purposes and goals and

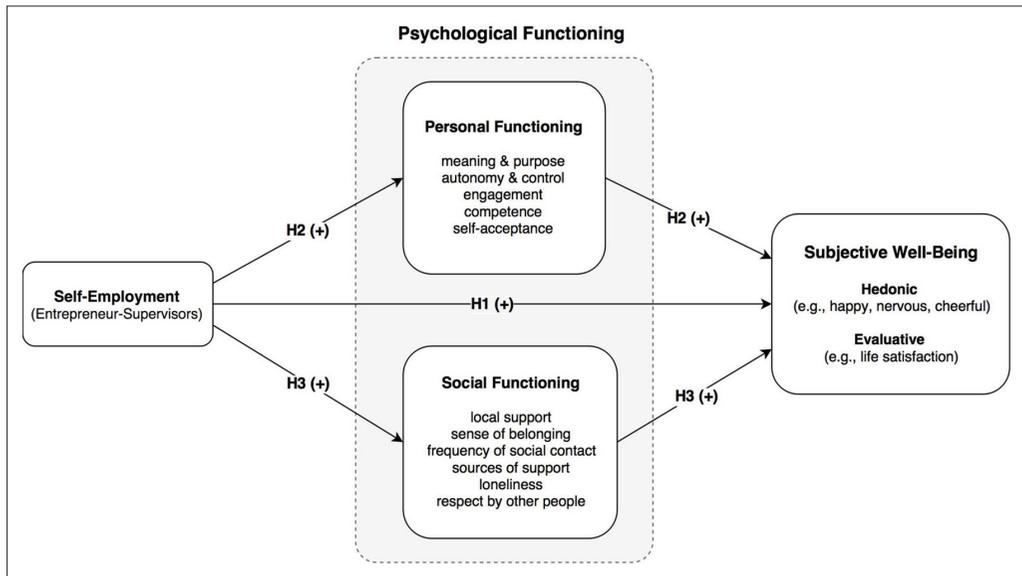


Figure 1. Theoretical model.

pursue them using their talents and capabilities in a self-directed way that facilitates personal and social functioning and therein inspire positive assessment of SWB. Our emphasis on personal and social functioning diverges from previous studies that contend entrepreneurs are people who deploy cognitive resources such as psychological capital, optimism, and self-efficacy (e.g., Baron et al., 2016), which, in turn, contribute to SWB. Our perspective is also novel because prior evidence suggests that measures of life satisfaction and affect, central to previous research, tend to be quite insensitive to engaging in challenging, self-directed and purposeful tasks (Ryan & Deci, 2017; Vittersø, 2004, 2013; Vittersø et al., 2010) that are the epicenter of the entrepreneurial journey (McMullen & Dimov, 2013) and are encompassed by elements of psychological functioning.

SWB and Psychological Functioning: An Integrative Framework

The conceptual tenets outlined above provide the essential ingredients of the logic underpinning the relationship between entrepreneurship and SWB, which we theorize is mediated by personal and social aspects of psychological functioning. We illustrate these relationships in Figure 1. The value of this approach is that it links relevant constructs in a coherent and integrative model of well-being that generates explicit hypotheses about entrepreneurship as an *enabling condition* for personal and social psychological functioning. In turn, psychological functioning can be viewed as a pathway to SWB (Ryff & Singer, 1998; Ryan & Deci, 2000; Seligman, 2012). This moves the scholarly conversation forward by highlighting not only how entrepreneurship *directly* improves one's psychological functioning but also shows the extent to which different aspects of psychological functioning mediate the relationship between entrepreneurship and SWB.

As Figure 1 shows, the baseline for our model is the direct relationship between engagement in entrepreneurship and SWB. We measure entrepreneurship as self-employed people who employ and supervise others (i.e., entrepreneur-supervisors). We are not the first to explore this direct relationship and, like those who precede us (see Stephan, 2018), we too contend that there

is a positive link between engaging in self-employment and SWB. A conceptual explanation for why we expect this relationship is more complicated than one might assume. This is because entrepreneurs face extreme working conditions—a higher level of uncertainty, job insecurity, more extended work hours, role ambiguity, and intense time-pressure (see Bradley & Roberts, 2004; van Praag & Versloot, 2007; Parker, 2009). All of these elements are considered “work-stressors,” which individuals often appraise as threatening (Lazarus & Folkman, 1984). These work-related stressors, in turn, could have detrimental consequences for well-being (Häusser, Mojzisch, Niesel, & Schulz-Hardt, 2010). However, recent global analyses (e.g., GEM, 2014) and systematic reviews indicate that entrepreneurs consistently report being “extremely happy in their work and highly satisfied with their life” and these are essential elements of well-being (Stephan & Roesler, 2010; Stephan, 2018). A possible explanation, then, is that entrepreneurs perceive work-related stressors as less straining (Häusser et al., 2010) because they do not follow a set of rules and procedures prescribed by others (Baron & Shane, 2007). At the same time, entrepreneurs are more likely to find their work challenging and enjoyable (Benz & Frey, 2008) and they gain satisfaction from vast opportunities for personal learning and growth, another key contributor to feelings of well-being.

These insights fit with the notion that SWB involves aspects of both experiencing life in positive ways and not experiencing life in negative ways (Diener, 1984). Research to date indicates that entrepreneurship is a stimulating environment that provides “the challenge of learning” (Cardon & Patel, 2015). This is precisely the type of environment that is likely to stimulate higher levels of job and life satisfaction that coalesce into a heightened sense of SWB (Scitovsky, 1976, p. 91). Hence, we contend that since people spend considerable time at work, entrepreneur-supervisors will experience higher levels of SWB compared to traditional salaried workers.

While this approach is in line with extant research and reflects our conceptual reasoning for expecting a positive relationship between entrepreneurship and SWB, it diverges from a few recent studies that offer a different explanation. Namely, recent research suggests that the relationship between entrepreneurship and well-being is driven by values-based self-selection (e.g., Warr, 2017; Warr & Inceoglu, 2018) where the type of individuals who become entrepreneurs are those who value job attributes such as autonomy, challenge, stimulation, and uncertainty that characterize the entrepreneurial journey (McMullen & Dimov, 2013). Thus, it is not necessarily that entrepreneurship *enables* individuals to experience higher levels of SWB, but rather it is the type of individuals who pursue entrepreneurship that is more likely to experience higher job fit because their personal values are aligned with the job characteristics of this career path. Our reasoning above, however, leads us to contend that entrepreneurship provides well-being benefits independent of one’s personal values that drive self-selection to achieve job fit.

Further, while research indicates that only entrepreneurs who *do not* employ and supervise others accrue well-being benefits from entrepreneurship (Warr, 2017), we argue that *entrepreneur-supervisors* are also able to experience the well-being benefits from entrepreneurship. Based on recent research documenting that self-employed people who manage others (i.e., have subordinates) generate significantly higher incomes, and, more generally, have higher growth expectations compared to sole proprietors (Parker, 2009; GEM, 2016), we hypothesize that entrepreneur-supervisors accrue even more significant benefits from well-being than salaried employees and entrepreneurs who do not supervise others. Future growth aspirations can be particularly impactful for entrepreneurs’ sense of achievement, self-acceptance, autonomy, engagement, meaning, and purpose (Wiklund, Davidsson, & Delmar, 2003), all of which contribute to well-being and are central to psychological functioning. In addition, prior research indicates that entrepreneurs who employ others (compared to solo entrepreneurs) are more likely to perceive that they have lower workloads, more time to spend on favored tasks, and greater

control over their company (Wiklund et al., 2003). Based on these insights, we hypothesize that it is precisely those entrepreneurs who employ others (i.e., have at least one employee) and report being responsible for supervising those employees that are more likely to experience greater well-being benefits. We call this class of individuals “entrepreneur-supervisor” and assert that these individuals, on average, will experience higher levels of SWB as outlined in the following hypothesis:

Hypothesis 1: *Entrepreneur-supervisors experience higher levels of subjective well-being than those who engage in wage employment.*

Psychological Functioning as a Pathway to SWB

While we have argued that entrepreneurship can lead to higher levels of SWB, independent of values-based self-selection, what is truly novel about our approach is the notion that this effect is mediated mainly by psychological functioning. Further, we break down psychological functioning into its personal and social elements, which provides a more nuanced picture of how positive life engagement such as pursuing purposeful activities and challenging tasks can stimulate SWB. Below, we first focus on the role of personal functioning and then move to social functioning.

Personal functioning. Personal functioning is a multifaceted concept that is comprised of people’s resilience, meaning and purpose, autonomy and control, engagement, competence, and self-acceptance (Diener et al., 2010; Ryan & Deci, 2000; Seligman, 2012). Resilience is often associated with adaptive functioning under challenging circumstances (Ryff & Singer, 1998). In that sense, resilience reflects doing well (positive functioning) after exposure to severe stress and can be particularly relevant in the context of entrepreneurship, which is challenging and uncertain in terms of achieving positive outcomes (Shepherd, 2003; Shepherd, 2009). Starting and growing a business is fraught with difficulty and thus adversity is a common experience (Gimeno, Folta, Cooper, & Woo, 1997). This can lead to higher levels of stress (Cardon & Patel, 2015), which, can negatively impact mental health and well-being. However, confronting this reality builds resilience as individuals learn to persist in the face of adversity (Häusser et al., 2010). Prior research, for example, indicates that entrepreneurs are more likely to develop various coping strategies that allow them to perceive stressors as less straining (Rindova, Barry, & Ketchen, 2009; Stephan, 2018), which, in turn, can help them adapt to stressful situations and hence increase their resilience.

This dynamic is critical when viewed through the lens of personal functioning because it highlights the importance of meaning and purpose. That is, engaging in entrepreneurship can enhance the extent to which people believe that their current actions will lead to positive states in the future (Wood, McKelvie, & Haynie, 2014). Intentional pursuit of future-oriented goals improves personal functioning (Ryff, 2014). Because entrepreneurs do not have to follow organizational rules, procedures, and goals set by others (Baron & Shane, 2007), they are more likely to pursue activities and objectives they find personally meaningful and fulfilling (McMullen & Dimov, 2013; Shir et al., 2018). The focus on purposeful future-oriented activities, in turn, can enhance job satisfaction and further contribute to higher levels of SWB (Parker, 2014).

Entrepreneurs are also seen as having a high degree of autonomy and control that is just as critical for their beliefs and actions (Benz & Frey, 2008; Lange, 2012). Autonomy and control—living in accord with one’s personal convictions and making choices independent of others (Metaal, 1992)—are considered basic psychological human needs (Baumeister & Leary, 1995; deCharms, 1981; Ryan & Deci, 2000). As a self-directed pursuit, entrepreneurship facilitates

autonomy and control because it allows one to set the rules and determine their own course of action (Benz & Frey, 2004; van Gelderen & Jansen, 2006). In that way, autonomy is a source of satisfaction manifested in entrepreneurship where one can make independent choices over the type and content of their work, have the freedom to organize and schedule different tasks, pursue more meaningful and goal-oriented activities, and have flexibility how to respond to various life stressors (Stephan, 2018).

While the opportunity to realize autonomy is an important benefit that flows from entrepreneurship, other personal functioning dimensions such as engagement also emerge during the entrepreneurial process. Starting and running a business, especially one that employs others, involves engagement in a wide range of complex activities, some of which individuals will have limited expertise. As Lazear, 2004, p. 208) points out, “entrepreneurs must be jacks-of-all-trades” and thus entrepreneurship provides opportunities for engagement that often surfaces as dynamic learning and continuous development of new skills (Cope, 2005; Corbett, 2005). Such personal development, then, is a benefit that can flow from navigating the complexities of self-employment (Lerner, Hunt, & Dimov, 2018) and ties closely with the personal functioning dimension of competence.

Competence—the ability to make effective decisions and perform well—is essential to human functioning as it focuses on how individuals use their personal strengths and abilities to take advantage of different opportunities in their lives (Harter, 1978; Ryan & Deci, 2000; White, 1963). Because entrepreneurs have no supervisors to answer to, they can choose to engage “in meaningful activities that develop their skills” (Stephan & Roesler, 2010, p. 8). Having a sense of competence can also flow from entrepreneurship because it provides an environment where the ability to persuade, lead and direct others in ways that lead to financial or material accomplishment is recognized and rewarded (Holland, 1997; Schmitt-Rodermund, 2004). That is, entrepreneurship allows individuals to develop an “entrepreneurial competence” toward selecting promising business opportunities and devising and executing strategies for leveraging them (Chandler & Hanks, 1994). Such competence is often developed experientially through learning by doing, as fulfilling the “changing role of the entrepreneur through the different phases of development of a business supports the development of competence” (Mitchelmore & Rowley, 2010, p. 93).

Like engagement and competence, self-acceptance is an important aspect of the personal functioning equation. Self-acceptance is the knowledge and acceptance individuals have of themselves, including awareness of their personal limitations (Ryff & Singer, 1998). Since entrepreneurs have the freedom to engage in meaningful activities that allow them to develop their own competences (Shir et al., 2018), they are more likely to be aware of their own limitations and capabilities (Ryan & Deci, 2017). Another avenue for self-acceptance in entrepreneurship is the opportunities individuals pursue through venture creation often involve taking the perspective of others which requires enough self-acceptance to put yourself in the shoes of others (McMullen, 2015). As the venture grows and develops, self-acceptance may take a different form, especially as the venture runs up against the personal limitations of the founder. These limitations can be structural (e.g., not enough time to do it all) (Verheul, Thurik, Grilo, & van der Zwan, 2012), skills-based (e.g., differences between being an entrepreneur and a manager) (Busenitz & Barney, 1997), or cognitive (e.g., ADHD) (Wiklund et al., 2016). Regardless of the limitation, confronting the problems that flow from them asks entrepreneurs to surrender to their own shortcomings. This level of self-acceptance is typically not asked of wage employees, and thus entrepreneurship becomes a context where self-acceptance is more likely to be realized.

Taken together, the arguments above highlight resilience, meaning and purpose, autonomy and control, engagement, competence, and self-acceptance as the key ingredients of the personal functioning formula (Ryff, 2014; Seligman, 2012). As we have outlined, each of these dynamics

can flow from entrepreneurship in remarkable ways. The decision to become self-employed launches individuals on a path of personal functioning that relates to increased levels of subjective well-being. It is well-documented that the satisfaction of psychological needs such as autonomy, competence, and relatedness is strongly correlated to the experience of positive emotions and satisfaction with life (Ryan & Deci, 2017; Seligman, 2012). A large body of research across a wide variety of contexts provides strong empirical support that aspects of psychological functioning such as resilience and active coping, autonomy and control, competence, skill utilization, engaging in interesting and meaningful work are strongly correlated with various components of SWB such as positive emotions, vitality, and life satisfaction (see Church et al., 2013; Chen et al., 2015; Deci et al., 2001; Ryan & Deci, 2017, ch. 8; Sheldon et al., 2004). What this suggests for our theory is that as elements of personal psychological functioning come together, they form a pathway by which entrepreneurship influences SWB. Stated formally:

Hypothesis 2: *Entrepreneur-supervisors experience higher levels of personal functioning, which partially mediates the relationship between entrepreneurship and subjective well-being.*

Social functioning. The second dimension of psychological functioning is social and deals with stable relationships and active engagement with others (Cohen & Wills, 1985; Keyes, 1998). Hence, social functioning manifests itself via variations in people's (1) strong ties (2) weak ties, and (3) civic involvement. Strong ties reflect the quality of "bonding ties" with people close to the individual such as family, friends and close co-workers (Gittell & Vidal, 1998; Kawachi, Kim, Coutts, & Subramanian, 2004; Putnam, 2000). They are often operationalized in terms of people's sources of support from others close to them and thus manifest in feelings of appreciation, support, and respect. Strong ties provide regular positive experiences and a sense of importance in one's close social community (Putnam, 2000) and are one of the strongest determinants of subjective well-being (Diener & Seligman, 2002; Diener & Biswas-Diener, 2008; Helliwell, 2006; Layard, 2011).

Entrepreneurial work is sometimes seen as relatively "lonely," especially in the early stages of the entrepreneurial process because social support from supervisors and colleagues is not always available to entrepreneurs, who have no superiors and far fewer colleagues (Akanke, 1994; Gumpert & Boyd, 1984; Stephan, 2018). At times, even successful entrepreneurs can find themselves in a socially insulated environment that can promote feelings of entrapment due to over commitments to customers or employees (Wood & Rowe, 2011). This can negatively influence entrepreneurs' social functioning by leading to feelings of social isolation and loneliness.

However, in this paper, we focus on entrepreneurs who are job creators and actively supervise and work with others. Thus, we view entrepreneurship as a context where strong ties form as one develops bonding with investors, customers, and even employees in addition to close family members. Entrepreneurship may be especially conducive to the development of strong "bonding ties" because entrepreneurs have high levels of autonomy, which allows them to make decisions about "what, when, and with whom to work" (Stephan, 2018, p. 15). That is, the self-organizing nature of entrepreneurship allows individuals to cultivate their own social networks and decide what kind of interactions to have with others (Forbes, Borchert, Zellmer-Bruhn, & Sapienza, 2006; Stephan, 2018).

In addition, prior research indicates that strong social bonds "provide a conduit through which outside actors are drawn into the venture creation process" (Wood & McKinley, 2010, p. 73 citing Berglund, 2007). As ventures grow and employ others, the sphere of social support for the entrepreneur widens through symbiosis between the founder and key stakeholders (cf., Alvarez, Young, & Woolley, 2015). In contrast, salaried employees lack such freedoms and are often required to collaborate with people chosen by higher management (Levitt & March, 1988;

Simon, 1991). Previous studies, for example, suggest that self-employed people (relative to organizational workers) are more likely to report a higher sense of psychological relatedness—having more social contacts and close friends who care about their lives and getting along with the people around them (Shir et al., 2018). In that way, engagement in entrepreneurship provides fertile ground for planting of strong ties that are essential components of social functioning.

A similar process unfolds with weak ties where the focus is on “bridging ties” within a much wider circle of people including acquaintances or those where social relationships are much more transactional in nature. Such ties are often thought of in terms of people’s reciprocity in social exchange (feeling supported by those in your wider circle and giving back to people around you), social trust (expecting fairness and trusting others), and in some cases having a sense of shared objectives that flow from local belonging (Gittell & Vidal, 1998; Kawachi et al., 2004).

Here, again, becoming self-employed places one in an environment where he or she is exposed to a broader circle of people (Ruef, 2010). Many of these people are interested in developing ties with the entrepreneur, but not in the sense of social support provided in strong ties, but in terms of mutually beneficial exchange relationships (Webb, Ireland, Hitt, Kistruck, & Tihanyi, 2011). Customers, for example, may develop a relationship with a proprietor of a business, but that relationship is an arms-length exchange bond that exists only as long as it is mutually beneficial. However, because the identity of the business is often closely tied to the identity of the founder (Shepherd, 2003), entrepreneurs may feel a special sense of belonging as they provide valuable goods and services to the local community. In this respect, previous studies suggest that self-employed people (relative to organizational worker) are more likely to report that they enjoy interacting with other people, to find these interactions pretty friendly, and to get along with the people they meet (Shir et al., 2018), outcomes that require higher levels of interpersonal trust (Putnam, 2000). While these types of relationships come and go, what is important is that being an entrepreneur places one in an environment where he or she is likely to develop many weak ties over time, and this is an essential aspect of social functioning.

Finally, civic involvement is an element of social functioning and reflects the extent to which people participate in activities such as volunteering and helping others (Stoll, Michaelson, & Seaford, 2012). Recent years have seen the rise of social entrepreneurship or ventures that are driven by social, environmental, or community objectives (see Phillips, Lee, Ghobadian, O’Regan, & James, 2015). This concept has been applied to companies of various sizes, motivations, and beliefs (Dees, 2017). Social ventures are not necessarily non-profit; instead, a large number of businesses focus on income-generating activities, but also have a social mission that allows them to actively help others in their communities (Phillips et al., 2015). In this respect, entrepreneurs are often considered to be critical drivers of social change, which is, in part, driven by active civic engagement (van der Have & Rubalcaba, 2016). Even if entrepreneurs are not intrinsically motivated to help their local communities, many may still engage in such civic behaviors because it is “simply good business” (Mackey & Sisodia, 2014) that can lead to positive branding (Phillips et al., 2015). Thus, we expect that, on average, entrepreneurs will have more opportunities for civic engagement and more actively pursue them compared to those in wage employment.

Taken together, bonding and bridging ties, as well as civic involvement are critical to the social aspect of psychological functioning (Keyes, 1998; Ryff & Singer, 1998; Ryan & Deci, 2000; Seligman, 2012). This is important because social functioning has been shown, in turn, to be one of the strongest determinants of subjective well-being (e.g., Diener & Seligman, 2002; Helliwell & Putnam, 2005; Halpern, 2010; Ryan & Deci, 2000). By extension, this suggests that social functioning serves partially as a conduit between engaging in entrepreneurship and increased feelings of subjective well-being. This leads to our final hypothesis:

Hypothesis 3: *Entrepreneur-supervisors experience higher levels of social functioning, which partially mediates the relationship between entrepreneurship and subjective well-being.*

Data and Research Design

Data for the analysis came from Wave 6 of European Social Survey (ESS), which is a cross-national survey based on face-to-face interviews that have been conducted since 2001 (with a newly selected sample every 2 years). We used data only from Wave 6 of the ESS, which was conducted in 2012 because it included a special well-being module that was specifically developed to capture various concepts associated with psychological functioning and subjective well-being (both hedonic and evaluative) that are not available in other waves (ESS, 2013). In total, after deleting missing observations, our analysis was based on 33,292 individual-level observations, with 1,715 cases of entrepreneur-supervisors from 29 European countries. In additional robustness tests, we also used data from Wave 5 of the ESS.

Entrepreneurship

Entrepreneurship is often defined as “new entry” or business creation (e.g., Gartner, 1990) or as an occupational choice in which people work for themselves (e.g., Hébert & Link, 1989). The latter definition includes self-employment, which is predominantly used in research on entrepreneurship and well-being (Stephan, 2018). In this study, we follow Parker (2009) and focus on self-employed people who employ at least one other person and self-report supervising their employees as part of their job. We refer to these individuals as *entrepreneur-supervisors*. This subset of self-employed people is more likely to have high-growth aspirations and substantially contribute to economic growth (GEM, 2016; Parker, 2009).

To create this variable, we first identified people in our sample who reported being self-employed. Overall, around 11.7% of respondents (3,895) selected this occupational category, which is consistent with recent self-employment patterns for European countries (OECD, 2016). We further restricted the sample by selecting only individuals who had employees and were responsible for their supervision. In total, we ended up with 1,715 cases (5.1% of our sample) of entrepreneurs, a number that is consistent with recent patterns of opportunity entrepreneurship for Europe (Boudreaux, Nikolaev, & Klein, 2019; GEM, 2016). Our measure of entrepreneurship was a dummy coded 1 if the individual reports being self-employed while also having and supervising employees, and 0 otherwise.

Personal Functioning

Consistent with our theoretical framework, we created a scale by combining 15 items associated with six constructs underlying psychological personal functioning—(1) resilience, (2) meaning and purpose, (3) autonomy and control, (4) engagement, (5) competence, and (6) self-acceptance. These constructs and the specific items used from the ESS to create the scale are described in Table 1. Our scale had good internal consistency (alpha reliability = .84), which is consistent with previous measures of psychological functioning in the literature (Diener et al., 2010; Ryff & Singer, 1998; Ryan & Deci, 2000; Seligman, 2012). Our scale, which was an average of the above 15 items, was also strongly correlated ($r = .99, p < .001$) with the predicted values of a single latent factor—based on Kaiser’s well-known criterion to retain factors with eigenvalues larger than 1—identified using exploratory factor analysis (EFA) with all items loading positively and significantly to this factor.

Table 1. Psychological Functioning and Subjective Well-Being Scales (ESS Items).

Concept name	ESS items
Personal functioning (15 items)	(alpha = .84)
Resilience	<p>“How difficult or easy do you find to deal with important problems that come up in your life?”</p> <p>“When things go wrong in my life, it generally takes me a long time to get back to normal”</p>
Meaning and purpose	<p>“To what extent do you think you have a sense of direction in your life?”</p> <p>“I generally feel what I do in my life is valuable and worthwhile.”</p>
Autonomy and control	<p>“I feel I am free to decide for myself how to live my life.”</p> <p>“To what extent do you make time to do the things you really want to do?”</p>
Engagement	<p>“To what extent you learn new things in your life?</p> <p>“How much of the time would you generally say you are ...</p> <p>... interested in what you are doing?</p> <p>... absorbed in what you are doing?</p> <p>... enthusiastic about what you are doing?”</p>
Competence and accomplishment	<p>“In my daily life I get very little chance to show how capable I am.”</p> <p>“Most days I feel a sense of accomplishment from what I do.”</p> <p>“There are a lot of things I feel I am good at.”</p>
Self-acceptance (esteem)	<p>“I generally feel positive about myself.”</p> <p>“At times I feel I am a failure.”</p>
Social Functioning (12 items)	(alpha = .72)
Strong Ties	<p>“How many people, if any, are there with whom you can discuss intimate and personal matters?”</p> <p>“To what extent do you feel appreciated by the people you are close to?”</p> <p>“How much of the time during the past week you felt lonely?”</p> <p>“To what extent do you receive help and support from people you are close to when you need it?”</p> <p>“To what extent do you provide help and support to people you are close to when they need it?”</p>
Weak Ties	<p>“To what extent you feel that people treat you with respect?”</p> <p>“You feel people in your local area help one another?”</p> <p>“Would you say that most people can be trusted, or that you can't be too careful dealing with people?”</p> <p>“Do you think that most people would try to take advantage of you if they get a chance, or would they try to be fair?”</p> <p>“I feel close to the people in my local area”</p>
Civic Involvement	<p>“How often did you get involved in work for voluntary or charitable organizations?”</p>
Subjective Well-being (12 items)	(alpha = .84)
Positive Affect (alpha = .78)	<p>“How much of the time during the past week...</p> <p>... you were happy?</p> <p>... you enjoyed life?</p> <p>... felt calm and peaceful?</p> <p>... you had a lot of energy?”</p>

(Continued)

Table 1. Continued

Concept name	ESS items
Negative Affect (alpha = .84)	“How much of the time during the past week you felt depressed? ... you felt everything you did was an effort? ... your sleep was restless? ... you felt sad?” ... you could not get going? ... you felt anxious?
Evaluative (alpha = .82)	“How satisfied are you with your life as a whole nowadays?” “In general, how happy you are?”

Note. Items were extracted from Wave 6 of the ESS, which is a cross-national sample from 29 European countries for 2012. ESS = European Social Survey.

Social Functioning

Similarly, we created a measure based on 12 items associated with three constructs—(1) strong ties, (2) weak ties, and (3) civic involvement—that have been previously identified to underlie the social aspect of psychological functioning (Diener et al., 2010; Keyes, 1998; Ryff & Singer, 1998; Ryan & Deci, 2000; Seligman, 2012). Our scale had acceptable internal consistency (alpha = .72) and was strongly correlated ($r = .96, p < .001$) with the predicted values of a single latent factor identified using EFA. All items used to create our measure from the ESS are described in Table 1.

Subjective Well-Being

In order to capture subjective well-being, we combined 12 items associated with both hedonic well-being (happy, peaceful, energetic, depressed, sad, or anxious) and evaluative well-being (life satisfaction and general happiness). We used reversed scales on items associated with negative affect. Our scale had strong internal consistency (alpha reliability = .84) and was also strongly correlated ($r = .98$) with a measure in which the weights were picked by EFA. In addition, we constructed separate scales for positive affect (four items, alpha = .78), negative affect (seven items, alpha = .84) and evaluative well-being (two items, alpha = .82) that were used in additional analyses. Thus, consistent with the literature, our measure captures both hedonic and evaluative aspects of SWB (e.g., Diener, 1984). All items associated with these SWB scales are described in Table 1.

Control Variables

To account for other socio-economic conditions that can influence psychological functioning, subjective well-being, and entrepreneurship, we included the following controls: age and age squared (Blanchflower & Oswald, 2004; Parker, 2009), gender (Fairlie & Robb, 2009; Stevenson & Wolfers, 2009), health and disability (Graham, 2008; Simoes, Crespo, & Moreira, 2016), marital status (Frey & Stutzer, 2002; Gohmann & Fernandez, 2014; Özcan, 2011; Parker, 2009), unemployment (Powdthavee & Veroit, 2013), educational level (Brown, Farrell, & Harris, 2011; Nikolaev & Rusakov, 2016; Nikolaev, 2016), and income (Boudreaux & Nikolaev, 2018; Evans & Jovanovic, 1989; Kahneman & Deaton, 2010). We also included *country* dummies to account for regional differences that may be correlated with both well-being and

Table 2. Summary Statistics.

	N	Mean	SD	Min	Max
SE: Entrepreneur-supervisor	33,292	0.05	0.22	0	1
Eudaimonic well-being					
Personal functioning	33,292	5.06	0.82	0.73	7.07
Social functioning	33,292	4.33	0.74	0.75	6.67
Subjective well-being (overall index)	33,292	3.29	0.56	0.73	4.27
Positive affect	33,292	2.82	0.65	1	4
Negative affect	33,292	1.59	0.52	1	4
Evaluative well-being	33,292	7.09	1.99	0	10
Age	33,292	49.60	17.03	15	103
Gender	33,292	1.52	0.50	1	2
Health	33,292	3.78	0.91	1	5
Disability	33,292	2.68	0.57	1	3
<i>Marital status (base = other)</i>					
Married	33,292	0.55	0.50	0	1
Divorced	33,292	0.11	0.31	0	1
Unemployed	33,292	0.05	0.23	0	1
Education (years)	33,292	13.03	3.97	1	4
Income	33,292	5.32	2.80	1	10

Note. Based on Wave 6 of the ESS, which is a cross-national sample from 29 European countries. ESS = European Social Survey.

entrepreneurship (e.g., Sternberg & Wennekers, 2005). The summary statistics of these variables are reported in Table 2.

Empirical Results

Table 3 shows a correlation matrix of all variables used in the study. We observe that entrepreneurship is positively correlated with both personal and social functioning as well as evaluative and hedonic well-being. The correlations in Table 3 also suggest that the typical entrepreneur-supervisor is an older and married man who is healthier, more educated, and has higher income compared to non-entrepreneurs (Parker, 2009; Shane, 2008).

Ordinary Least Squares Estimations

We begin the empirical analysis in Table 4, which presents the main findings with respect to our well-being measures—personal functioning (Model 1), social functioning (Model 2), positive affect (Model 3), negative affect (Model 4), evaluative well-being (Model 5), and SWB (Model 6). In all models, our measure of entrepreneurship is associated with higher levels of well-being, and the coefficient is positive and statistically significant ($p < .01$). This relationship is robust to the inclusion of a large number of socio-economic characteristics including age and its quadratic (Blanchflower & Oswald, 2004; Cheng, Powdthavee, & Oswald, 2017), gender (Fairlie & Robb, 2009; Stevenson & Wolfers, 2009), health (Graham, 2008; Veenhoven, 2010), disability (Bailey,

Table 3. Correlation Matrix.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 SE:Entrepreneur-supervisor	1														
2 Personal functioning	0.08*	1													
3 Social functioning	0.04*	0.55*	1												
4 Subjective well-being	0.06*	0.64*	0.55*	1											
5 Positive affect	0.05*	0.54*	0.38*	0.79*	1										
6 Negative affect	-0.05*	-0.51*	-0.43*	-0.85*	-0.58*	1									
7 Evaluative well-being	0.05*	0.54*	0.53*	0.84*	0.49*	-0.50*	1								
8 Age	0.05*	-0.06*	-0.00	-0.10*	-0.10*	0.10*	-0.07*	1							
9 Gender	-0.11*	-0.07*	0.02*	-0.09*	-0.08*	0.13*	-0.02*	0.02*	1						
10 Health	0.03*	0.33*	0.28*	0.46*	0.37*	-0.42*	0.36*	-0.38*	-0.07*	1					
11 Disability	-0.01	-0.21*	-0.14*	-0.31*	-0.25*	0.32*	-0.19*	0.28*	0.03*	-0.54*	1				
12 Married	0.06*	0.08*	0.10*	0.15*	0.09*	-0.12*	0.14*	0.19*	-0.08*	0.00	-0.03*	1			
13 Divorced	-0.01	-0.04*	-0.07*	-0.10*	-0.06*	0.08*	-0.10*	0.07*	0.06*	-0.06*	0.04*	-0.39*	1		
14 Unemployed	-0.03*	-0.08*	-0.09*	-0.11*	-0.06*	0.07*	-0.14*	-0.13*	-0.01	0.01	-0.04*	-0.07*	0.03*	1	
15 Education	0.03*	0.18*	0.19*	0.16*	0.10*	-0.15*	0.14*	-0.26*	0.00	0.23*	-0.14*	0.02*	-0.01	-0.04*	1
16 Income	0.07*	0.21*	0.21*	0.27*	0.17*	-0.23*	0.26*	-0.21*	-0.08*	0.23*	-0.18*	0.26*	-0.13*	-0.17*	0.34*

Note. Correlations based on 33,292 observations from the ESS (Wave 6). ESS = European Social Survey.

*Significance at the .001 level.

Table 4. Self-Employment, Psychological Functioning, and Subjective Well-Being, OLS Estimates.

Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Personal functioning	Social functioning	Positive affect	Negative affect	Evaluative WB	SWB index
SE: Entrepreneur-supervisor	0.181*** (0.017)	0.032** (0.015)	0.056*** (0.015)	0.002 (0.010)	0.125*** (0.038)	0.031*** (0.011)
Age	-0.002 (0.002)	-0.008*** (0.001)	-0.009*** (0.001)	-0.000 (0.001)	-0.061*** (0.003)	-0.011*** (0.001)
Age squared	0.000*** (0.000)	0.000*** (0.000)	0.000*** (0.000)	-0.000** (0.000)	0.001*** (0.000)	0.000*** (0.000)
Gender	-0.036*** (0.008)	0.102*** (0.007)	-0.056*** (0.007)	0.090*** (0.005)	0.160*** (0.018)	-0.035*** (0.005)
Health	0.249*** (0.007)	0.166*** (0.005)	0.226*** (0.005)	-0.163*** (0.004)	0.553*** (0.014)	0.210*** (0.004)
Disability	-0.078*** (0.010)	-0.039*** (0.008)	-0.095*** (0.007)	0.150*** (0.006)	-0.182*** (0.021)	-0.120*** (0.006)
Married	0.052*** (0.011)	0.083*** (0.009)	0.103*** (0.008)	-0.072*** (0.006)	0.411*** (0.023)	0.116*** (0.006)
Divorced	0.027* (0.016)	-0.051*** (0.014)	0.018 (0.012)	0.017* (0.010)	-0.045 (0.036)	-0.009 (0.010)
Unemployed	-0.176*** (0.020)	-0.090*** (0.017)	-0.087*** (0.016)	0.094*** (0.013)	-0.685*** (0.048)	-0.158*** (0.013)
Education	0.016*** (0.001)	0.018*** (0.001)	-0.001 (0.001)	-0.003*** (0.001)	0.004 (0.003)	0.001** (0.001)
Income	0.032*** (0.002)	0.031*** (0.002)	0.015*** (0.001)	-0.019*** (0.001)	0.105*** (0.004)	0.027*** (0.001)
Observations	33,292	33,292	33,292	33,292	33,292	33,292
R ²	0.181	0.257	0.189	0.279	0.339	0.358

Note. All models are estimated with OLS regressions. Robust standard errors clustered at the individual level are shown in parentheses. All models include country fixed-effects (not reported). Data were extracted from Wave 6 of the ESS, which is a cross-national sample from 29 European countries for 2012. ESS = European Social Survey; OLS = ordinary least squares.

*** $p < 0.01$. ** $p < 0.05$. * $p < 0.1$.

2017), marital status (Özcan, 2011), unemployment (Gohmann & Fernandez, 2014), education (Nikolaev, 2016), and income (Kahneman & Deaton, 2010).

Overall, the results in Table 4 provide evidence that entrepreneur-supervisors experience higher levels of both psychological functioning and SWB. More specifically, entrepreneur-supervisors experience higher levels of personal functioning ($\beta = .181, p < .01$) and social functioning ($\beta = .032, p < .05$) as well as higher levels of positive affect ($\beta = .056, p < .01$), evaluative well-being ($\beta = .125, p < .01$), and SWB ($\beta = .031, p < .01$). We do not find a statistically significant relationship with negative affect ($\beta = .002, p > .10$). The magnitude of these effects (i.e., effect sizes) is substantial. For example, the positive effect of being an entrepreneur-supervisor on psychological functioning completely offsets the negative effect of unemployment, which previous studies in economics show “depresses mental health and lowers life satisfaction more

than any other single factor at the individual level” (Powdthavee & Verhoit, 2013, p. 1). This positive effect is also equivalent to the gain in psychological functioning associated with moving from the bottom quintile of the income distribution to the middle one. Overall, our model explains between 18% and 37% of the variance in our measures of psychological functioning and SWB. This is substantial given the large sample size.

In additional robustness tests (available in an online Appendix), we also show that these results hold when we control for values-based self-selection (Table 1A),² the number of employees (Table 2A), and model uncertainty (Nikolaev, Boudreaux, & Palich, 2018; Young & Holsteen, 2015) where we considered all 1024 possible models with the control variables used in our study (Table 3A). We also adopted a quasi-experimental approach that uses propensity score matching (PSM) to estimate the effect of being an entrepreneurship-supervisor on SWB (Abadie & Imbens, 2006; Abadie & Imbens, 2011). In the absence of experimental design, which is unfeasible in the context of our study, PSM presents one of the most common methods for causal analysis in the social sciences (Rosenbaum & Rubin, 1983). Here, the propensity score (Rosenbaum & Rubin, 1983) indicates the probability of treatment assignment conditional on observed baseline covariates from our main model (age, gender, health, disability, marital status, unemployment, education, and income), that is, $e_i = \Pr(Z_i = 1|X_i)$. The propensity score adopts a balancing procedure, where conditional on the propensity score, the distribution of measured baseline covariates is similar between treated and untreated subjects (Austin, 2011). This treatment effect reflects the difference in the value of the outcome variable (subjective well-being) between treatment (self-employed people) and control groups (wage-employed people) in the matched sample. Table 4A reports the balancing diagnostics for the matching estimates and Table 5A reports the ATT for each of our six well-being measures. The results are consistent with our ordinary least squares and SEM analysis and provide further confidence in our findings.

SEM Analysis

To test Hypotheses 2 and 3, we use structural equation modeling (SEM) to examine the multiple paths through which entrepreneurship can influence SWB (e.g., an indirect path via psychological functioning, which stems from both personal and social functioning, as well as a direct path from entrepreneurship to subjective well-being). SEM allows us to examine to what extent the relationship between entrepreneurship and subjective well-being is mediated by personal and social functioning. The results of this analysis are summarized in Figure 2.

Overall, the results provide strong support for the hypothesized relationships. First, using our measure of entrepreneur-supervisors, we find a small and direct effect of entrepreneurship on subjective well-being ($\beta = .017$; $p < .10$), although this effect is only marginally significant. Second, we find a much stronger indirect effect that runs from entrepreneurship to personal functioning ($\beta = .31$; $p < .01$), which, in turn, is associated with higher levels of SWB ($\beta = .033$; $p < .05$). Thus, the combined effect of entrepreneurship on SWB via personal functioning is 0.102 increase in SWB.³ We also find an indirect effect that runs from entrepreneurship to social functioning ($\beta = .145$, $p < .01$), which then influences SWB ($\beta = .22$, $p < .01$). The combined effect, therefore, is a 0.132 increase in SWB.⁴ To further facilitate the interpretation of these results, Table 5 summarizes the direct, indirect, and total effects of entrepreneurship on SWB. For instance, the total effect of entrepreneurship on SWB (0.151, $p < .01$) is the sum of the direct (0.017) and indirect (0.134) effects, where the indirect effect denotes the effect of entrepreneurship on SWB that runs through the channels of personal and social functioning. The results in this table indicate that the direct effect accounts for 11% of the total effect of entrepreneurship on SWB, while the indirect effect via personal functioning accounts for 68% and the one via social functioning accounts for 21%. In sum, while entrepreneurship directly affects SWB, our findings

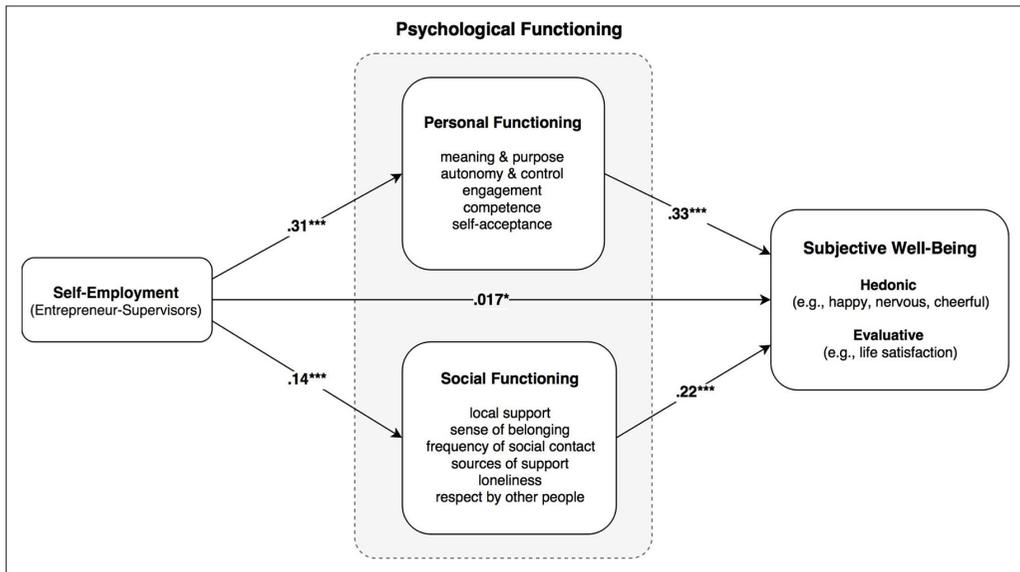


Figure 2. SEM model.

Note. The model includes all basic controls from Table 4 and was estimated with the Stata’s SEM command. Estimation Method: Maximum Likelihood; Log pseudo-likelihood: -183,713; N = 33,292. ****p* < .01. ***p* < .05. **p* < .1.

indicate that the positive effect of entrepreneurship on SWB works mainly through the channels of psychological functioning, particularly via personal functioning. This suggests that personal and social functioning almost entirely mediate the relationship between entrepreneurship and SWB. Thus, our model provides strong evidence for Hypotheses 1–3.⁵

In additional robustness tests (Table 6A, online Appendix), we replicated our SEM model using a bootstrap mediation procedure based on 5000 bootstrap samples in order to estimate bias-corrected confidence intervals (ULCI and LLCI). We also used an alternative measure of entrepreneurship from Wave 5 of ESS—a dummy equal to 1 if an employee reports that they

Table 5. Direct and Indirect Effects of Entrepreneurship on Subjective Well-Being.

	<i>b</i>	<i>SE</i>	<i>z</i>	<i>p</i> > <i>z</i>	95% confidence interval	
Direct effect						
ENTREP → Personal functioning	0.307***	0.020	15.160	.000	0.267	0.347
ENTREP → Social functioning	0.145***	0.018	7.940	.000	0.109	0.181
ENTREP → SWB	0.017*	0.010	1.650	.098	-0.003	0.037
Indirect effect (via personal and social functioning)						
ENTREP → SWB	0.134***	0.008	16.990	.000	0.118	0.149
Total (irect + indirect) effect						
ENTREP → SWB	0.151***	0.013	11.700	.000	0.125	0.176

Note. Results based on SEM model from Figure 2. ****p* < 0.01. ***p* < 0.05. **p* < 0.1.

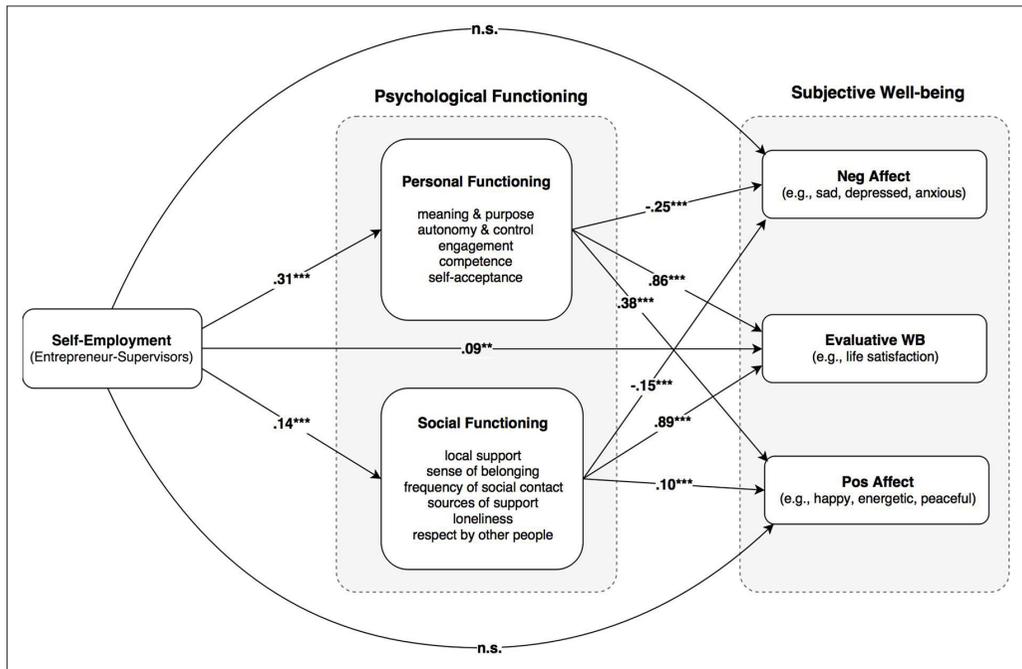


Figure 3. Decomposing SWB.

Note. The model includes all basic controls from Table 4 and was estimated with the Stata’s SEM command. Estimation Method: Maximum Likelihood; Log pseudo-likelihood: -183,713; N = 33,292. *** $p < .01$. ** $p < .05$. * $p < .1$.

voluntarily quit their job in order to start a new business and 0 otherwise (Table 8A and Figure 2A, online Appendix). The results were highly consistent with those reported above.

Decomposing Subjective Well-Being

Because SWB is a multidimensional construct, we repeat our SEM analysis by decomposing SWB to its underlying elements. Figure 3 presents a summary of these findings, in which SWB is broken down into its core components of positive affect (e.g., happy, energetic, peaceful), negative affect (e.g., sad, depressed, anxious), and evaluative well-being (e.g., life satisfaction). Again, we find that entrepreneur-supervisors have higher levels of SWB, and the effect operates through direct and indirect channels. The direct effect of entrepreneurship on SWB is positive and marginally significant ($\beta = .09, p < .05$) while the indirect effect of entrepreneurship on SWB is associated with an increase in personal ($\beta = .31, p < .01$) and social functioning ($\beta = .14, p < .01$). In turn, personal functioning is associated with higher levels of positive affect ($\beta = .38, p < .01$) and evaluative well-being ($\beta = .86, p < .01$), and lower levels of negative affect ($\beta = -.25, p < .01$). Social functioning is also associated with more positive affect ($\beta = .10, p < .01$) and evaluative well-being ($\beta = .89, p < .01$), and less negative affect ($\beta = -.15, p < .01$).⁶

Discussion

We introduce an integrative model of the relationship between entrepreneurship, psychological functioning, and subjective well-being. Specifically, we hypothesize and find a positive

association between engaging in entrepreneurship among entrepreneur-supervisors and their levels of personal and social psychological functioning. Psychological functioning, in turn, significantly enhances subjective well-being (positive affect and evaluative well-being). We thus uncover evidence that psychological functioning partially mediates the relationship between entrepreneurship and subjective well-being. Furthermore, the relationship between entrepreneur-supervisors and subjective well-being seems to be independent of values-based self-selection that leads to better job-fit. Thus, our conceptual model offers a more nuanced view of the relationship between entrepreneurship and well-being by examining psychological aspects of functioning well that previous studies have so far largely ignored (Stephan, 2018). This opens several possibilities for novel theorizing and empirical research in entrepreneurship.

First, by emphasizing the role of psychological functioning, we move the conversation from the predominant focus on the state of *feeling good* (hedonic and evaluative well-being) to the dynamics of functioning well, which manifest in people's sense of purpose, autonomy, competence, resilience, engagement with challenging and meaningful tasks as well as the quality of their social relationships (Ryff & Singer, 1998; Ryan & Deci, 2000; Seligman, 2012). We believe that this is a critical step in the evolution of the well-being literature in entrepreneurship, which so far has focused mainly on "distress and hedonic well-being" (Stephan, 2018, p. 4). Extending our theoretical framework, however, requires rich longitudinal datasets that will allow researchers to examine how these dynamic relationships unfold over time. Prior evidence, for example, indicates that perceptions of autonomy can fluctuate (Ford, Van Sickle, Clark, Fazio-Brunson, & Schween, 2017), which suggests that the benefits of entrepreneurship in terms of psychological functioning may change over the course of the entrepreneurial journey. Undoubtedly, this presents an exciting avenue for future research.

Second, we hypothesize and find that the positive effect of being an entrepreneur-supervisor on subjective well-being is almost entirely mediated by psychological functioning. Uncovering this illuminates our understanding of the complex relationships between entrepreneurship and subjective well-being by revealing the mechanisms through which entrepreneurship can facilitate the experience of higher levels of subjective well-being. Importantly, our results suggest that most—but not all—of the positive effect of entrepreneurship on subjective well-being runs through the channel of personal and social psychological functioning. In that sense, our study answers "why" and "how" engaging in entrepreneurship as an entrepreneur-supervisor may lead to higher levels of subjective well-being (i.e., by fulfilling basic psychological needs such as autonomy, competence, and relatedness). However, because psychological functioning is a complex composite construct, more work is necessary to understand these mechanisms fully. By decomposing different elements of psychological functioning, future research can further reveal which aspects of psychological functioning are most critical to the proposed relationships. In this respect, our study suggests, perhaps surprisingly, that elements of psychological functioning such as engagement, meaning, self-acceptance, and competence have a much stronger mediating effect on subjective well-being than autonomy.

Third, previous studies suggest that people with certain values—those who value freedom, challenge, and stimulation—are more likely to pursue careers in entrepreneurship (Warr, 2017; Warr & Inceoglu, 2018). The implication is that the relationship between entrepreneurship and well-being is driven by the process of *self-selection* as people who value the job characteristics associated with entrepreneurship—uncertainty, challenge, autonomy—are more likely to pursue such careers. While we acknowledge that personal fit and self-selection can play a role, we argue and offer evidence that entrepreneurship as a self-directed career can offer well-being benefits independent of values-driven job fit. This is to say that the unique nature of entrepreneurship enables people to experience various psychological benefits beyond person-job fit.

Finally, the results of our study may prove useful beyond the scholarly domain of entrepreneurship. Entrepreneurship is an occupation, and thus our work holds lessons for research and practice in areas similarly concerned with well-being as a phenomenon that flows from occupational choice as well as other work-life considerations. For example, because people are oriented towards well-being (Ryan & Deci, 2017), and are often searching for work that can provide them with intrinsically valuable outcomes such as autonomy, purpose, and engagement, our findings offer practical implications for those who might consider an occupational switch from employment to self-employment. In addition, research on occupation health indicates that perceptions of job insecurity are “bad for well-being” (Sparks, Faragher, & Cooper, 2001, p. 492). Given the high failure rate of new businesses, it is hard to imagine situations that on average are associated with less job security than entrepreneurship. Yet, we find that engaging in entrepreneurship leads to substantial well-being benefits in terms of psychological functioning. In that sense, our findings raise the possibility that psychological functioning may be critical when it comes to traditional employment contexts or the decision to engage in entrepreneurial action. Thus, our theory and findings imply a counterintuitive effect where high levels of job insecurity and uncertainty can nevertheless correlate strongly with high levels of well-being when the job facilitates high levels of physiological functioning. This has practical implications because many people value elements of psychological functioning such as independence and creative expression and are willing to trade-off financial rewards and security in order to pursue occupations that provide more purpose and meaning. Such trade-offs are critical for organizations that are concerned with creating an optimal work environment but often focus on financial incentives (Parker, 2014).

Limitations

Like all research, our study has a number of potential limitations. First, we rely on cross-sectional data, which does not allow us to explore the full dynamic range of the processes that underlie the proposed relationships. Unfortunately, we are not aware of any longitudinal datasets that provide comprehensive and fine-grained measures of both psychological functioning and subjective well-being. Thus, future studies will have to explore further the hypothesized relationships as they unfold during the venture creation process, perhaps with experimental methods or other primary data approaches.

A second issue is that of self-selection. While we control for values-based self-selection, it is possible that other types of self-selection could be at work. Entrepreneurs differ in fundamental ways from their salaried counterparts in terms of other personality dispositions that were not present in our data (e.g., see Frese & Gielnik, 2014). For example, more “stress-resistant” individuals may self-select into entrepreneurship (Baron et al., 2016), which may impact subjective well-being. What this implies is that differences in psychological functioning and well-being may reflect, at least to some extent, a self-selection process as people who choose self-employment may also have the psychological resources to persist as entrepreneurs. While this is a highly contested view (e.g., see Shane, 2008), prior evidence based on quasi-experimental and longitudinal designs as well as natural experiments (e.g., see Benz & Frey, 2008), suggests that entrepreneurship is associated with aspects of personal functioning such as autonomy (e.g., see Frese & Gielnik, 2014; Lange, 2012), but whether those *causally* lead to well-being as a function of entrepreneurship is still an open question.

Additionally, entrepreneurs can differ in terms of their motivational orientation toward entrepreneurial action, and we were unable to account for this. In this respect, there is a reason to believe that pro-socially motivated entrepreneurs might experience higher levels of subjective well-being than entrepreneurs who are commercially motivated (Shepherd & Patzelt, 2017). There is also evidence that entrepreneurial aspirations matter for country-level growth (Hessels,

van Gelderen, & Thurik, 2008), but little is known about its effect on well-being. On the one hand, an emphasis on high growth entrepreneurship could potentially lead to greater incomes and a higher standard of living, which should contribute to a higher national level of subjective well-being (Sacks, Stevenson, & Wolfers, 2012). Thus, future research will need to examine these relationships at the margin of entrepreneurs' personal motivations and at the country level, especially that from a practical point of view an increasing number of countries are placing well-being at the forefront of policy analysis.

Third, our study relies only on European data. While this is somewhat compensated for by the richness of our dataset and the focus on general psychological constructs, future work is needed to validate our results in other contexts. This is important because entrepreneurship rates and the motivation to engage in entrepreneurship differ across countries and cultural contexts (GEM, 2016). At the same time, people in some countries and cultural contexts may be predisposed to experience subjective well-being more so than others (Mitchell, Frank, Harris, Dodds, & Danforth, 2013), and we encourage exploring this possibility in future research.

Finally, the extent to which entrepreneurs experience higher levels of personal and social functioning may also depend on factors such as the size and nature of their businesses. While in additional tests we showed that the hypothesized relationships are robust with respect to the number of employees, which can be viewed as a proxy for firm size, we did not have data to examine the heterogeneity of this effect with respect to the nature of the business. Therefore, our results should be viewed as providing average treatment effects across a sample of entrepreneurs with different firm characteristics. Studying the heterogeneity of this effect with respect to different classes of entrepreneurs, firm sizes, and across the venture creation process is an essential next step to better understanding the relationship between entrepreneurship and SWB.

Conclusion

Despite the growing interest in the non-economic effects of engaging in entrepreneurship, very few studies have considered self-employment as a driver of optimal psychological functioning. We address this gap by building an integrative theoretical framework which views entrepreneurship as an enabling condition for personal and social aspects of psychological functioning, which, in turn, lead to higher levels of subjective well-being. In that sense, we propose psychological functioning as a mechanism through which the relationship between and entrepreneurship and subjective well-being unfolds. Our empirical findings support this theoretical development and suggest several avenues for future research.

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Notes

1. A recent review by Stephan (2018) identified only four articles published in entrepreneurship journals that explore the relationship between entrepreneurship and well-being between 1950 and 2010 and twenty-two publications since 2010.
2. To test for the possibility of values-based self-selection (Baron et al., 2016; Warr, 2017; Warr & Inceoglu, 2018), we replicated our main findings from Table 4 while controlling for seven personal values—(1) important to be rich, have money and expensive things; (2) important to show abilities and be admired; (3) important to try new and different things in life; (4) important to make own decisions and be free; (5) important to help people and care for others well-being; (6) important to seek adventures and excitement (7) important to be successful and that people recognize achievements—that are likely to affect person-environment (PE) fit in the context of entrepreneurship.
3. This is derived by multiplying both estimated effects ($0.307 \times .33 = .101$).
4. This is derived by multiplying both estimated effects ($0.145 \times .22 = .032$).
5. In additional robustness tests, we further compared entrepreneur-supervisors with entrepreneur-non-supervisors and entrepreneur-supervisors with employee-supervisors. Overall, the results were highly consistent with our main findings where we compare entrepreneur-supervisors with employees. Our findings in these additional tests provided evidence for full-mediation that runs entirely through the channels of personal and social functioning (when we compared entrepreneur-supervisors with entrepreneur-non-supervisors) and personal functioning (when we compared entrepreneur-supervisors with employee-supervisors). These additional results are available from the authors upon request.
6. Because psychological functioning is a composite construct, we also replicated our findings by decomposing it into its nine separate elements—(1) self-acceptance, (2) resilience, (3) autonomy and control, (4) meaning and purpose, (5) engagement, (6) competence, (7) strong ties, (8) weak ties, and (9) civic engagement. Table 4A (Online Appendix) shows a correlation matrix with all elements of psychological functioning and entrepreneurship. Figure 1A (Online Appendix) furthermore replicates our SEM model (Protts & Thompson, 2006). Overall, the results from this additional exercise are highly consistent with our theoretical predictions.

Supplemental Material

Supplemental material for this article is available online.

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