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S Y M P O S I U M

ENTREPRENEURS' MENTAL HEALTH AND WELL-BEING: A REVIEW AND RESEARCH AGENDA

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Interest in entrepreneurs' mental health and well-being (MWB) is growing in recognition of the role of MWB in entrepreneurs' decision making, motivation, and action. Yet relevant knowledge is dispersed across disciplines, which makes what we currently understand about entrepreneurs' MWB unclear. In this systematic review I integrate insights from 144 empirical studies. These studies show that research is focused on three research questions: (1) Do different types of entrepreneurs differ in their MWB? What are the (2) antecedents and (3) consequences of entrepreneurs' MWB? The review systematizes evidence on known antecedents and consequences of entrepreneurs' MWB but also reveals overlooked and undertheorized sources and outcomes of entrepreneurs' MWB. The review provides a mapping and framework that advance research on entrepreneurs' MWB and help to position entrepreneurs' MWB more centrally in management and entrepreneurship research. It calls for researchers to go beyond applying models developed for employees to understand entrepreneurs. Instead, the findings point the way to developing a dedicated theory of entrepreneurial work and MWB that is dynamic, socialized, and open to considering context and acknowledges variability and fluidity across entrepreneurs' life domains, as well as the centrality of work for entrepreneurs' identity.

Entrepreneurs create jobs and contribute to economic productivity and growth (see Van Praag & Versloot, 2008, for a review). They are an essential element of dynamic economies. While the economic benefits of entrepreneurial activity are clear, the outcomes for the individual entrepreneur appear paradoxical. Being an entrepreneur has been characterized as one of the most stressful jobs (Cardon & Patel, 2015; Patzelt & Shepherd, 2011), with average earnings that are lower than if one were to work as a paid employee (Van Praag & Versloot, 2008). Despite

this, entrepreneurs report being extremely happy in their work and highly satisfied with their life (Benz & Frey, 2004; Stephan & Roesler, 2010). Why might this be? What do we know about the sources of entrepreneurs' mental health and well-being? Why, and for what outcomes, do the mental health and well-being of entrepreneurs matter?

Mental health is defined by the World Health Organization (WHO) as not merely the absence of mental health problems but as a "state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community" (WHO, 2014). Mental health and well-being (henceforth mental well-being, or MWB) are traditionally researched in psychology, medicine, and public health, but have been receiving increasing attention in other disciplines. An example of this broader interest is the effort to develop national well-being accounts (e.g., European Commission, 2016; Stiglitz, Sen, & Fitoussi, 2009). To most people, MWB is

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a valued outcome in its own right—we want to be “happy”—and we perform better when we are feeling well (Lyubomirsky, King, & Diener, 2005).

MWB is central to effective human functioning (Ryan & Deci, 2001; Ryff, 2017), and entrepreneurs are no exception. “Happy” entrepreneurs are more likely to persist and perform better (e.g., Wincent, Örtqvist, & Drnovsek, 2008). High MWB is an ongoing benefit that entrepreneurs derive from their work and, at least in part, generate through their work. Entrepreneurs may make financially costly decisions, such as delaying business failure, to protect their well-being (Shepherd, Wiklund, & Haynie, 2009); they value MWB and see it as an indicator of their success (Wach, Stephan, & Gorgievski, 2016). Thus, research on entrepreneurs’ MWB is critical to understanding entrepreneurial action, decision making, and motivation (e.g., Shepherd & Patzelt, 2015) and ultimately helps to sustain the economic and societal benefits of entrepreneurship.

For all these reasons, interest in entrepreneurs’ MWB is growing. Even though the topic found its way into the entrepreneurship journals only relatively recently,¹ a substantial body of relevant research on entrepreneurs’ MWB exists in other disciplines, such as organizational psychology, economics, and occupational health research. For instance, organizational psychologists investigate predictors of entrepreneurs’ MWB and have linked the level of MWB to performance (Gorgievski & Stephan, 2016). Economists see well-being as a way of understanding the non-monetary returns of entrepreneurship (Van Praag & Versloot, 2008). Occupational health research seeks to document the health risks associated with occupations including entrepreneurship, often through epidemiological studies.

However, there is little exchange across disciplines, and the research on entrepreneurs’ MWB remains fragmented. This means there is no shared base of knowledge and only piecemeal theorizing on entrepreneurs’ MWB. We lack an overview of the antecedents and consequences of entrepreneurs’ MWB and the extent to which they are underpinned by robust evidence. Parallel lines of inquiry exist, but without an integrative framework they can give the impression of confusing findings as to the nature of entrepreneurs’ MWB. The purpose of this review is to take stock, outline areas of consensus, identify conflicting findings, highlight gaps in our knowledge, and develop a framework for research on entrepreneurs’ MWB.

¹ This review identified four publications on entrepreneurs’ MWB in entrepreneurship journals between 1950 and 2010, and 22 between then and June 2017.

By synthesizing evidence from 144 empirical studies that I identified through a systematic review approach (Tranfield, Denyer, & Smart, 2003), this review provides a platform and framework for future research by integrating what we know about entrepreneurs’ MWB. In doing so, it advances research on entrepreneurs’ MWB and helps to position it more centrally in management and entrepreneurship research. Specifically, the review findings identify new overlooked antecedents (entrepreneurs’ motivation, their human capital, firm and financial characteristics, the market and social context) and consequences (for others around the entrepreneur and possibly for collectives) of entrepreneurs’ MWB. The review also documents evidence on known antecedents (work, personality, and social characteristics) and consequences (persistence, performance, and work behaviors) of entrepreneurs’ MWB.

Building on these findings, the review points the way to developing a new dedicated theory of entrepreneurial work and MWB. This theory goes beyond the models developed for employees that have to date dominated research on entrepreneurs’ MWB while failing to take account of the uniqueness of entrepreneurship. It offers and encourages a much more dynamic, socialized, and contextualized view of entrepreneurs’ work and their MWB. It acknowledges heterogeneity among entrepreneurs and pays tribute to entrepreneurs’ fluid and variable work-life settings, the centrality of work for their identity, the importance of other individuals within and outside of their firm, and the critical impact of market and country contexts on entrepreneurs’ work and MWB.

BACKGROUND

First, I will clarify the key concepts of the review: entrepreneurship, mental health, and well-being. I will then introduce the main perspectives for this research.

Entrepreneurship

Entrepreneurship is often understood as “new entry”—that is, the creation of a new venture (e.g., Gartner, 1989)—or more broadly as an occupational choice of individuals to work for themselves on their own account and risk (Hébert & Link, 1982). The latter definition includes self-employment and is commonly used in research on well-being and entrepreneurship (Gorgievski & Stephan, 2016). It also guides this review. My presentation of the findings distinguishes types of entrepreneurs where possible.

Mental Health and Well-Being

The reviewed literature uses, with varying meanings, terms such as *mental health*, *psychological well-being*, *subjective well-being*, and *distress*. The WHO definition illustrates that mental health and well-being may be understood as a continuum, and this understanding underpins the review. At one end, we find *mental health problems*, or ill-being, such as affective, anxiety, and personality disorders (e.g., major depression, generalized anxiety disorder),² that impair individuals' daily functioning, as well as less severe *feelings of distress* (e.g., feeling anxious, tense, sad, or "down") that reduce individuals' quality of life. At the other end, we find *well-being*—that is, the experience of "living in a state that is in some sense good" (Warr, 2013, p. 77)—which is characterized by feelings of satisfaction, happiness, or "optimal psychological functioning and experience" (Ryan & Deci, 2001, p. 142). Two types of well-being are often differentiated: hedonic and eudaimonic.

Hedonic well-being refers to happiness in terms of attaining pleasure and avoiding pain (Kahneman, Diener, & Schwarz, 1999; Ryan & Deci, 2001). It has three components: life satisfaction, the presence of positive affect, and the absence of negative affect (Diener, Suh, Lucas, & Smith, 1999). While affect is emotion-based, life satisfaction contains a cognitive, evaluative component.³ *Eudaimonic well-being*

entails meaning; self-realization; and the degree to which a person is fully functioning and feels alive, thriving, and authentic (Ryan & Deci, 2001). It is related to resilience and adaptability in adverse situations (Ryff, 2017). Eudaimonic well-being stems, for instance, from succeeding in effortful, self-determined activities (Ryan & Deci, 2001; Ryff, 2017), a description that seemingly fits entrepreneurship well. It goes beyond experiencing feelings of satisfaction and pleasure derived from achieving valued outcomes or goals, which are characteristic of hedonic well-being.

MWB can be measured at varying levels of abstraction. General MWB describes broad tendencies over time that are not related to a specific life domain, object, or event. Domain-specific indicators such as work-related affect and job satisfaction are often used in research on entrepreneurs. Life satisfaction as a general indicator is positively related to satisfaction with domains such as work, family, or leisure time (Bowling, Eschleman, & Wang, 2010). For entrepreneurs, job satisfaction is more closely related to satisfaction with life, family, and self than it is for employees, reflecting the centrality of work in their life (Loewe, Araya-Castillo, Thieme, & Batista-Foguet, 2015; Thompson, Kopelman, & Schriesheim, 1992).

The presentation of review findings differentiates among indicators of MWB, including mental disorders, distress, and hedonic and eudaimonic well-being as well as general and domain-specific indicators, as much as possible. The online supplement contains further detail.⁴

Dominant Perspectives on Entrepreneurs' MWB in Current Research

Research on entrepreneurs' MWB has primarily been conducted from organizational psychology, economics, and occupational health perspectives. Although their emphasis varies, these three perspectives take as their starting point salaried employees, and they then highlight differences in the nature and quality of work of entrepreneurs. Similar arguments are found in entrepreneurship research. They emphasize that entrepreneurs face working conditions that are more extreme than those of salaried employees, including higher levels of uncertainty, responsibility, and complexity; more intense time pressures; and longer working hours. These work characteristics are stressors because individuals typically experience them as overwhelming and appraise them as threatening (Lazarus & Folkman,

² For the full description of all mental disorders, see the Diagnostic and Statistical Manual of Mental Disorders (DSM; American Psychiatric Association, 2013) or the International Statistical Classification of Diseases and Related Health Problems (ICD, chapter 5; World Health Organization, 2016).

³ The terms *emotions* and *well-being* are sometimes used interchangeably in the literature. Thus, a clarification seems in order. The different forms of MWB described above and covered in this review are distinct from but related to emotions. In contrast to MWB, emotions are situation-specific reactions and relatively short-lived. A range of emotions with similar valence underlie positive and negative affect respectively (Ashkanasy & Dorris, 2017). Day-to-day emotional experiences can be seen as microfoundations of MWB; they underpin and aggregate up to more general, longer-lasting experiences of distress and (hedonic) well-being. Studies exploring emotions as microfoundations of MWB are included in the review. Yet emotions are an important research area in their own right (Ashkanasy & Dorris, 2017), including in entrepreneurship (Cardon, Foo, Shepherd, & Wiklund, 2012). A review of research on emotions and entrepreneurship falls outside the scope of this review.

⁴ See <https://journals.aom.org/doi/10.5465/amp.2017.0001>.

1984). Occupational health and psychological research has established the detrimental effects of these stressors for employees' MWB (Hausser, Mojzisch, Niesel, & Schulz-Hardt, 2010; Humphrey, Nahrgang, & Morgeson, 2007; Parker, 2014) and expects similar effects on entrepreneurs' MWB.

Entrepreneurs are also seen to have significantly higher autonomy, or job control, than employees. They can choose the type and content of their work, have freedom over how to organize and schedule their tasks, and have no superiors to answer to. High autonomy can shape how job stressors are experienced, namely as less threatening, stressful, or straining (Hausser et al., 2010). For example, high autonomy allows one to alleviate time pressure by rescheduling tasks. Research on employees links job autonomy with eudaimonic well-being because it allows individuals to focus on meaningful activities that develop their skills (Parker, 2014). The economic perspective similarly highlights autonomy as both a key benefit of entrepreneurship that attracts individuals to become entrepreneurs and a source of well-being (cf. procedural utility,⁵ e.g., Benz & Frey, 2004).

Occupational health and psychological research also draws attention to social stressors and resources as important working conditions influencing MWB (Karasek & Theorell, 1990). Social support from supervisors and colleagues is a key source of employees' well-being (Luchman & González-Morales, 2013) but is rarely available to entrepreneurs, who have no superiors and far fewer, if any, colleagues (co-entrepreneurs). Entrepreneurs' work may therefore be relatively lonely, lacking important sources of work-related social support, which is likely detrimental to their MWB.

Finally, entrepreneurs differ from salaried employees in their personality traits, especially in traits such as self-efficacy, need for achievement (see Frese & Gielnik, 2014, for an overview), and psychological capital (Baron, Franklin, & Hmieleski, 2016). Thus, rather than being a direct result of their work, entrepreneurs' MWB may be a reflection of self-selection processes (Baron et al., 2016), such as those described in the attraction-selection-attrition framework (Schneider, 1987). Individuals who are more stress-resistant may elect to start businesses and are likely to be reinforced in their choice by stakeholders (e.g., investors). In turn, they are likely

to persist as entrepreneurs because they are able to cope with the high demands of their work.

Researchers often focus on aspects of the above arguments to suggest MWB benefits or costs for entrepreneurs. This fragmentation means that it is difficult to know what we currently understand about entrepreneurs' MWB, what factors give rise to it, and its consequences. Hence this review takes stock of the evidence across different perspectives.

REVIEW METHOD AND OVERVIEW OF REVIEWED STUDIES

I followed the systematic review procedure (Tranfield et al., 2003). First, I used Web of Science to retrieve sources. Web of Science covers research across disciplines (management, medicine, epidemiology, occupational health, economics, and psychology) in which relevant evidence is likely to be published. It also includes conference proceedings to access research before it is formally published. I used a range of keywords, specifying *entrepreneurs* and *self-employed* combined with search terms for MWB and its spectrum of facets, ranging from *disorders* and *distress* to *well-being*. The full set of 67 search terms is available upon request. I searched in abstracts, titles, and keywords, and included sources published between 1950 and June 2017. The searches retrieved 2,121 results (in June 2017).

Second, I coded these results for inclusion in the review, based on reading the title and abstract. Sources were considered relevant if they explored the MWB of entrepreneurs by, for example, identifying predictors of entrepreneurs' MWB or exploring its consequences. When no definite exclusion decision could be made, I erred on the side of including a source for further evaluation. This narrowed the search results to 301 sources.

Third, I read the 301 papers in detail and coded their research design, nature of the sample, country of data collection, theoretical approach, disciplinary background, and key findings, as well as the concept and measure of MWB.

Sources were excluded in steps 2 and 3 if they mentioned well-being but referred exclusively to economic well-being, or if they mentioned that entrepreneurs were not part of the sample. I also excluded studies that did not present separate results for entrepreneurs, such as when managers and entrepreneurs were treated as one group. To keep the review manageable, I focused on explanatory studies that offered insights into antecedents or consequences of entrepreneurs' MWB, and on empirical

⁵ Procedural utility suggests that people do not care only about instrumental outcomes (e.g., income) but also value the way they obtain outcomes (e.g., having a say over how to conduct their work, or job autonomy).

studies. I included studies that compared entrepreneurs and employees only if they offered an empirical explanation for MWB differences—for instance, by measuring autonomy or personality traits. I excluded studies that merely described the MWB levels of entrepreneurs and employees. I also excluded studies of social enterprises offering mental health provision.

Fourth, I conducted reference searches. I retrieved references that were mentioned in the sources but not yet included in the review. I also scanned the advance online publications and papers published in the leading entrepreneurship journals (*Journal of Business Venturing*, *Entrepreneurship Theory and Practice*) in the last five years. Overall, I identified 144 relevant sources. Of these, three were conference proceedings, one was a book chapter, and the remainder were journal publications.

Before delving into the findings, I provide an overview to illustrate how past research has studied entrepreneurs' MWB. The dominant research approach in the 144 studies was survey-based quantitative (90%, 8% qualitative, 3% mixed-method). The studies mainly focused on individuals (92%) as the level of analysis and employed cross-sectional (67%) or longitudinal/lagged research designs (25%). Three percent (five studies) were interventions or randomized control trials. Another three studies were diary/experience-sampling studies, two were case studies, and one was an ethnography. In terms of levels of analysis other than the individual, 2% (three studies) focused on the family and 2% on within-individual variation, and 2% were multilevel studies considering individuals in their country contexts. One percent (two studies) were conducted on the country level of analysis.⁶

With regards to measures of MWB, 39% of the 144 studies included measures of mental ill-being (e.g., distress, mental health complaints, burnout, mental disorders), 39% measured well-being (e.g., life satisfaction, happiness, job satisfaction), a further 15% measured both ill- and well-being in the same study, and 7% captured other measures (e.g., quality-of-life measures that contain aspects of both psychological and physical MWB). Just over half (53%) of the studies included measures of general MWB (e.g., life satisfaction or general distress), 27% included work-related well-being measures (e.g., job satisfaction or

work-related distress), 19% included measures of both, and 1% included other measures.

I classified the primary disciplinary approach based on the study's theoretical background in combination with the journal where it was published. The disciplinary approaches were psychology (23%), occupational health and medicine (22%), entrepreneurship (18%), economics (16%), management (12.5%), and other social sciences (8.5%).

Synthesis and Analysis of Review Findings

As noted above, I coded all studies in detail for a range of characteristics. This allowed me, in the first instance, to cluster studies by their primary research question. Sixteen studies explored MWB across different types of entrepreneur, 105 studies investigated antecedents of MWB, and 28 studies explored the consequences of MWB. Five of the 144 studies provided information on two research questions simultaneously. A summary of the coding tables and each study is included in the online supplement. Tables A1, A2, and A3 list all the studies on MWB and types of entrepreneurs, on antecedents of entrepreneurs' MWB, and on MWB consequences respectively.

To synthesize findings in each of the three areas, I engaged in qualitative coding and abduction. For instance, I identified common clusters of antecedents of MWB guided by my knowledge about work, social, and personality characteristics as possible antecedents of entrepreneurs' MWB as well as by the data (i.e., the findings that emerged from the individual studies in the review). An example of data-driven/inductive coding is the fact that new categories of stressors and resources started to emerge from the studies. These included firm characteristics such as financial situation, the physical environment, and context characteristics (e.g., the level of competition, the business climate, and cultural aspects). The coding also revealed greater differentiation of personal characteristics such as human capital and values, in addition to traits. I similarly employed qualitative coding and abduction to cluster studies on the different consequences of entrepreneurs' MWB, and on the types of entrepreneurs and their MWB.

REVIEW FINDINGS

The findings are presented along the three primary research questions that emerged from the coding of studies: (1) Does MWB differ by type of entrepreneur? (2) What are the antecedents of entrepreneurs'

⁶ Some of the percentage figures do not add up to 100% due to rounding. Exact figures are available from the author.

MWB? (3) What are the consequences of entrepreneurs' MWB? Figure 1 provides a visual mapping of the review findings, including the general concepts studied as antecedents and consequences of MWB in the 144 studies. Tables 1 and 2 (below) map the specific antecedents and consequences studied, their relationship with MWB in the reviewed studies, and the frequency and number of high-quality studies, as well as notes on unexpected findings.

Prelude: MWB and Types of Entrepreneur

Sixteen studies investigated whether different types of entrepreneur are "better off" in terms of MWB. These studies are largely descriptive and their findings consistent. Entrepreneurs who may be broadly characterized as opportunity entrepreneurs experienced higher MWB than necessity entrepreneurs (see Table 1A in the online supplement for the list of individual studies). With one exception,⁷ all studies found that opportunity entrepreneurs were happier and less distressed than necessity entrepreneurs. One study across 74 countries suggests a similarly positive relationship between national rates of opportunity entrepreneurship and life satisfaction (Naudé, Amorós, & Cristi, 2014).

The MWB benefits of being an opportunity entrepreneur rather than a necessity entrepreneur were evident in both cross-sectional and longitudinal studies (all studies were based on random representative samples). They held for differing ways of identifying opportunity and necessity entrepreneurs—for instance, based on whether they transitioned into self-employment from employment or unemployment; their preferences and desire for self-employment; their number of employees (or none); and whether they were skilled or unskilled, ran an incorporated business or sole proprietorship, were independent or dependent contractors, or were formally or informally self-employed. The differences were also robust for different types of MWB indicators. The most frequently studied were life and job satisfaction (five studies), distress (anxiety, depressive symptoms, burnout; four studies), suicide mortality (two studies), and subjective well-being (combining satisfaction and affect; two

studies). Moreover, opportunity entrepreneurs had higher family and health satisfaction than necessity entrepreneurs, but both types of entrepreneurs were equally dissatisfied with the lack of leisure time (Binder & Coad, 2016; Johansson Sevä, Larsson, & Strandh, 2016).

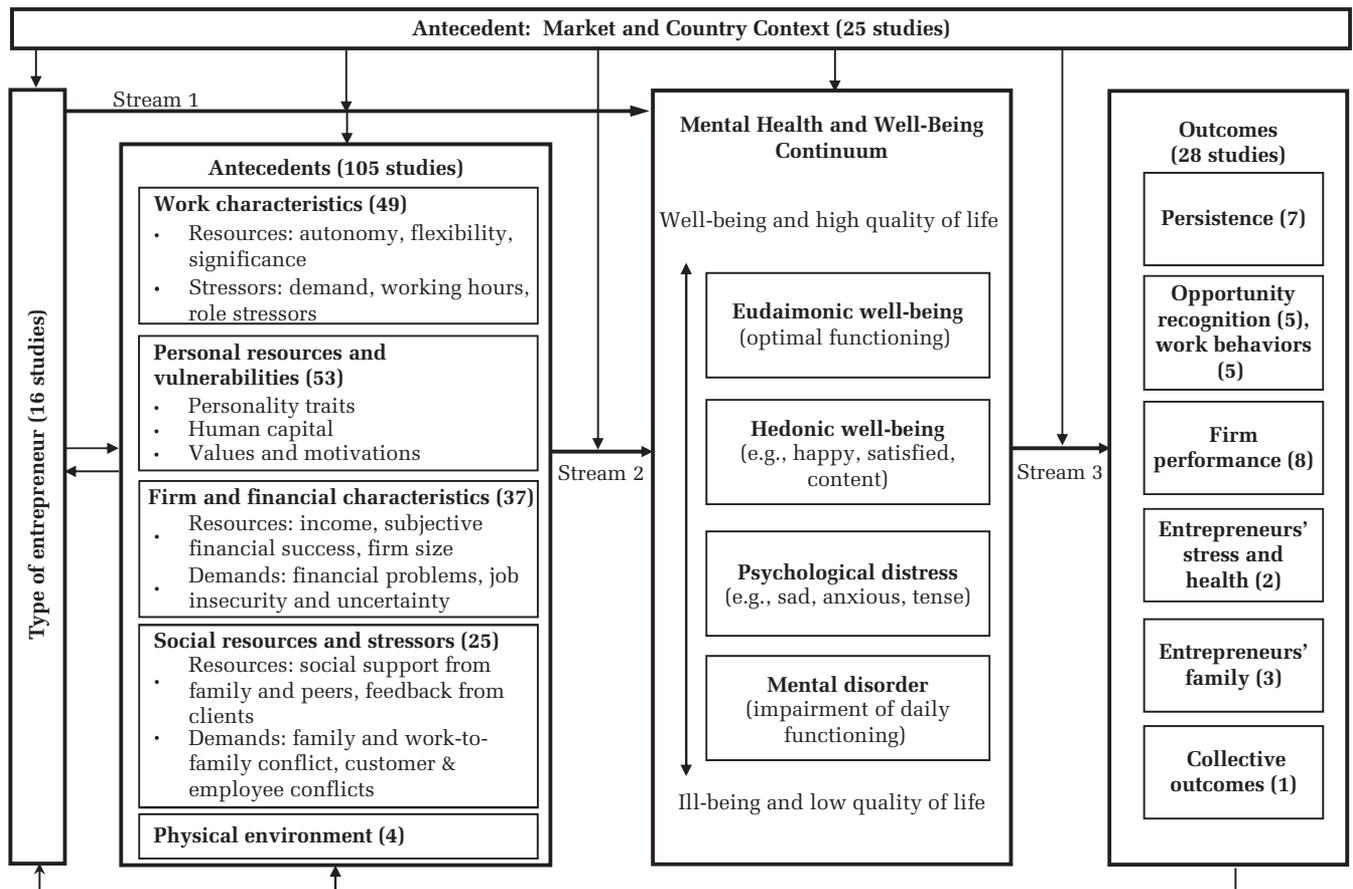
To explain these differences, the reviewed studies referred either to the higher autonomy and deliberate choice that opportunity versus necessity entrepreneurship involved, or to differences in human capital (education), personality traits, and preferences (e.g., higher desire for independence or power among opportunity entrepreneurs) (Binder & Coad, 2016; Petrescu, 2016; Van den Heuvel & Wooden, 1997). While empirical tests were rare, opportunity entrepreneurs indeed reported more autonomy, and in one study they experienced growing life, job, and health satisfaction over the first three years after starting their firms (Binder & Coad, 2016). This pattern is consistent with the view that the effects of autonomy take time to unfold (Ford et al., 2014). It is also consistent with another study that found that entrepreneurs who are established have higher MWB than those starting out (Zbierowski, 2014). In two further studies the MWB differences between opportunity and necessity entrepreneurs were partly explained by education (Sikora & Saha, 2009) and by entrepreneurial traits, desire for independence, and intrinsic work motivation (Johansson Sevä, Larsson et al., 2016). These findings point to possible antecedents of entrepreneurs' MWB.

Antecedents of Entrepreneurs' MWB

I present antecedents according to whether they have positive effects (resources) or negative effects (in the form of stressors or vulnerabilities) on entrepreneurs' MWB. The antecedents studied clustered into six broad categories: work characteristics (49 studies); personality traits, values, and other personal resources (53 studies); firm and financial characteristics (37 studies); social support and stressors (25 studies); market and country context (26 studies); and physical context (four studies). Table 1 gives an overview of the findings by listing the characteristics identified in each of the six categories, how many times they were studied, and the relationship with entrepreneurs' MWB. Table 1 also reports the number of studies with stronger research designs (longitudinal, lagged, and experience-sampling design, as well as experiments). In the following synthesis of findings I focus on the most frequently studied characteristics as well as the

⁷ The one exception was a study examining subjective quality of life (an overall assessment that combines both mental and physical health). In this study differences between entrepreneurs with and without employees were nonsignificant after adjusting for controls (Saarni, Saarni, & Saarni, 2008). This was the only study that used a measure of MWB that may be confounded by physical health.

FIGURE 1
Overview of Research on Entrepreneurs' MWB: Research Streams and Examples of Concepts Studied
(number of studies in brackets)



unexpected findings. I privilege studies with stronger research designs to provide examples. Table 2A in the online supplement lists and summarizes each study in this stream.

Work characteristics. Work characteristics broadly describe the nature and organization of entrepreneurs' work tasks and activities (cf. Parker, 2014). Of the 49 studies that included measures of work characteristics, 13 had longitudinal or lagged study designs. Intuitively two features of entrepreneurs' work stand out: Entrepreneurs have high *autonomy*—they can make decisions about what, when, and with whom to work (Parker, 2014)—and they have stressful jobs—high work *demands* that require intense effort and concentration (Karasek, 1979). Autonomy, also called job control, and work demands are the two dimensions of the job demands–control model (Karasek, 1979), a well-supported model of work stress (e.g., Hausser et al., 2010). These two aspects were also the two most frequently studied work

characteristics in the review, and the pattern of findings (see Table 1) confirms expectations that autonomy is positively related and demands are negatively related to MWB. Two studies found no effect of autonomy and demands on MWB. One was based on a small sample of $N=53$ (Rau et al., 2008). The other study was longitudinal, but alongside the measure of work autonomy it included farm-specific work characteristics that were more powerful predictors of MWB (Wallis & Dollard, 2008).

Studies investigated two further measures of work stressors that are closely related to work demands. For *role stress* (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964), six studies consistently showed negative effects on entrepreneurs' MWB. For *working hours*, one study found that a subset of starting entrepreneurs were more satisfied with their work if they experienced high demands and also worked long hours (Bradley & Roberts, 2004). It was interpreted as a signal that the business was doing well. A

TABLE 1
Overview of Review Findings on the Antecedents of Entrepreneurs' Mental Health and Well-Being

Antecedent	Effect on MWB				Total N of studies	N stronger research designs ^a	Notes
	+	0	-	Other			
Work characteristics^b					49	13	
Resources							
Autonomy	18*	2**			20	4	*In Parslow et al. (2004) autonomy had a positive effect only for self-employed women, not for self-employed men. **See manuscript text.
Time flexibility	3	1*			4	0	*No effect when considered alongside autonomy in Parasuraman and Simmers (2001), but additional positive effect alongside autonomy in Hundley (2001) and Alvarez and Sindre-Cantorna (2014).
Skill utilization	2	1*			3	1	*No effect in Wallis and Dollard (2008); farm-specific resources explained MWB instead.
Significance/meaningfulness	5			2*	7	0	*Two studies report findings suggestive of "inverse U" relationship; see manuscript text.
Variety/interesting work	4				4	1	
Task identity		1			1	0	
Feedback	2				2	0	
Positive work resources	1				1	1	Qualitative coded resources in Lechat and Torrès (2017).
Stressors							
Demands	1*	2**	19		22	7	*Positive effect for new entrepreneurs: Demands seemed to signal that the business is going well (Bradley & Roberts, 2004). **See manuscript text.
Role stressors			6		6	2	
Long/intense working hours	2*	1	8	2	13	3	*See manuscript text for positive effects and discussion of recovery effects.
Personal characteristics^b					53	14	
Traits					27	8	
Resources							
Psychological capital	4				4	1	Two studies investigated the psychological capital construct; one study each investigated constituent traits (hope, self-esteem).
Self-efficacy	3			1*	4	2	*See manuscript text.
Optimism	1		1*	1*	3	2	*See manuscript text.
Emotional intelligence/trait emotion regulation	3		1	2*	6	1	*Emotional intelligence mitigates the negative effects of fear of failure (Bahmannia et al., 2013); affect spin, as an emotional experience pattern that requires emotion-regulation resources, is related to distress (Uy et al., 2017).

TABLE 1
(Continued)

Antecedent	Effect on MWB				Total N of studies	N stronger research designs ^a	Notes
	+	0	-	Other			
Coping	4				4	1	See manuscript text for distinct effects of different copying styles.
Internal locus of control	3*				3	1	*Indirect effect of internal locus of control on distress via role stress in one study (Wincent & Örtqvist, 2009).
Risk tolerance	2				2	0	
Three Big 5 traits: agreeableness, extroversion, conscientiousness	2				2	0	No relationships for openness to experience (Berglund, Johansson Sevä, & Strandh, 2016; Morrison, 1997); for emotional stability see findings below for neuroticism.
Innovativeness	2				2	0	
Positive affect	1				1	1	
Vulnerabilities							
Neuroticism, negative or depressed affect			5	1*	6	1	*Being emotionally unstable was recognized by entrepreneurs themselves as a vulnerability (Ahmad & Arabia, 2010).
Fear of failure			1		1	0	
Human capital					13	5	
Resources							
Stress/self-management skills	2				2	2	
Business and entrepreneurial skills	1			2*	3	1	*Lack of business skill recognized by entrepreneurs as stressor (Ahmad & Arabia, 2010; Vaag et al., 2014).
Entrepreneurship/leadership experience	1		1	2	4	0	See manuscript text for explanation of mixed results.
Education	1		2	2*	5	2	* Higher education mitigated the negative effect of financial problems on well-being (Annink et al., 2016); perceived mismatch between highest degree and current work was associated with lower work satisfaction (Bender & Roche, 2013).
Values and motivations					12	0	
Resources							
Specific intrinsic values	5				5	0	Intrinsic values include values of autonomy, creativity, and well-being.
General intrinsic motivation	6				6	0	Includes valuing nonfinancial success.
Meeting own expectations and goals	3				3	0	
Valuing achievement	1				1	0	
Vulnerability							
Valuing financial success, money and extrinsic motives			3		3	0	

TABLE 1
(Continued)

Antecedent	Effect on MWB				Total N of studies	N stronger research designs ^a	Notes
	+	0	-	Other			
Other personal characteristics					8	2	
Physical health and health behaviors	5	1*			6	1	*One longitudinal study found no relationship between height as a proxy for good physical health and entrepreneurs' MWB (Rietveld, Hessels, & Van der Zwan, 2015).
Immigrant entrepreneur	2				2	1	
Firm and financial characteristics^b					37	15	
Resources							
Financial rewards/income	6				6	2	
Perceived firm success	5*			1**	6	1	* Measured in one study as entrepreneur reports of firm productivity (Sherman, Randall, & Kauanui, 2016). ** Qualitative research; see manuscript text.
Objective firm performance		1*	1*		2	1	*See manuscript text for explanation.
Number of employees	3		1*		4	3	*See manuscript text for explanation.
Financial resources (loan)			1*	1	2	2	*See manuscript text for explanation.
Stressors							
Financial problems		1	7	1	8	4	See manuscript text for detailed findings.
Low pay/income			3		3	0	
Job loss			5		5	4	Includes studies on unemployment and retirement.
Job insecurity/uncertainty			5		5	1	
Other			2*		2	0	*Income uncertainty and perceived financial responsibility (for self and family) identified as stressors in qualitative studies (Schonfeld & Mazzola, 2015; Sörensson & Dalborg, 2017).
Social resources and stressors^b					25	6	
Resources							
Social support/low loneliness	11			2*	13	3	*Moderating effect of social capital: Social capital mitigates the negative effect of fear of failure on work stress in nonfamily-owned businesses (Bahmannia et al., 2013). Work-related social support buffered the effect of exhaustion on job satisfaction (no effect of exhaustion when work-related support was available; Tetrick et al., 2000).
Work-family enrichment (WFE)	3				3	1	

TABLE 1
(Continued)

Antecedent	Effect on MWB				Total N of studies	N stronger research designs ^a	Notes
	+	0	-	Other			
Positive feedback from customers				2*	2	1	*Feedback from clients emerged as source of MWB in qualitative studies (Anderson & Hughes, 2010; Lechat & Torrès, 2017).
Stressors							
Work–family conflict (WFC)			8	1*	9	2	*Negative effect of WFC on MWB for women entrepreneurs only.
Family conflicts			1		1	0	
Customer & employee conflicts				2	2	1	
Partner control			1		1	0	
Responsibility for people at work			1		1	0	
Context characteristics^b							
Business climate/ market demand	2			3	5	2	
Economic recession		1	3		4	0	
High levels of market competition			2		2	2	
Societal esteem of entrepreneurs	2			1*	3	0	*Moderating effect; see manuscript text.
Regulation	1		1		2	0	Regulation to enhance competitiveness was positively related to entrepreneurs' MWB across countries (Cuéllar-Molina, Lucia-Casademunt, & Garcia-Cabrera, 2015), but individual entrepreneurs experienced regulation as strain on MWB (Kallioniemi et al., 2016).
Shock	1		4		5	2	See manuscript text.
Other				6	6	0	Entrepreneurs' MWB varies across countries (Benz & Frey, 2008; Schneck, 2014) and industries (Rau et al., 2008). Labor market flexibilization affects entrepreneurs' MWB less than employees' MWB (Obschonka & Silbereisen, 2015). Social and religious obligations in the community were stressors for female entrepreneurs (Ugwu et al., 2016). Country differences in unemployment insurance and social trust moderated the effects of financial hardships on MWB (Annink et al., 2016).
Physical environment^b							
Resource							
Being in nature	1				1	0	
Stressor							
Physical demands, workload & danger			4		4	0	

Notes:

^a Longitudinal, lagged, experimental, experience sampling studies

^b Individual studies may contain information on more than one characteristic. Hence, the total number of studies for a cluster of characteristics may be smaller than the sum of studies across each of the individual characteristics.

* and ** are explained in the last column for each row.

large cross-country study also found a positive association of longer working hours with higher MWB (Millán, Hessels, Thurik, & Aguado, 2013). These mixed findings suggest that entrepreneurs can appraise long working hours as a challenge stressor—that is, as a stressor that is perceived to entail opportunities for future achievement (Podsakoff, LePine, & LePine, 2007; see also discussion section).

Among the studies investigating working hours, four referred to recovery processes, understood as the processes of recuperating from work demands through detachment from work and engagement in leisure activities (Sonnetag & Fritz, 2015). Two found that taking time off from work enhanced entrepreneurs' MWB (cross-sectionally for the length of vacation time, Rau et al., 2008, and when comparing entrepreneurs' MWB before and after a recovery retreat, Vesala & Tuomivaara, 2015). Entrepreneurs themselves also considered vacation time as a resource for their well-being in a qualitative study (Lechat & Torrès, 2017). In another cross-sectional study, long working hours were no longer related to entrepreneurs' MWB when recovery processes were also taken into account. Entrepreneurs who were able to mentally detach from work in their leisure time were unaffected by working long hours (Taris, Geurts, Schaufeli, Blonk, & Lagerveld, 2008).

With regard to other work resources, *time flexibility* had the expected positive effects on MWB even when considered alongside autonomy, with which it overlaps (see Table 1 for details). The ability to make use of one's skills at work (*skill utilization*) also tended to have positive effects (see Table 1 for details). The remainder of the work resources considered were features that describe motivating work settings in the job characteristics model (JCM, Hackman & Oldham, 1975; autonomy is also contained in this model). These features are the *significance* or meaningfulness of work, how *interesting* and varied the work is, how coherent it is (*task identity*), and whether work offers an opportunity for *feedback* on one's actions and thus opportunities to learn. Two studies were explicitly based on the JCM and supported these relationships, except for task identity (Hytti, Kautonen, & Akola, 2013; Schjoedt, 2009). Other studies investigated individual JCM features and also found the expected positive effects (see Table 1). Yet two qualitative studies suggest that work can become too significant to entrepreneurs and all-consuming, which implies an inverse-U shaped relationship of meaningfulness with MWB (Fisher, Maritz, & Lobo, 2013; Spivack, McKelvie, & Haynie, 2014)—an intriguing avenue for future research (see discussion section).

Studies that included samples of salaried employees consistently found that entrepreneurs reported higher autonomy. This was true for both opportunity and necessity entrepreneurs, although the former reported the highest level of autonomy (Johansson Sevä, Larsson et al., 2016). Autonomy, sometimes alongside other work characteristics, explained the majority (Benz & Frey, 2008) or all of the difference in work satisfaction between entrepreneurs and employees (Hytti et al., 2013; Prottas & Thompson, 2006).

Studies of work characteristics imply a malleable view of entrepreneurs' MWB, which contrasts with the self-selection view of the personality perspective (Baron et al., 2016). Research combining personality and work characteristics would allow testing of competing explanations of selection versus work characteristics, but such research is sparse. Studies in the review that explored both work and personality suggest that the two explanations are compatible, and that they interact to shape entrepreneurs' MWB. Lange (2012) found that work autonomy accounted for the MWB differences between entrepreneurs and employees when controlling for differences in personality traits and values. Although cross-sectional, this study suggests that work characteristics help explain MWB benefits in addition to self-selection effects. In a diary study over 25 weeks, Totterdell, Wood, and Wall (2006) found that weekly variations in autonomy and demand predicted changes in entrepreneurs' MWB (distress). Trait optimism moderated these effects. It further boosted the beneficial effects of high autonomy/high demand work (the so-called active job), while pessimism worsened the effects of high-strain jobs (low autonomy/high demand).

Personal characteristics. Of the 53 studies that included measures of personal resources and vulnerabilities, 14 employed stronger research designs (longitudinal, lagged, experimental, or experience sampling). Most frequently studied were personality traits (27 studies), followed by human capital (education and specific skills; 13 studies), entrepreneurs' values and motivations (12 studies), and other personal characteristics (eight studies). See Table 1 for an overview.

Personality traits. Most studies investigated personality traits as resources that would enhance entrepreneurs' MWB. Table 1 shows the range of different traits studied, including psychological capital traits, traits associated with entrepreneurship such as risk-taking and internal locus of control, and the Big Five personality traits (e.g., Baron et al., 2016; Przepiorka, 2017). They showed overwhelmingly the expected beneficial effects on entrepreneurs' MWB (see Table 1), including in the

rare longitudinal and lagged studies (Laguna, Razmus, & Żaliński, 2017; Roche, Haar, & Luthans, 2014).

There are a small number of exceptions to this pattern. These point to inverse-U-shaped relationships or “optimum levels” beyond which even traits that are widely considered to be resources for personal well-being (self-efficacy and optimism) can have negative effects. In one study, self-efficacy moderated the effect of entrepreneurs’ improvisational behavior on their work satisfaction (Hmieleski & Corbett, 2008). Entrepreneurs who were both highly self-efficacious and engaged in improvisation were least satisfied, even though further results suggested that they were also the ones leading the most dynamically growing companies. These entrepreneurs may have been overexerting themselves. Similarly, one longitudinal study found that optimism can lead to lower MWB in the longer term when overly positive expectations do not materialize (Dawson, 2017). High levels of optimism before starting a business led to lower work satisfaction and lower satisfaction with pay once the individual became an entrepreneur. Yet in the shorter term, optimism benefited entrepreneurs’ MWB, as reported in a 25-week diary study (Totterdell et al., 2006) and in a cross-sectional study on samples from 19 European countries (Lange, 2012).

Coping styles were investigated as habitual approaches to dealing with challenging situations. All studies found the expected positive effects of problem-focused and related proactive coping styles on MWB (e.g., Drnovšek, Örtqvist, & Wincent, 2010; Müller & Gappisch, 2005). Two studies additionally pointed to the functionality of emotion-focused coping styles to enhance MWB (Patzelt & Shepherd, 2011; Uy, Foo, & Song, 2013).

In terms of vulnerabilities, neuroticism and related constructs of trait negative affect expectedly reduced entrepreneurs’ MWB in all five studies that investigated this relationship (e.g., Bradley & Roberts, 2004; Morrison, 1997). Entrepreneurs who were high in fear of failure also had lower MWB in one study (Bahmannia, Tharan, & Wang, 2013).

Human capital. Human capital describes the skills acquired through experience and education (Becker, 1964). Due to their broader skill set, individuals with high human capital should be better able to cope with the demands of entrepreneurial work. Indeed, entrepreneurs reported that they experience their low or deficient business and entrepreneurial skills as stressful (Ahmad & Arabia, 2010; Vaag, Giæver, & Bjerkeset, 2014). One study investigated the effect of business skills on MWB in a randomized control trial with microfinance entrepreneurs. Business skills training, whether on its own or in combination with the

provision of longer-term access to finance, had positive effects on the MWB of male entrepreneurs (Berge, Bjorvatn, & Tungodden, 2015).⁸

The effects of stress- and self-management skills on entrepreneurs’ MWB were positive in two studies. This included a randomized control trial on entrepreneurs who were on sick leave due to mental health issues, training them in self- and stress management (Blonk, Brennkmeijer, Lagerveld, & Houtman, 2006). By comparison the effects of past experience were not clear cut (see Table 1), likely because the measures of experience were coarse and typically considered the length rather than the quality of the experience. A case in point is a cross-sectional study in which the MWB of entrepreneurs was negatively related to the number of times they had failed with past businesses (Zhang, Chen, Li, & Zhou, 2016).

The findings for education were ambivalent (see Table 1) even in two longitudinal studies. It is likely that two countervailing processes are at work: The broader skill set associated with education can indeed yield MWB benefits (Millán et al., 2013), but at the same time, better education entails higher opportunity costs for the entrepreneur. Highly educated entrepreneurs are able to achieve significant income in paid employment. Such comparison processes may make highly educated entrepreneurs relatively less satisfied with their work. Dawson’s (2017) longitudinal study is consistent with this explanation. The highly educated entrepreneurs reported lower satisfaction with both their work and their pay than did less well-educated entrepreneurs. Kwon and Sohn’s (2017) study suggests that the negative MWB impact of opportunity cost considerations is particularly salient in emerging economies where employed work is held in higher social esteem than entrepreneurship. In their study in Indonesia, the most highly skilled self-employed were least satisfied with their work, and, conversely, those with the lowest qualifications were most satisfied.

Personal values and motivations. Values and motivations refer to general and specific goals that energize actions. Thus they describe *why* people engage in actions, while personality traits describe *how* people typically act (Roccas, Sagiv, Schwartz, & Knafo, 2002). All 12 studies that related entrepreneurs’ motivations

⁸ For female entrepreneurs the effects were nonsignificant. This is probably due to a combination of factors, including the fact that their husbands exerted control over their businesses and earnings. Women’s lower willingness to compete may also play a role, as may the extent to which their expectations of the intervention were disappointed (Berge et al., 2015).

and values to their MWB are cross-sectional, hence the findings are best described as correlates of entrepreneurs' MWB. Table 1 shows a consistent pattern that is in line with extant motivational theories such as self-determination theory (Ryan & Deci, 2000). Entrepreneurs who were driven by intrinsic motivations (both general and specific intrinsic values) exhibited higher MWB than those motivated by extrinsic factors such as financial success. At the same time, achieving the goals the entrepreneurs had set for themselves was also positively associated with higher MWB.

Other personal characteristics. Studies investigated a range of other personal characteristics, and to detail the findings for all of them (often included as control variables in regressions) would go beyond the scope of the review. Two findings are noteworthy, however: Better physical health and health maintenance behaviors (e.g., exercise) were positively related to entrepreneurs' MWB. Being an immigrant entrepreneur also had MWB benefits in two studies, including in one longitudinal study, which additionally suggested that these benefits may become smaller for subsequent generations (Clark, Colombier, & Masclat, 2008).

Firm and financial characteristics. Firm and financial characteristics were considered as both objective and subjective resources and stressors (e.g., perceptions of firm success, income uncertainty, and financial problems). Subjective perceptions of success can be more decisive for entrepreneurs' action than objective factors (Gimeno, Folta, Cooper, & Woo, 1997), a finding that plays out in the reviewed studies. Of the 37 studies investigating firm and financial characteristics, 15 had stronger research designs (see Table 1).

Firm and financial resources. Overall the effects of personal financial rewards and perceived firm success on entrepreneurs' MWB were positive, while the MWB effects of objective indicators of firm performance, size, and financial resources were more nuanced.

Income and related financial rewards derived from the firm related positively to entrepreneurs' MWB in all studies that investigated such rewards, including in longitudinal studies (Dawson, 2017; Millán et al., 2013). Moreover, entrepreneurs' subjectively *perceived firm success* was positively related to their MWB in five cross-sectional studies. Similarly, in qualitative research, entrepreneurs named firm performance, growth, and success as important sources of their MWB (Lechat & Torrès, 2017).

Only two studies investigated *objective firm performance*, and they failed to establish the expected positive effects. In a cross-sectional study, those entrepreneurs whose firms were performing well experienced lower well-being and leisure satisfaction, although they were highly satisfied with their income (Carree & Verheul, 2012). This points to important trade-offs across well-being domains. In a longitudinal study, business owners' mental recovery after a disaster was unrelated to the economic performance of their firms (De Mel, McKenzie, & Woodruff, 2008). At the same time, entrepreneurs leading larger firms (with a higher *number of employees*) reported higher well-being in three studies. It is worth noting that one longitudinal study paints a more nuanced picture by also considering work characteristics: Entrepreneurs with employees experienced higher work demands than those without employees, which in turn increased their level of distress (Hessels, Rietveld, & Van der Zwan, 2017).

In line with the rationale that the effect of firm resources is mediated by subjective experiences, two randomized control trials did not find positive effects of the availability of *financial resources* on micro-credit entrepreneurs' MWB. Indeed, entrepreneurs' well-being declined slightly and distress increased in the treatment group receiving loans, because the expansion of business activities increased entrepreneurs' workload (Karlan & Zinman, 2011). Similarly, the effect of obtaining long-term finance on the happiness of entrepreneurs was contingent upon also receiving business skills training, in part because of the boost to the entrepreneurs' confidence (Berge et al., 2015).

Firm and financial stressors. All studies that investigated firm *financial problems* found that these lowered entrepreneurs' MWB (see Table 1). This was the case for all cross-sectional (Annink, Gorgievski, & Den Dulk, 2016; Kallioniemi, Simola, Kaseva, & Kymäläinen, 2016; Kallioniemi, Simola, Kymäläinen, Vesala, & Louhelainen, 2009; Torp, Syse, Paraponaris, & Gudbergsson, 2017) and two longitudinal studies (over three years, Gorgievski, Bakker, Schaufeli, Van der Veen, & Giesen, 2010, and one year, Wallis & Dollard, 2008). The exception was a study of a smaller sample of 91 farmers over 10 years (Gorgievski-Duijvesteijn, Giesen, & Bakker, 2000). Entrepreneurs also perceived financial problems as a key stressor in a qualitative study (Lechat & Torrès, 2016). Equally, three related studies found consistently that entrepreneurs with *low income* had lower MWB (Anderson & Hughes, 2010; D'Angelo et al., 2016; Kwon & Sohn, 2017).

The effects of financial problems and low pay seem to go beyond their material impacts. Entrepreneurs appear to perceive financial problems and poor venture performance as a threat to their self-image and even their identity. Studies investigating *job loss* and *job insecurity/uncertainty* are consistent with such a view. They found the expected negative effects on entrepreneurs' MWB, but also that entrepreneurs suffered significantly more distress from job loss, the threat of job loss, and periods of unemployment than did comparable groups of employees (e.g., in two longitudinal studies: Backhans & Hemmingsson, 2012; Hetschko, 2016). Identity shifts and intense feeling of loss occurred even for entrepreneurs who voluntarily retired from their firms (Byrnes & Taylor, 2015). Conversely, a longitudinal study found that entrepreneurs who delayed retirement had a lower risk of developing dementia (Dufouil et al., 2014).

Social resources and stressors. Of the 25 studies that investigated *social support*, six had stronger research designs (see Table 1). Social relationships are an important source of MWB, and the review shows that this is no different for entrepreneurs despite the fact that they have far fewer sources of work-related social support than employees (Rahim, 1996; Tetrick, Slack, Da Silva, & Sinclair, 2000). In a longitudinal study, Fernet, Torrès, Austin, and St-Pierre (2016) found that entrepreneurs who were lonely and socially isolated were more likely to develop burnout. When available, social support from others at work and from their family was consistently positively related to entrepreneurs' MWB in cross-sectional and longitudinal studies (Nguyen & Sawang, 2016; Totterdell et al., 2006). In two cross-sectional studies, social support moderated (mitigated) the effect of other stressors and negative emotional experiences on MWB (Bahmannia et al., 2013; Tetrick et al., 2000).

Eleven studies investigated how entrepreneurs balance their family roles with their work. More studies investigated work–family conflict than work–family enrichment (see Table 1). *Work–family conflict* affected entrepreneurs' MWB negatively in all nine studies investigating it, including in a longitudinal study (Nguyen & Sawang, 2016). A randomized control trial found a negative effect of work–family conflict only for female entrepreneurs (Berge et al., 2015). Three further studies were based solely on samples of female entrepreneurs (Anderson & Hughes, 2010; McLellan & Uys, 2009; Ugwu, Orjiakor, Enwereuzor, Onyedibe, & Ugwu, 2016). A further cross-sectional study separately

identified *family conflicts* as an additional stressor for entrepreneurs (Kallioniemi et al., 2009). More specifically, a study of female entrepreneurs in Tanzania identified their partners' control over their finances and business as a limiting factor for their MWB (Dutt, Grabe, & Castro, 2016). Interestingly, this was much less the case for collective entrepreneurship in the form of a co-operative, which provided these women with important peer social support from fellow entrepreneurs. Finally, *work–family enrichment* was part of three studies that also investigated work–family conflict (McLellan & Uys, 2009; Nguyen & Sawang, 2016; Ugwu et al., 2016). It had consistent positive effects on entrepreneurs' MWB.

The qualitative studies in the review also pointed to new and overlooked social resources and stressors. This includes positive *feedback from customers* as a resource boosting entrepreneurs' MWB (Anderson & Hughes, 2010; Lechat & Torrès, 2017) and *conflicts with customers and employees* as a significant and frequent social stressor straining entrepreneurs' MWB (Lechat & Torrès, 2016; Schonfeld & Mazzola, 2015). One cross-sectional study uniquely identified entrepreneurs' felt *responsibility for people at work* as a strain on their MWB (Begley, 1994).

Context characteristics. Twenty-five studies (six with stronger research designs) investigated different layers of context. These included the local business climate, the level of societal esteem of entrepreneurs, and the impact of shocks (see Table 1).

The *business climate* (or level of demand in the market) was the subject of five studies. A further four studies investigated the related effects of *economic recession*, and two studied the effect of *market competition*. Collectively these 11 studies provide evidence that entrepreneurs' MWB is shaped by the wider market and economic environment. More specifically, objective measures of economic growth (Johansson Sevä, Vinberg, Nordenmark, & Strandh, 2016) and favorable business climate (Jiang, Lu, & Lu, 2017) affected entrepreneurs' MWB positively. Entrepreneurs themselves highlighted the stressful effects of low customer demand in three qualitative studies (Lechat & Torrès, 2016, 2017; Schonfeld & Mazzola, 2015). Another three studies examined the effects of the recession triggered by the 2008 financial crisis. One study across 20 European countries did not find a link with entrepreneurs' risk of developing depression (Buffel, De Velde, & Bracke, 2015). Yet two studies from Spain (a country that was strongly affected by the crisis) found expected changes in entrepreneurs' MWB due to the crisis

(Cueto & Pruneda, 2017, based on annual labor force surveys; Real et al., 2016, based on records of diagnosed mental disorders). Likewise, a study in China found that a local recession dampened entrepreneurs' MWB (Jiang et al., 2017). Finally, strong market competition strained entrepreneurs' MWB in two longitudinal studies, both directly (Wallis & Dollard, 2008) and indirectly through increasing role stress (Wincent & Örtqvist, 2009).

Turning to cultural factors, two cross-sectional studies suggest that the lack of *societal esteem for entrepreneurs* diminishes their MWB (Kallioniemi et al., 2016; Kwon & Sohn, 2017). Yet a supportive societal context can also make failing more difficult. Entrepreneurs whose businesses had failed in the past had lower MWB, especially when they perceived their environment to be supportive of entrepreneurship (Zhang et al., 2016).

Five studies investigated context from the perspective of reactions to *shocks* such as industrial and natural disasters (e.g., chemical explosion, tsunami) and personal trauma (surviving cancer). They again point to the close link between entrepreneurs' work and their identity. In four studies (two cross-sectional,

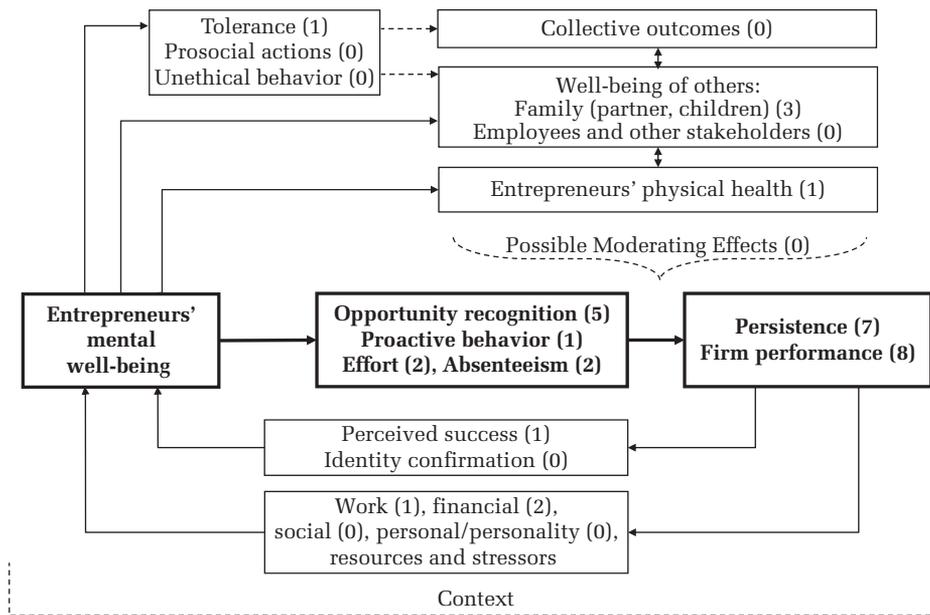
two longitudinal), entrepreneurs were among the groups whose MWB suffered the most due to the shock (Cohidon et al., 2009; De Mel et al., 2008; Torp, Nielsen, Gudbergsson, & Dahl, 2012; Torp et al., 2017). Another study found that starting a business in the immediate aftermath of a natural disaster can help especially highly educated individuals to cope with the disaster (Williams & Shepherd, 2016).

Physical work environment. Four cross-sectional studies investigated the physical work environment (Anderson & Hughes, 2010; Gunnarsson, Vingard, & Josephson, 2007; Kallioniemi et al., 2016; Sörensson & Dalborg, 2017). Poor physical working environments, including a heavy physical workload and the use of toxic materials, strained entrepreneurs' MWB. At the same time, for farm and nature entrepreneurs, the physical work environment ("nature") was positively related to their MWB.

Consequences of Entrepreneurs' MWB

The reviewed research studied the impact of entrepreneurs' MWB on the performance of the individual entrepreneur by investigating persistence

FIGURE 2
Consequences of Entrepreneurs' MWB: Summary of Review Findings, Gaps, and Possible Dynamic Relationships



Note: Bold font highlights the most frequently researched concepts and relationships. Numbers in brackets indicate the number of studies in the review reporting relevant evidence. Zeros and dashed lines indicate newly proposed relationships. All relationships refer to the individual level, except relationships with firm performance (individual to firm level), relationships with the well-being of others (which imply crossover effects from the individual entrepreneur to others), and relationships with collective outcomes (which imply individual-to-collective-level relationships). See text for details.

(seven studies), opportunity recognition (five studies), and work behaviors (five studies), and on the performance of entrepreneurs' firms (eight studies). Further studies linked entrepreneurs' MWB to other individual-level outcomes (their physical health and stress, one study each) and explored the consequences of entrepreneurs' MWB for others, including the entrepreneurs' families (children and life partners, three studies) and societal conflict (one study). Three studies included measures of two different consequences. Of the 28 studies reviewed in this section, 10 employed longitudinal, lagged, or experience-sampling designs; one was an ethnographic study; and the remaining 17 were cross-sectional studies. Table A2 in the online supplement provides details of all studies. Figure 2 is based on the reviewed studies and gives an overview of the type of consequences studied, their possible relationships, and the frequency with they were studied (see also Table 2). Figure 2 also contains additional outcomes that future research could explore, which will be detailed in the discussion section.

Why would MWB be related to performance outcomes? MWB can act as a self-regulatory mechanism

as described in conservation of resources theory (Hobfoll, 2001). Entrepreneurs with high MWB can draw on more cognitive and affective resources to work on the business (Hobfoll, 2001). In particular, the positive affect associated with high MWB broadens thought and action repertoires (e.g., facilitating creativity and opportunity recognition) and in turn helps the building of future resources (as described in the broaden-and-build theory; Fredrickson, 2001). The studies in the review relating MWB to opportunity recognition and work-related behaviors help to unpack such micro-level mechanisms that underpin the MWB–firm performance link. Low MWB triggers efforts to conserve resources, which can mean that entrepreneurs withdraw from this highly demanding activity altogether. Moreover, entrepreneurs see their MWB as an indicator of their success as entrepreneurs (Wach et al., 2016), and thus low MWB indicates that they are not achieving their goals, again encouraging withdrawal. I first discuss the evidence that relates MWB to an individual's persistence in entrepreneurship and his or her firm's performance, before delving into studies on possible individual-level intervening processes (opportunities and work behaviors) and those considering consequences of entrepreneurs' MWB for others.

TABLE 2
Overview of Review Findings on the Consequences of Entrepreneurs' MWB

Outcome	Consequence of MWB				Total N of studies	N with stronger research designs ^a	Notes
	+	0	–	Other			
Performance-related outcomes^b					28	10	
Persistence	6*		1**		7	3	*In one study this effect was contingent on social capital. **One descriptive study without controls.
Firm performance	7		1		8	3	
Opportunity recognition	5		1*		5	0	*In Foo (2011) happiness and anger had the same effects on opportunity recognition.
Effort toward goals	2		1*		2	1	*In Foo et al. (2009) both positive and negative affect facilitated effort but toward different goals.
Absenteeism			2		2	0	
Proactive behaviors	1				1	1	
Outcomes for the entrepreneur (ill health, stress)			2		2	2	
Outcomes for others (partners, children, tolerance toward others)	3		1		4	2	

Notes:

^a Longitudinal, lagged, experimental, experience sampling studies

^b Individual studies may contain information on more than one outcome. Hence, the sum of studies across the individual outcomes appears greater than 28.

* and ** are explained in the last column for each row.

Persistence is the lack of withdrawal from entrepreneurial activity. Entrepreneurs with higher MWB were more likely to persist in entrepreneurship in six of the seven studies that investigated it, including three longitudinal studies (Gorgievski et al., 2010; Patel & Thatcher, 2014; Wincent et al., 2008). One cross-sectional study found this to be the case only for entrepreneurs who had fewer resources (low social capital; Pollack, Vanepps, & Hayes, 2012). Other cross-sectional studies found that entrepreneurs with higher MWB were more likely to persist and restart their businesses after an external disaster had destroyed them (Kadowaki et al., 2016), while “happier” older entrepreneurs were more likely to intend to delay their retirement (Kautonen, Hytti, Boegenhold, & Heinonen, 2012). The one exception was a descriptive cross-sectional study of bed-and-breakfast owners, in which job satisfaction was unexpectedly positively and work–family balance expectedly negatively associated with exit planning (Crawford & Naar, 2016). It may be that owners who were satisfied with their work sought to buy larger businesses with employees to increase their work–life balance.

In seven of the eight studies that investigated MWB and *firm performance*, happier entrepreneurs led higher performing firms, whether performance was measured as business growth, innovative behavior, perceived success, fewer perceived financial problems, or customer service quality perceptions. This was true for different MWB indicators of distress, negative affect, and eudaimonic well-being (cross-sectionally in Gorgievski, Moriano, & Bakker, 2014, and longitudinally in Gorgievski-Duijvesteijn et al., 2000, and Gorgievski et al., 2010) as well as related indicators of coping styles (longitudinally in Ayala & Manzano, 2014, and cross-sectionally in Örtqvist, Drnovsek, & Wincent, 2007). Similarly, a study on manic depression (bipolar disorder) found that entrepreneurs with manic vulnerabilities were more likely to report losses (Johnson, Freeman, & Staudenmaier, 2015), and a study of hairstylist business owners found that their customers reported higher service satisfaction the more satisfied and committed the owners were (Payne & Webber, 2006). The exception to this pattern was one longitudinal study in which higher distress predicted higher personal income at the cost of worse physical health (Cardon & Patel, 2015). Trait positive affect strengthened the stress–income relationship and directly enhanced income. This study is consistent with the view that distress, especially in combination with trait psychological resources, can lead to the mobilization

of extra effort and benefit performance. Yet over the longer term the persistent strain on the body damages physical health (McEwen, 1998).

In addition to entrepreneurs’ MWB influencing their physical health (Cardon & Patel, 2015), one other study investigated *outcomes for the entrepreneur*. In a longitudinal study, Örtqvist and Wincent (2010) found that exhausted and dissatisfied entrepreneurs were more likely to subsequently perceive their work as more demanding and stressful.

All five studies examining the effects of MWB on *opportunity recognition* were cross-sectional studies. Lower MWB was related to reduced opportunity recognition, especially for older entrepreneurs (Gielnik, Zacher, & Frese, 2012)—a finding consistent with a resource-diminishing effect of low MWB, to which more vulnerable entrepreneurs are especially susceptible. Conversely, Rietveld, Bailey, Hessels, and Van der Zwan (2016) found that healthier business owners saw more opportunities for firm growth. Foo (2011, study 2) found that entrepreneurs with high anger as well as those with high happiness identified more uncertain high-value opportunities. Even though anger and happiness differ in valence, they both trigger similar confidence mindsets, which allow for the exploration of more uncertain opportunities. Foo’s (2011) study thus points to a potential upside of low MWB, as do two studies that explored ADHD and ADHD-like symptoms. In particular, the impulsivity component of ADHD was positively related to entrepreneurs’ opportunity development (Wiklund, Patzelt, & Dimov, 2016) as well as their entrepreneurial orientation (Thurik, Khedhaouria, Torrès, & Verheul, 2016).

Five studies explored different micro-level processes that help to unpack the effects of MWB by linking it to entrepreneurs’ work behaviors. One experience-sampling study demonstrated that negative and positive affective states influence entrepreneurs’ work focus differently, by causing them to expend *effort* on either immediate or future-oriented tasks respectively (Foo, Uy, & Baron, 2009). A cross-sectional multilevel study presents complementary evidence investigating goal-related affect. Positive affect, related to specific work and family goals, enabled goal realization, while entrepreneurs found it more difficult to achieve goals with a negative emotional connotation (Laguna, Alessandri, & Caprara, 2016). An MWB-related psychological resource (“positive orientation”) moderated and facilitated these processes. In cross-sectional studies, more satisfied entrepreneurs were less likely to engage in *absenteeism* (absence from work because of health

problems), indicating that those with high MWB are willing to expend more effort at work, despite health problems (Cocker, Martin, Scott, Venn, & Sanderson, 2013; Lechmann & Schnabel, 2014). However, a longitudinal study paints a more nuanced picture. Entrepreneurs' *proactive work behaviors* were stimulated by eudaimonic and not hedonic well-being (vigor vs. life satisfaction; Hahn, Frese, Binnewies, & Schmitt, 2012).

With regard to *consequences for others*, one longitudinal study identified crossover effects of entrepreneurs' MWB on the MWB of their life partners (Gorgievski-Duijvesteijn et al., 2000). Related longitudinal research found negative effects stemming from the stress, workload, and time commitment of parental self-employment on children's MWB (Wirback, Möller, Larsson, Galanti, & Engström, 2014). Gudmundsson (2013) offered a nuanced exploration of immigrant entrepreneurs' families, describing both vicious cycles as well as empowering effects. Finally, Tobias, Mair, and Barbosa-Leiker (2013) found that increases in entrepreneurs' MWB reduced their out-group prejudice (a key source of social conflict) in post-genocide Rwanda.

Dynamic relationships. Three studies in the review employed longitudinal cross-lagged panel research designs and were able to test for reciprocal relationships of MWB with outcomes. Gorgievski-Duijvesteijn et al. (2000) and Gorgievski et al. (2010) noted negative downward spirals between low MWB and financial problems. Örtqvist and Wincent (2010) found reciprocal relationships between role stress and low MWB, suggesting that exhausted and dissatisfied entrepreneurs were more likely to view their work as demanding, which led them to spiral downward to further exhaustion and more dissatisfaction. Gudmundsson (2013) described similar virtuous and vicious circles qualitatively in their study of immigrant entrepreneurs and their children. The feedback loops implied by such dynamic relationships are depicted by the arrows at the bottom of Figures 1 and 2.

DISCUSSION AND FUTURE RESEARCH

The aim of this review is to draw attention to entrepreneurs' MWB as a research area that should be positioned more centrally in management and entrepreneurship research. By synthesizing and mapping the existing knowledge that is currently dispersed across a variety of disciplines, the review provides a platform for future theoretical and

empirical work on entrepreneurs' MWB. The specific findings advance our understanding of entrepreneurs' MWB. They systematize our knowledge about the antecedents and consequences of entrepreneurs' MWB and MWB differences among different types of entrepreneur. In particular, the review identifies novel overlooked antecedents of entrepreneurs' MWB that go beyond the work, social, and personality characteristics emphasized in current research. These novel antecedents are related to entrepreneurs' motivation and human capital, firm and financial characteristics, and market and country context. The review also contributes by highlighting new social consequences of entrepreneurs' MWB for others beyond the entrepreneur, while integrating findings on known consequences related to entrepreneurs' work behaviors and firm performance.

Collectively these findings provide a framework for research on entrepreneurs' MWB (see Figures 1 and 2). They also point the way to evolving a new theory of entrepreneurial work and MWB by highlighting emerging themes and blind spots. This enables us to develop a more dynamic, variable, socialized, and contextualized view of entrepreneurs' MWB that takes account of the fluidity of entrepreneurs' work-life settings and the centrality of their work to their identity.

From Theories for Employees to a Theory of Entrepreneurial Work and MWB

The review reveals that current theorizing about the nature of entrepreneurs' work and MWB is underdeveloped, and thus calls for the elaboration of a dedicated theory of entrepreneurial work and MWB. This may be a surprising conclusion given the number of studies reviewed. Yet despite widespread recognition that entrepreneurs' work is "different," existing research is dominated by models developed and validated to understand the MWB of salaried employees (e.g., the job demands-control model, Karasek, 1979; role stress theory, Kahn et al., 1964; the job characteristics model, Hackman & Oldham, 1975; work-related social support, House, 1981) and utilizes quantitative theory-testing studies. Applying such well-established models to entrepreneurship was an important first step in researching entrepreneurs' MWB, and is reflective of the fact that much research on entrepreneurs' MWB has been conducted in fields outside of entrepreneurship.

Yet the findings of this review suggest that these models also limit our understanding of

entrepreneurs' MWB. We need to significantly widen and deepen our view to truly understand entrepreneurs' work and MWB, and its many unique features. Specifically, the review's findings highlight a wider set of antecedents and consequences of

entrepreneurs' MWB, and they suggest insights and avenues for future research that can act as the building blocks of a theory of entrepreneurs' MWB. These insights pertain to the need to better understand the nature of entrepreneurs' MWB, the

TABLE 3
Entrepreneurs' MWB: Summary of Opportunities for Future Contributions (elaborations in manuscript text)

The nature of entrepreneurs' MWB

- What are possible "functionalities" of low MWB? In what way are feelings of distress, discontentment, and symptoms of mental disorders (beyond ADHD) "functional" to motivate entrepreneurial actions and for positive outcomes?
 - What are the consequences of the variability and balance between well-being and distress? Are they related to entrepreneurs' performance and resilience, and if so, how?
 - Greater attention to entrepreneurs' eudaimonic well-being (e.g., thriving, meaning, self-realization): What are the specific antecedents of entrepreneurs' eudaimonic well-being?
 - To what extent is the high hedonic well-being of entrepreneurs driven by self-justification processes to reduce cognitive dissonance?
-

The nature of entrepreneurs' work (stressors and resources relevant for MWB)

- What role do volatility and fluctuations in stressors and resources play for entrepreneurs' MWB, beyond considering their mean levels?
 - Are we investigating the "right kind" of stressors? What stressors might act as challenge or hindrance stressors, and when and how?
 - How should we conceptualize the enmeshment of entrepreneurs' work with their private and social life? Can this help to explain MWB differences between the genders?
 - How can we incorporate firm and market context into theories of entrepreneurs' work?
 - How do entrepreneurs craft their own work, social, and financial demands and resources?
 - When and how might entrepreneurs' work change their personality?
-

Unpacking the trade-offs inherent in entrepreneurs' work

- When and how might autonomy have potential detrimental effects? Are there curvilinear effects? When and how might autonomy lead entrepreneurs to overexert themselves?
 - How can the centrality of entrepreneurs' work for their identity be better recognized? How might entrepreneurs' passion and thriving develop into obsession and addiction?
 - What short- and long-term productivity and health trade-offs are there? What is the role of recovery? What recovery processes and activities do entrepreneurs engage in?
 - Are there trade-offs between entrepreneurs' MWB and the MWB of their employees?
-

Contextualizing research on entrepreneurs' MWB

- What are the MWB resources and stressors associated with different types/forms of entrepreneurship (e.g., growth-oriented, necessity, social, informal, family business)?
 - How can the documented MWB differences across countries be explained? What role do formal institutions and culture play? Through which processes do they affect MWB?
-

Expanding our understanding of the consequences of entrepreneurs' MWB

- Beyond opportunity recognition, effort, and performance, what other outcomes does entrepreneurs' MWB affect?
 - Does entrepreneurs' MWB create crossover effects, influencing the MWB of their stakeholders? If so, how? Does entrepreneurs' MWB relate to collective outcomes? If so, how? How does MWB relate to prosocial behavior, ethical decisions, and transgressions?
-

Toward greater plurality of research designs and methods

- What methods can complement the current dominance of theory-testing and cross-sectional research? Experiment with longitudinal qualitative research, ethnography, work-shadowing, physiological, and other ratings of entrepreneurs' MWB.
 - Over what time frame should longitudinal, process, and diary studies be conducted to capture microprocesses and changes in MWB and its antecedents and consequences?
 - Use multilevel studies to unpack influences of national or community contexts on entrepreneurs' MWB, and to discern how entrepreneurs' MWB affects their employees.
-

nature of their work, its enmeshment with their private life and identity, and the inherent trade-offs that these work and work–life settings entail. They also call for a more dynamic and contextualized approach to the unpacking of how, why, and for what new outcomes entrepreneurs' MWB may matter. Table 3 summarizes these novel insights and opportunities for future research in the form of a series of questions. I discuss these questions next, along with specific examples.

The nature of entrepreneurs' MWB. The review reveals that particular aspects of MWB (distress and hedonic well-being) have thus far been the focus of research, to the neglect of others (mental disorders and eudaimonic well-being). It finds that there are overlooked functionalities of low MWB, and that a static view of MWB dominates research. This calls for a more balanced perspective of entrepreneurs' MWB, and for future work to theorize about the full range of MWB indicators and their interplay and variability.

A more refined understanding of entrepreneurs' MWB would recognize that while high MWB is desirable, there may be functional aspects of low MWB that support entrepreneurs' performance. This view is inspired by studies in the review that highlight that low MWB (in the form of day-to-day negative emotions) can motivate effort with a short-term focus (Foo et al., 2009) and that particular symptoms of ADHD (a mental disorder) may facilitate entrepreneurial action (Wiklund et al., 2016). Such research is scarce, probably because it diverges from dominant theories that generally link positive consequences to high MWB (Fredrickson, 2013; Hobfoll, 2001; Lyubomirsky et al., 2005). Yet possible functionalities of low MWB, including of symptoms of mental disorders, merit more research attention for at least two reasons. First, the review suggests that high levels of demands and feeling stressed (tense, apprehensive, and occasionally overwhelmed) are ubiquitous for entrepreneurs. Second, mental disorders are on the rise. If research finds that symptoms of other disorders beyond ADHD can be functional for certain aspects of entrepreneurial action, entrepreneurship research may even help to change opinion on mental disorders.

The variability of entrepreneurs' MWB is unexplored. Uncertainty is a hallmark of entrepreneurship (McMullen & Shepherd, 2006) and implies frequent changes. This suggests that entrepreneurs' experiences may be highly variable, and may include spikes of high and low MWB. Such variability goes unnoticed by the approaches of current

research, which are focused on mean levels of MWB typically aggregated across situations. No study considered variability in MWB. Thus the antecedents and consequences of possible variability of MWB and of the relative balance between well-being and distress are virtually unexplored. By focusing solely on mean levels we may misinterpret how well entrepreneurs feel, and we may miss important drivers of entrepreneurial action. Research on affect spin, a trait related to emotion regulation, can serve as inspiration for how to conceptualize and measure MWB variability (Uy, Sun, & Foo, 2017).

Entrepreneurs' eudaimonic well-being remains largely unexplored. This is surprising because firm performance is more likely to benefit from entrepreneurs' eudaimonic well-being (thriving and activated affect) than from their hedonic well-being (satisfaction and contentment). For instance, a focus on eudaimonic well-being entails dedicated theorizing about its predictors; this challenges researchers to consider hitherto unexplored concepts (such as character strengths and virtues) as relevant aspects of personality (Park, Peterson, & Seligman, 2004). It would also lead to new counterintuitive research questions relating to the MWB-enhancing effects of negative states when they are in line with one's self-concept—that is, one's "daimon" (Tamir, Schwartz, Oishi, & Kim, 2017). For instance, the eudaimonic MWB of competitive, growth-oriented entrepreneurs may be underpinned by feelings of pride as well as anger.

Entrepreneurs consistently report high levels of hedonic well-being (e.g., job and life satisfaction), which is widely depicted as a benefit of being an entrepreneur (Benz & Frey, 2008). Before we celebrate this finding, it seems worth unpacking the microfoundational processes behind it. In particular, entrepreneurs' work has many features known to trigger self-justification processes so as to reduce cognitive dissonance. These processes bring one's attitudes (in the case of entrepreneurs, their satisfaction judgments) in line with past investments and choices, especially if these choices were made autonomously (Festinger, 1964). It seems likely that entrepreneurs would engage in dissonance-reducing strategies. Psychologically, they may justify the large investments of time and other personal resources that they put into their firm, and the trade-offs they are willing to make (e.g. in terms of income, leisure, and family time), by seemingly deriving great satisfaction from their jobs. Entrepreneurs' self-reports of high satisfaction may thus be indicative of being locked in to their careers. Research could untangle

such processes by adopting a balanced view of MWB (e.g., measuring eudaimonic MWB also), by obtaining assessments of entrepreneurs' MWB from others close to the entrepreneur, and by using objective indicators of MWB (see below).

The nature of entrepreneurs' work. Future research needs to acknowledge the variability and dynamic aspects of entrepreneurs' work. If autonomy and uncertainty are hallmarks of entrepreneurship, then entrepreneurs' work situations are unlikely to be static. Thus, beyond considering aggregated mean scores of work, social, personal, firm, and market resources and stressors, what are the implications of the volatility and fluctuations in resources and stressors for entrepreneurs' MWB? Might such variation act as a stressor in its own right? No studies in the review investigated such aspects. However, the three longitudinal studies in the review, which were able to test for reciprocal relationships (Gorgievski et al., 2010; Gorgievski-Duijvesteijn et al., 2000; Örtqvist & Wincent, 2010), found evidence for feedback loops. This reinforces the need to pay greater attention to dynamic processes and changeability over time in understanding entrepreneurs' work and their MWB. Future research should consider measures of variability and deviation of stressors and resources alongside mean scores.

The review findings reveal a range of unique stressors of entrepreneurs' work that have not been fully recognized in past research and have yet to be theorized. Specifically, qualitative studies identified in the review suggest that past research may have missed key stressors important for entrepreneurs' MWB, such as customer and employee conflicts, uncertainty related to their actions, uncertainty in market demand, intense competition, and pressures stemming from the perceived responsibility for employees (e.g., Lechat & Torrès, 2016; Schonfeld & Mazzola, 2015). Moreover, the possibility that certain types of stressors can have positive effects on MWB (Podsakoff et al., 2007) was not explored in the reviewed studies. Future research could build on the challenge–hindrance stressor framework (Podsakoff et al., 2007) to help explain entrepreneurs' high levels of MWB despite their high levels of work stress. This may explain the ambivalent effects of long working hours found in the review. When long hours signal that the business is going well and thriving (Bradley & Roberts, 2004), they constitute a challenge stressor linking increased demands to long-term opportunities for growth, and can be associated with positive MWB. By contrast, conflicts with customers over delayed payments would be

considered a hindrance stressor that stands in the way of entrepreneurs running their business well, with negative effects on MWB.

The review indicates that entrepreneurs' work is uniquely enmeshed with their non-work life, to the extent that entrepreneurs could not meaningfully talk about “work” as a separate life domain (Vaag et al., 2014). While the studies that investigate social support and work–family balance recognize this (Parasuraman & Simmers, 2001), studies outside of this set typically adopt an undersocialized, individualistic perspective of the entrepreneurs in their work context. Yet one study (Berge et al., 2015) illustrates how viewing entrepreneurship in a household context adds explanatory power: It was more difficult to predict the performance-enhancing effect of providing business training and microfinance assistance to female entrepreneurs because their husbands controlled the household finances, including the income from the wives' businesses. A related study found similar reasons for why collective, as opposed to individual, forms of female entrepreneurship were associated with higher MWB (Dutt et al., 2016). Conversely, for entrepreneurs who are the sole earners of income for their family, whether they be male or female, the perceived responsibility for their families' income and well-being may be an added strain on their MWB. In a similar vein the strain on MWB stemming from the investments of personal resources (e.g., putting up the family home as security for a business loan) go unrecognized in the reviewed studies—despite possible dramatic consequences for their MWB, such as suicide (Kameyama et al., 2011). Collectively these findings call for a more socialized view of entrepreneurs in their work–life contexts.

For entrepreneurs, work is also an expression of their personality—arguably much more so than is the case for any other occupation. The high levels of autonomy and uncertainty likely allow entrepreneurs to uniquely shape their work settings and businesses in line with their personality (Rauch & Frese, 2007). This calls for models of entrepreneurial work and MWB to account for personality and identity alongside work, social, firm, and context characteristics. Future research could do so by more explicitly considering person–situation interactions (e.g., building on person–environment fit models, Edwards, 2008, or diathesis stress models, Zuckerman, 1999). Only three studies in the review considered such interactions (of personality with work characteristics). Beyond interactive effects, the consideration of personality also implies dynamics

that are yet to be investigated for entrepreneurs. Research on employees found that their personality can change over three to five years in response to work characteristics, such as high autonomy and job demands (Li, Fay, Frese, Harms, & Gao, 2014; Wu, 2016). These characteristics are ubiquitous in entrepreneurs' work, calling for longitudinal research to explore when and how entrepreneurs' work might change their personality and with what consequences for their MWB.

Unique to research on entrepreneurs' work and MWB is the close interrelationship with the market and competitive climate within which they operate. While recognition of the importance of context for entrepreneurs' MWB is increasing in terms of how frequently it is being studied, there was no agreement among the reviewed studies on what the most relevant aspects are, how they should be captured, and through what microfoundational processes they influence MWB. This calls for conceptual and scale development work to make sense of the diverse aspects of market and competitive context covered in the review. Such work could build on conceptualizations of market context used in strategy research (Dess & Beard, 1984).

Unpacking the trade-offs inherent in entrepreneurs' work. The reviewed studies identified MWB trade-offs across life domains, such as high satisfaction with work but low satisfaction with income and leisure time (e.g., Binder & Coad, 2016). However, other trade-offs relating to entrepreneurs' work remain unexplored.

Autonomy is widely depicted as a key resource underlying entrepreneurs' MWB, and this was corroborated in nearly all studies in the review. Yet could there be too much autonomy? One qualitative study raises this possibility, depicting entrepreneurs as struggling with navigating their freedom to choose how, what, when, and with whom to work (van Gelderen, 2016). Some studies imply a notion of "fit," such that individuals who actively choose to be entrepreneurs may reap the MWB benefits of autonomy but necessity entrepreneurs may not (Binder & Coad, 2013), or that optimists thrive in settings of high autonomy and challenge (Totterdell et al., 2006). Yet research hardly explores the implications of autonomy in terms of increased accountability and feeling responsible for employees (Begley, 1994).

Research has also not yet explored possible curvilinear effects of autonomy. Might very high levels of autonomy enhance uncertainty and become overwhelming, threatening, and anxiety provoking—in line with the paradox of choice (Iyengar & Lepper,

2000; Schwartz, 2004)? There are also opportunities for research to develop our understanding and chart, over time, when and how autonomy might lead to lower MWB—for instance, when it may lead entrepreneurs to overexert themselves (e.g., by pursuing every possible opportunity for growth)—and, more generally, how and when constraints on entrepreneurs' autonomy may arise (e.g. in response to large contracts with a dominant customer, or large investments from a particular investor; van Gelderen, 2016; Reymen et al., 2015).

Two studies pointed to a possible MWB trade-off as a result of work's centrality to entrepreneurs' identity (Fisher et al., 2013; Spivack et al., 2014). The close entwinement of work and identity can lead to behaviors and feelings of obsession and addiction to work (and to "being an entrepreneur") that are associated with low MWB. Future research should clarify the generalizability of these findings and pinpoint when and how entrepreneurs' engagement and thriving develops into obsession and addiction. More generally, the pattern of findings (e.g., entrepreneurs' reactions to losing their job; Hetschko, 2016) points to a close link between identity and work for entrepreneurs, in line with established research on entrepreneurial passion (Cardon, Wincent, Singh, & Drnovsek, 2009). Yet surprisingly, no study linked passion directly to MWB, although a positive effect could be expected (Cardon et al., 2009), especially for harmonious passion on eudaimonic well-being (Vallerand, 2012).

What short- and long-term productivity and health trade-offs might there be? The review finds that entrepreneurs' work is intensely demanding and stressful, yet they seem to experience high levels of MWB—at least in the shorter term. However, the constant exposure to high levels of numerous stressors might predispose entrepreneurs to mental disorders and diseases and lead to low MWB in the long term (via processes of "allostatic load"; McEwen, 2004). Indeed, one study provides related evidence consistent with this explanation for physical health (Cardon & Patel, 2015). To avoid such long-term negative outcomes, research on work-related MWB more generally highlights the importance of recovery. Recovery research was virtually absent from the review and was the declared focus of only two studies (Rau et al., 2008; Taris et al., 2008). There are therefore ample opportunities for future work. Moreover, not only can recovery processes offer a unique understanding of how entrepreneurs may be able to maintain high levels of MWB in the long term, but they may also

benefit firm performance by stimulating creativity and efficiency (Weinberger, Wach, Stephan, & Wegge, 2018; Wendsche & Lohmann-Haislah, 2017). Understanding the nature of the recovery processes and activities entrepreneurs engage in (especially considering their time constraints) and the effects of these on MWB would be an essential part of a theory of entrepreneurial work and MWB.

Might there be a trade-off of entrepreneurs' MWB for the well-being of their employees? If entrepreneurs experience high levels of MWB that are associated with greater sensitivity to recognizing opportunities (Gielnik et al., 2012), might this imply a negative effect on their employees' MWB? From a work design perspective, new opportunities are likely to involve new work processes, and growing businesses often struggle to hire employees at the same rate at which they expand, meaning a higher workload for and further demands on those who already work for the entrepreneur. A contrasting prediction might be derived from research on emotional contagion processes (Van Kleef, 2009), whereby the entrepreneurs' positive MWB would cross over to employees. Even though employees form an integral part of a firm, no studies in the review addressed such relationships. Thus, there are opportunities for future research to discern how and when entrepreneurs' MWB affects the MWB of their employees.

Contextualizing research on entrepreneurs' MWB. The review reinforces calls to consider heterogeneity among entrepreneurs (Davidsson, 2016) and to develop context-sensitive theories (Welter, 2011; Zahra & Wright, 2011). It extends such calls to research on entrepreneurs' MWB. With regard to heterogeneity among entrepreneurs, the review findings highlight differences between types of entrepreneurs. Studies identified systematic variation in MWB between opportunity and necessity entrepreneurs (broadly defined). Other studies linked related concepts of intrinsic motivation and values (e.g., creativity and nonfinancial success) to higher MWB. There are untapped opportunities to unpack and theorize the specific profile of the MWB challenges and resources for different types of entrepreneurs. For instance, compared to self-employed sole traders, growth-oriented employer-entrepreneurs face more complex work, greater responsibility pressures for employees, and steeper competition in the market. Necessity entrepreneurs might grapple more with resource constraints. It is unclear under what circumstances and over what time frame necessity entrepreneurs would derive performance benefits from MWB, if at all. Social entrepreneurs

may be well positioned to experience high MWB since helping others is highly meaningful work, but this may also suggest that they are at particular risk of burnout. At the same time, their own mental health challenges may act as a resource, helping them to recognize and develop social entrepreneurship opportunities.

Although several studies documented significant differences in entrepreneurs' MWB across countries, it is by and large unclear how these country differences may be explained. This is another opportunity to build a more contextualized theory of entrepreneurs' MWB. It could explore the role of formal institutions and culture and discern through which processes they affect entrepreneurs' MWB. For instance, two studies investigated the effect of regulation, with differing findings (Anderson & Hughes, 2010; Kallioniemi et al., 2016). Might it be that regulation influences entrepreneurs' MWB, especially when it is perceived as unjust (e.g., entrepreneurs may feel punished by a plethora of administrative rules and regulations, even though they are creating jobs, often at considerable cost to their private and family life)? Other formal institutions, such as the rule of law, alleviate uncertainty (Estrin, Mickiewicz, & Stephan, 2013) and may thus support entrepreneurs' MWB. Culture may also shape effects. For instance, entrepreneurs' own MWB may be less important for firm performance in more collectivistic cultures, where performance will be more contingent on multiple others beyond the entrepreneur (Stephan & Uhlaner, 2010). Moreover, the role of context in shaping the consequences of entrepreneurial MWB was unexplored in the review. Yet establishing boundary conditions as to when entrepreneurs' MWB matters for outcomes is an essential step toward a theory of entrepreneurs' MWB.

Expanding our understanding of the consequences of entrepreneurs' MWB. The consequences of entrepreneurs' MWB were the focus of far fewer studies in the review than research on the antecedents of MWB. There is a need to establish stronger evidence for the causal relationships from MWB to performance, and to map the intervening micro-level processes more carefully. Future research should also explore consequences of MWB beyond those studied in the review. This would allow us to develop a deeper understanding of why entrepreneurs' MWB matters, and would help to further legitimize MWB as an important area of entrepreneurship research. For instance, cross-over effects from entrepreneurs' MWB to the MWB of their stakeholders (e.g., customers, suppliers, investors, board members) are unexplored (see

Figure 2). These may take the form of emotional contagion processes as discussed above for employees. Similarly, future research could establish how and when entrepreneurs' MWB may relate to collective outcomes, such as the business climate or trust in a community.

Research existing outside of entrepreneurship provides insights on how such outcomes may evolve. Happy people are more inclined to help others through prosocial behaviors and engagement in their communities (Lyubomirsky et al., 2005). The broadening of thought repertoires (Fredrickson, 2013) and increased psychological resources (Hobfoll, 2001) associated with MWB seem to also enable more perspective taking. A single study in the review explored such a relationship for entrepreneurs and found that higher MWB was associated with more tolerance/lower prejudice toward an out-group (Tobias et al., 2013). This suggests intriguing links and new pathways for research on entrepreneurship, philanthropy, and social entrepreneurship whereby the everyday experiences of "happy" entrepreneurs lead to prosocial entrepreneurial actions. This contrasts with existing explanations of, for instance, social entrepreneurship that emphasize stable prosocial traits or motivations (Stephan & Drencheva, 2017).

To understand the consequences of entrepreneurs' MWB, future research also needs to consider theoretical perspectives beyond those dominating current research (conservation of resources, Hobfoll, 2001, and broaden-and-build, Fredrickson, 2013). This is because both theories link positive outcomes to high levels of MWB and may lead researchers to overlook potential functional effects of low levels of MWB (as identified in the review and discussed above) as well as possible detrimental effects of high MWB. An example requiring new conceptual angles is the effect of entrepreneurs' MWB on ethical decision making and transgressions. For instance, research on creative entitlement and ethical behavior (Vincent, Emich, & Goncalo, 2013) suggests that entrepreneurs with high MWB who lead innovative firms might engage in unethical behavior because they are likely to feel unique, invincible, and above the law. At the same time, entrepreneurs' work, especially feelings of time pressure or pressures to find new contracts, may also lead to ethical transgressions (individuals are more likely to cut corners when under pressure; Kouchaki & Desai, 2015).

Toward greater plurality of research designs and methods. Research on entrepreneurs' MWB is dominated by quantitative cross-sectional self-report-based theory testing studies. The dominance of any

method limits the type of insights to be gained. Future research should continue the trend toward more diversity in methodological approaches.

The review suggests that the understanding of entrepreneurs' work and MWB may still be incomplete and that there is scope for more theory-building work, which could be based on longitudinal qualitative studies to map the nature of MWB, its resources and demands, and the variability of resources and demands over time. There could also be a role for observational work-shadowing studies and ethnographic work to investigate work as entrepreneurs encounter it day-to-day. Such research may also seek the views of others on entrepreneurs' MWB to triangulate entrepreneur self-reports.

Experience-sampling studies and longitudinal and process studies seem well suited to explicating the microfoundations (Shepherd, 2015) of MWB. They facilitate unpacking the micro-level processes as well as the testing of reciprocal and dynamic relationships. This will enable construction of a truly dynamic understanding of entrepreneurial work and MWB and will complement the current dominance of static perspectives.

There are opportunities to use physiological measures based on wearable technologies to circumvent possible self-report biases. Physiological measures can capture recovery, stress, and emotional micro-level processes of entrepreneurs' MWB. They can complement diary or experience-sampling studies (Eatough, Shockley, & Yu, 2016; Weinberger et al., 2018) or be incorporated into longitudinal studies (Cardon & Patel, 2015).

Future research should pay attention to time. Theorizing about the time spans over which aspects of MWB, perceptions of autonomy, social support, and other characteristics remain stable or change is essential when choosing appropriate time lags for diary, longitudinal, and process studies (Dormann & Griffin, 2015; Uy, Foo, & Aguinis, 2010). Longitudinal research in the review varied from covering one or two years to up to 10 years; experience-sampling studies covered time frames of days and weeks. For example, employee studies observed personality change over three and five years (Li et al., 2014; Wu, 2016). However, such processes may be more fluid for entrepreneurs faced with uncertainty and enjoying autonomy, and changes may be identifiable over shorter periods.

Finally, there is a role for multilevel studies to help pinpoint what causes the variation in entrepreneurs' MWB across country contexts. Multilevel studies will be helpful for research relating entrepreneurs' MWB to that of their employees and other stakeholders.

CONCLUSION

Through taking stock of what we know, this review hopes to inspire more work on entrepreneurs' MWB and stimulate efforts to develop a theory of entrepreneurial work and MWB that highlights the uniqueness of entrepreneurship—acknowledging entrepreneurs' dynamic and fluid work–life setting, the centrality of work for their sense of identity, and the importance of others and their context.

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