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Happy Entrepreneurs? Everywhere? A Meta-Analysis of Entrepreneurship and Wellbeing across Institutional Contexts

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ABSTRACT

Entrepreneurship can be fulfilling and enhance wellbeing, but also highly stressful and diminish wellbeing. This meta-analytical review synthesizes 319 effect sizes from 94 studies and 82 countries to establish whether individuals derive greater wellbeing from working for themselves or for someone else. The answer is partly positive in favor of entrepreneurship but depends on the components of wellbeing under investigation (positive wellbeing or negative wellbeing/mental illbeing) and the institutional context (especially the rule of law). We contribute by developing the component view of wellbeing as an organizing framework and by advancing an institutional perspective to guide research on entrepreneurs' wellbeing.

Keywords: Wellbeing, Entrepreneurship, Work Satisfaction, Life Satisfaction, Positive Affect, Eudaimonic Wellbeing, Negative Affect, Mental Health, Meta-Analysis, Review

INTRODUCTION

Wellbeing describes the overall quality of an individual's experience and functioning (Warr, 1987). There are worldwide ambitions to "promote well-being for all at all ages" (United Nations, Sustainable Development Goal #3) and efforts to measure wellbeing to describe a nation's level of development alongside gross domestic product (GDP, Blanchflower & Oswald, 2011; European Commission, 2016; Stiglitz et al., 2009). As part of these ambitions, entrepreneurship researchers are also increasingly paying attention to wellbeing (Stephan, 2018; Torrès & Thurik, 2019; Wiklund et al., 2019). Wellbeing is important to entrepreneurs. They make financially costly decisions to protect it and use it as a yardstick to measure their success (Shepherd et al., 2009; Wach et al., 2016). Entrepreneurs' wellbeing also matters to society. The costs associated with negative wellbeing are substantial; poor mental health is estimated to cost the global economy US\$6 trillion by 2030 (Trautmann, Rehm, & Wittchen, 2016). Moreover, entrepreneurs are less innovative, persistent, and productive when their wellbeing suffers (Stephan, 2018), leading to lower economic output and fewer jobs. The scale of jobs at risk is substantial. For example, small businesses, which are typically entrepreneur-led, provide employment to 60.6 million people in the US (Small Business Administration, 2020) and 91 million in the European Union (Eurostat, 2018).

Scholars have studied the wellbeing of individuals and entrepreneurs specifically (e.g., Blanchflower & Oswald, 1998; Diener et al., 2018; Rugulies et al., 2010). Research on entrepreneurs pursues broadly one of two separate lines of arguments. One line argues for the wellbeing benefits of working for oneself rather than for someone else. It suggests that entrepreneurs will experience more wellbeing than salaried employees because of the higher degree of autonomy and independence in entrepreneurship (Benz & Frey, 2008; Shir et al., 2019). Another line of investigation argues that entrepreneurship relative to organizational employment bears greater wellbeing costs because significant stressors, such as uncertainty and high workload, are ubiquitous in entrepreneurship (Lerman et al., 2020; Patel et al., 2019; Rauch et al., 2018). Empirically, studies document both higher (Nikolaev et al., 2020; Patzelt & Shepherd, 2011; Stephan et al., 2020a) and lower (Cardon & Patel, 2015; Prottas & Thompson, 2006) wellbeing for entrepreneurs compared to employees. There are also mixed findings within the same study (Bencsik & Chuluun, 2021), while other studies find no differences (Jamal, 1997; Lindström et al., 2012).

To date, the nature of the entrepreneurship–wellbeing relationship is unclear, and research is fragmented and scattered across disciplines (e.g., business, psychology, occupational medicine) and contexts. This confusion is *not* due to a lack of research on entrepreneurs' wellbeing resources (factors that enhance wellbeing) or stressors (demands that diminish wellbeing; Stephan, 2018). Rather, we lack an organizing framework and large pool of data from diverse contexts to be able to determine whether working for oneself is better for one's wellbeing than working for someone else and under what conditions.

To explore this issue we need to theorize the nature of wellbeing and its components more carefully for entrepreneurship research and to develop a contextualized perspective that accounts for the institutional embeddedness of entrepreneurs (Stephan, 2018; Wiklund et al., 2019). First, theorizing about the nature of wellbeing is important because current research

typically treats diverse indicators of wellbeing interchangeably and often assesses one indicator in a study to make general claims about wellbeing. Yet, entrepreneurship may have distinct relationships with different components of positive wellbeing (i.e., satisfaction, eudaimonic and positive affective wellbeing) and negative wellbeing/mental illbeing¹ (i.e., negative affective wellbeing and stress-related mental health problems). For example, being an entrepreneur compared to working as an employee has been characterized as more “extreme work” because it entails both richer wellbeing resources and more intense stressors (Baron, 2010; Hahn et al., 2012; Rauch et al., 2018). This suggests that entrepreneurship has both salutogenic and pathogenic properties, which could be reflected in *both* higher positive *and* higher negative wellbeing/mental illbeing.

Second, theorizing about context is important as research has typically ignored context, thereby *implicitly* assuming that the entrepreneurship–wellbeing relationship is independent of where entrepreneurs are located. Yet, as Wiklund et al. (2019, p. 584) note, “the wider institutional framework may also place constraints on entrepreneurial autonomy ... [which] may be detrimental to their wellbeing and mental health.” At the same time, context has also been argued to enable entrepreneurship (Kimjeon & Davidsson, 2021) and may support entrepreneurs’ wellbeing. We integrate these insights with Williamson’s (2000) theory of institutions, which identifies four levels of institutions (broadly, resources, regulation, rule of law, culture). Thus, we theorize country institutional frameworks as a critical boundary condition shaping the wellbeing benefits and costs of entrepreneurship and, thus, the entrepreneurship–wellbeing relationship.

In sum, this study conducted a meta-analysis that tests whether the relationship between entrepreneurship and wellbeing depends on the type or component of wellbeing and

¹ The literature uses “negative wellbeing” (Kaluza et al., 2020) and “psychological illbeing” (Ryff et al., 2006) with the same meaning. We use the term negative wellbeing, which reflects subjective experience and mental health more clearly, whereas “illbeing” is also used in the medical literature to refer to poor physical health.

develops an organizing framework for research on entrepreneurs' wellbeing to guide this assessment. Moreover, we advance a context-sensitive institutional perspective of entrepreneurship and wellbeing.

We performed a random-effects meta-analysis of 94 studies comprised of 319 independent samples with over 6.7 million observations from 82 countries to synthesize research on entrepreneurship and wellbeing. We conducted psychometric meta-analysis and meta-analytic regressions following best practice guidelines (Combs et al., 2019; Hunter & Schmidt, 2004; Kepes et al., 2013; Rauch, 2020). A meta-analysis is a systematic review of the literature that statistically synthesizes existing empirical research, offers an estimate of the true effect size (corrected for the sampling bias of original studies and for unreliability), and allows us to identify substantive and methodological boundary conditions (Combs et al., 2019). Meta-analyses generate new knowledge through evidence integration.

We find that the entrepreneurship–wellbeing relationship is contingent both on the type of wellbeing and the type of context. Entrepreneurs exhibit higher positive wellbeing than employees but do not differ in negative wellbeing. The institutional context masks the wellbeing costs of entrepreneurship. In contexts with a weak rule of law, entrepreneurs have higher negative wellbeing than employees, while the opposite is true in contexts with a strong rule of law. Entrepreneurs in all contexts have higher positive wellbeing than employees. A strong rule of law further strengthens this difference to the advantage of entrepreneurs.

We make several contributions. First, leveraging insights from the science of wellbeing (Diener et al., 2018; Keyes et al., 2002; Ryff et al., 2006; Warr, 2013) and the unique context of entrepreneurship (e.g., Baron, 2010), we introduce to entrepreneurship research an organizing framework that conceptualizes wellbeing and its components. This opens new avenues for theory building by providing a systematic way to theorize about psychological mechanisms and outcomes in entrepreneurship while acknowledging the

complexity of entrepreneurs' wellbeing as called for by recent reviews (Stephan, 2018; Torrès & Thurik, 2019; Wiklund et al., 2019).

Second, building on Williamson's (2000) hierarchy of institutions framework and insights on context as enabling entrepreneurship (Kimjeon & Davidsson, 2021), our contextualized institutional perspective on wellbeing in entrepreneurship builds a foundation for future research that asks *where* entrepreneurs can achieve wellbeing. This responds to calls to contextualize entrepreneurship research (Welter, 2011; Welter et al., 2018; Zahra & Wright, 2011) and to adopt context-sensitive approaches in research on entrepreneurs' wellbeing (Stephan, 2018; Wiklund et al., 2019). We discuss how our specific findings on the rule of law extend comparative research on institutions (Terjesen et al., 2016) and research on democracy and entrepreneurship (Audretsch & Moog, 2020; Mickiewicz et al., 2021).

Finally, our meta-analytic review clarifies whether working for oneself vs. for others offers greater wellbeing by integrating evidence across disciplines and a large number of countries. This lays an inspiring foundation for future research on wellbeing in entrepreneurship, just as entrepreneurship research starts to consider wellbeing as an important outcome variable in its own right (Shepherd et al., 2019; Wiklund et al., 2019).

THEORETICAL BACKGROUND

Entrepreneurship

We draw on the occupational definition of entrepreneurship regarding entrepreneurs as individuals who work for their own account and risk (Hébert & Link, 1982). This broad view of entrepreneurship includes the self-employed and entrepreneurs employing others and is commonly used in research on entrepreneurs' wellbeing (Stephan, 2018). It fits with calls to consider everyday entrepreneurs, such as the self-employed (Welter et al., 2017). We conducted robustness checks for different types of entrepreneurs.

Wellbeing and its Components

For entrepreneurship research, Wiklund et al. (2019, p.579) define wellbeing “as the experience of satisfaction, positive affect, infrequent negative affect, and psychological functioning in relation to developing starting, growing, and running an entrepreneurial venture.” Wiklund et al. (2019) note that research is currently “overlooking aspects of negative emotions” (p. 580) and that “well-being should be considered an umbrella term that reflects multiple dimensions instead of capturing something unidimensional” (p. 581). Here, we propose a multi-dimensional understanding of wellbeing.

There are a great number of wellbeing components (e.g., Keyes et al., 2002; Warr, 2013). For instance, measures of life and work satisfaction reflect individuals’ evaluations of their life and work and, thus, general and domain-specific *cognitive* wellbeing (Judge et al., 2017; Pavot & Diener, 2008). *Affective* wellbeing is captured through assessing feelings and moods—either positive ones, such as joy, happiness, and contentment, or negative ones, such as anxiety, sadness, or depression (Diener et al., 2018). The combination of high cognitive wellbeing, high positive affective wellbeing, and low negative affective wellbeing is researched as “*hedonic*” wellbeing (Diener et al., 1999), which is correlated with but empirically distinct from *eudaimonic wellbeing* (Diener et al., 2018; Keyes et al., 2002; Ryff, 2019). Eudaimonic wellbeing refers to psychological functioning and entails experiences of self-realization, meaningfulness, and of feeling alive, thriving, and authentic (Ryan & Deci, 2001; Ryff, 2019). Finally, *mental health problems* describe aspects of negative wellbeing or illbeing, which limits an individual’s functioning (American Psychiatric Association, 2013). Mental health problems arise from aggregate exposure to stressors, such as persistent high work demands (Theorell et al., 2015). Continued exposure to stressors over time takes a physiological toll on the body, leading to “wear and tear” (allostatic load) and ultimately negative wellbeing (Ganster & Rosen, 2013; McEwen, 2004; Rauch et al., 2018).

To understand the entrepreneurship–wellbeing relationship, we argue for a focus on the *valence of wellbeing* and the two higher-level components of *positive wellbeing and negative wellbeing/mental illbeing*. They summarize the relationships among the individual wellbeing components discussed so far: positive wellbeing is characterized by satisfaction (cognitive wellbeing) and positive affective and eudaimonic wellbeing. Negative wellbeing/mental illbeing (henceforth negative wellbeing for short) encompasses negative affective wellbeing and mental health problems. The base of Figure 1 shows how commonly considered wellbeing components map onto positive and negative wellbeing. We now discuss their significance for entrepreneurship.

--- insert Figure 1 about here ---

Positive and negative wellbeing are anchored in different research traditions on the origins of health versus the origins of disease (Antonovsky, 1979; Ryan & Deci, 2001; see Torrès & Thurik, 2019 for a discussion regarding entrepreneurship). Importantly, positive and negative wellbeing are independent concepts. First, both have unique biological correlates and unique predictors (Huppert & Whittington, 2003; Kaluza et al., 2020; Karademas, 2007; Lucas et al., 1996; Ryff et al., 2006). For instance, positive wellbeing relates to biomarkers, such as serotonin and oxytocin (Huppert, 2009), whereas negative wellbeing relates to various stress biomarkers, including overall allostatic load (McEwen, 2004; Patel et al., 2019). Second, positive and negative affective wellbeing are rooted in distinct approach vs. avoidance biobehavioral systems (Tellegen et al., 1999; Watson & Tellegen, 1985). Similarly, positive and negative affect have distinct relationships with entrepreneurs' entrepreneurial orientation (Bernoster et al., 2020). Third, positive and negative wellbeing reflect two distinct processes whereby motivational processes are triggered by wellbeing resources and health impairment processes are driven by stressors (demands; see Bakker et

al., 2014, and Lesener et al., 2019, for a meta-analysis).²

Entrepreneurship and Positive and Negative Wellbeing

The distinction between positive and negative wellbeing is particularly relevant for understanding entrepreneurship and wellbeing because entrepreneurial work, unlike the work of most employees, is uniquely characterized by both high levels of wellbeing resources *and* stressors (Rauch et al., 2018; Shir et al., 2019; Stephan, 2018; Torrès & Thurik, 2019; Williamson et al., 2021). Moreover, both wellbeing resources and stressors are more plentiful, diverse, intense, and persistent—in short, they are “more extreme” for entrepreneurs compared to employees (Baron, 2010; Hahn et al., 2012; Rauch et al., 2018). For instance, Lechat and Torrès (2017) documented a large number of diverse wellbeing resources and stressors tracing entrepreneurs’ emotional experiences of events over one year.

The presence of high levels of wellbeing resources *and* stressors means that entrepreneurship can result in both high positive *and* high negative wellbeing through activating motivational and health impairment processes simultaneously. This fits the description of entrepreneurship as an emotional rollercoaster that involves both intense positive and negative affect (Cardon et al., 2012), and the findings of a recent study that the self-employed “experience both positive feelings such as happiness and enjoyment and negative feelings such as anger and stress more than their wage-earning peers” (Bencsik & Chuluun, 2021, p. 355).

First, entrepreneurship is marked by high levels of autonomy. More so than employees, entrepreneurs can design their work (and business) in line with their skills and values and they have ongoing autonomy in their work (i.e., they are able to choose how, on

² Wellbeing resources enable individuals to achieve goals and satisfy basic psychological needs, whereas stressors (demands) require exerting physical and/or psychological effort and are therefore associated with physiological and/or psychological costs (Bakker & Demerouti, 2007). Not all stressors may diminish entrepreneurs’ wellbeing (Lerman et al., 2020; Wach et al., 2021). Yet the understanding of entrepreneurial stressors is still underdeveloped, as qualitative research illustrates (Jumelet et al., 2020; Lechat & Torrès, 2017).

what, with whom, and when to work; Shir et al., 2019; Stephan, 2018). Autonomy is an important wellbeing resource because it allows individuals to make self-determined choices and to engage in self-regulated actions satisfying basic psychological needs (Ryan & Deci, 2000). The high level of autonomy also means that entrepreneurs have a greater sense of feeling accountable and responsible for all aspects of their work (Van Gelderen & Jansen, 2006) and find their work more meaningful because they identify with their work and business (Stephan et al., 2020a).

Thus, compared to employees, being an entrepreneur likely is more satisfying and entails more positive affective experiences and feelings of thriving fueled by autonomy and meaningfulness, but it may also entail more negative affective experiences and stress-related mental health problems owing to the intense nature of their work, more stressors (especially high workload and high levels of uncertainty; Rauch et al., 2018; Stephan, 2018; Wincent et al., 2008), and heightened accountability. When things go well, success can be empowering and creates a sense of satisfaction and feelings of happiness and thriving as it is due to the hard work of the entrepreneur. Yet, entrepreneurs are also responsible for the downside of their actions; thus, setbacks imply great stress, disappointment, feelings of lack of accomplishment, and even depression and anxiety (e.g., Lechat & Torrès, 2016; Shepherd, 2003; Wach et al., 2021). Employees are unlikely to have experiences of the same intensity, as they are less attached to their work, which they find less meaningful; are less autonomous; and feel less responsible for their actions (Benz & Frey, 2008; Lange, 2012; Stephan et al., 2020a). They have “no skin in the game,” as they are not owners of the business; rather, organizational structures and often legal departments buffer their individual accountability.

Second, entrepreneurs’ personalities may predispose them to cope well with autonomy as well as intense and uncertain work (Baron, Franklin, & Hmieleski, 2016). However, autonomy in combination with an achievement-oriented, self-efficacious, and

optimistic personality (Baron et al., 2016; Rauch & Frese, 2007) can be a double-edged sword (Williamson et al., 2021). Entrepreneurs are known to be overconfident and overestimate their chances of success (Cassar, 2010; Cooper et al., 1988; Koellinger et al., 2007). Thus, they may also overestimate their abilities to cope with demanding work, especially when they find this work meaningful, satisfying, and energizing, which helps them justify their intense commitment to it (Stephan, 2018). Thus, entrepreneurs have a tendency to intensify work and “overwork” themselves—they work the longest hours of any occupation (Paye, 2020) and score higher than employees on workaholism and work addiction (Gorgievski et al., 2014; Spivack & McKelvie, 2018). Over time this will take a physiological toll on the body (McEwen, 1998; Rauch et al., 2018; see Lee et al., 2020, and Patel et al., 2019, for evidence of elevated stress biomarkers in entrepreneurs). This will manifest in higher negative wellbeing and especially a higher prevalence of stress-related mental health problems (McEwen, 2004) for entrepreneurs compared to employees.

Taken together, our discussion implies the following hypotheses proposing both higher positive and higher negative wellbeing for entrepreneurs vs. employees:

*Hypothesis 1: Compared to employees, entrepreneurs experience higher **positive wellbeing**, including higher cognitive wellbeing, such as work (H1a) and life (H1b) satisfaction, higher positive affective wellbeing (H1c), and higher eudaimonic wellbeing (H1d).*

*Hypothesis 2: Compared to employees, entrepreneurs experience higher **negative wellbeing**, including higher negative affective wellbeing (H2a) and more stress-related mental health problems (H2b).*

Contextualizing the Entrepreneurship–Wellbeing Relationship

Both entrepreneurship (Amoròs & Bosma, 2014; GEM, 2018) and wellbeing (Helliwell et al., 2020) vary substantially across countries. Separate lines of research investigate cross-country variation in entrepreneurship (e.g., Jones et al., 2011; Terjesen et al., 2016; Urbano et al., 2019) and in wellbeing (e.g., Helliwell et al., 2018; Jorm & Ryan, 2014; Ngamaba, 2016; Steel et al., 2018). Both are multidisciplinary research areas that have

identified diverse predictors, including resources (e.g., national wealth), different formal institutions, and informal institutions (especially culture). In addition, emerging research examines how national wellbeing (i.e., the wellbeing of a population) relates to an individual's propensity to start a business (Pathak, 2020; Pathak & Muralidharan, 2021).

In contrast, research examining differences in entrepreneurs' vs. employees' wellbeing across contexts is scarce. The few studies that include multiple countries typically just control for country effects rather than *explaining* country differences (e.g., through institutions or culture; see Stephan, 2018). Exceptions include three studies across European countries. Two show that the self-employed are more satisfied in countries that score higher on the Global Entrepreneurship Index (Fritsch et al., 2019) or on the indices of shared resource prosperity and business freedom (Wolfe & Patel, 2018). The third finds that culture moderates the relationship between self-employment and subjective vitality (Stephan et al., 2020a). However, these studies investigate single wellbeing components (satisfaction or vitality). Moreover, they can offer only a limited assessment of the influence of context and institutions because they solely consider European countries that share similar institutions. Thus, they tell us little about entrepreneur–employee wellbeing differences in less affluent, non-Western contexts where most of the world's entrepreneurship takes place (GEM, 2018).

Contextualizing the entrepreneurship–wellbeing relationship requires a theory about the relevant context and institutions. Williamson's (2000) hierarchy of institutions offers a meta-theoretical framework differentiating four levels or types of institutions, including, broadly, resources; formal institutions related to the rule of law, including property rights; formal institutions related to regulation; and informal institutions, including culture. Williamson's (2000) framework has been used in entrepreneurship research to theorize and test the effects of formal institutions (Bylund & McCaffrey, 2017; Estrin et al., 2013; Mickiewicz et al., 2021). While the framework has not been applied in research on wellbeing,

the findings of research on national wellbeing also point to the importance of resources, different formal institutions, and culture (e.g. Helliwell et al., 2018; Jorm & Ryan, 2014; Ye et al., 2015). Finally, we acknowledge that Williamson (2000) focuses on how the four levels of institutions relate to each other and their malleability. Relevant for our theorizing is the insight that individual actors at any point in time face contexts that can be understood in terms of the simultaneous effects of the four key levels of institutions.

Institutional economics understands institutions primarily as constraints on actors (North, 1991; Williamson, 2000), while entrepreneurship researchers note that institutions can also enable entrepreneurial action and agency (Kimjeon & Davidsson, 2021). Whether institutions act as constraints or enablers depends on their quality or degree, as we explain below; hence, we indicate both enabling and constraining effects of institutions in Figure 1. Our explanations focus on the effects of the institutional context on entrepreneurs rather than on employees because entrepreneurs owning and managing their businesses are more directly exposed to context. The influence of the institutional context on employees is buffered by the organizations employing them, which have their own rules and regulations.

We now discuss how each of the four levels of institutions impacts the entrepreneurship–wellbeing relationship. With regard to *resources*, we consider a country's level of economic development as a proxy for how resource rich vs. resource scarce a context is (Estrin et al., 2018; Van de Vliert et al., 2016). Resource-richer contexts are typically related to higher wellbeing in the general population (Diener et al., 2018; Jorm & Ryan, 2014). Resource-rich contexts likely enable entrepreneurs' autonomy, allowing entrepreneurs to explore and experiment. In such contexts, entrepreneurs can more easily shape and lead a business the way they desire and congruent with their skills and values, thereby allowing them to self-actualize through experiencing their work as meaningful. Thus, resource-rich contexts strengthen important wellbeing resources (Shir et al., 2019; Stephan et al., 2020a).

Conversely, the lack of resources is a key stressor for entrepreneurs (Gorgievski et al., 2010), constraining their autonomy and actions. Entrepreneurs in all contexts grapple with procuring resources (Sarasvathy, 2008), yet in resource-scarce contexts, accessing resources is even harder and more stressful, limiting positive and enhancing negative wellbeing.

A strong *rule of law* can empower entrepreneurs' agency by lowering uncertainty, rendering their actions more predictable, and strengthening their sense of control and autonomy (Estrin et al., 2016; Mickiewicz et al., 2021). A strong rule of law implies greater fairness because everyone can appeal their rights in independent courts (Acemoglu & Robinson, 2012), which likely diminishes stressful injustices for entrepreneurs (Soenen et al., 2019). Overall, entrepreneurs' efforts and investments are more likely to "pay off," yielding positive motivating effort–reward balances that can strengthen positive wellbeing and diminish negative wellbeing (Siegrist, 1996). Aligned with these arguments, a multilevel study of agricultural entrepreneurs across provinces in China found that entrepreneurs were more satisfied with their work and life if they had confidence in the efficiency and fairness of local and national government, laws, and law enforcement (Xu et al., 2021).

By contrast, a weak rule of law is stressful because it increases uncertainty, a significant stressor for entrepreneurs (Rauch et al., 2018). Low predictability suppresses, for instance, entrepreneurs' ambitions and strategic planning (Autio & Acs, 2010; Bylund & McCaffrey, 2017; Estrin et al., 2016). Thus, when the rule of law is weak, entrepreneurs are forced to react and adapt to day-to-day changes, which is stressful in itself. Moreover, in such contexts, entrepreneurs are uncertain whether they can reap the rewards of their work, as they have little protection against corrupt officials appropriating their profits and can rarely appeal their rights in independent courts (Estrin et al., 2016; Mickiewicz et al., 2021), thereby creating a demotivating and stressful imbalance of effort and reward (Siegrist, 1996).

Regulatory institutions (*regulation* for short) have mainly been discussed as constraints on entrepreneurial entry (Estrin et al., 2013; Williamson, 2000). Complex regulations create additional hassles and work demands for entrepreneurs who have to spend more of their scarce time dealing with bureaucracy (Levie & Autio, 2011). Elaborate and inefficient regulations make business transactions and recognizing opportunities more difficult (cf. Wood, Bylund, & Bradley, 2016), limiting entrepreneurs' actions and thereby straining their positive wellbeing and increasing their negative wellbeing. Furthermore, some research suggests that when regulation is effective and efficient it can also enable entrepreneurship by lowering transaction costs and even creating new business opportunities (Kitching et al., 2015). For instance, in their study of 17 European countries, Wolfe and Patel (2019) found that entrepreneurs were more satisfied than employees in countries with lower business-related regulations ("business freedom").

Finally, *informal institutions*, especially cultural practices (Autio, Pathak, & Wennberg, 2013; Stephan & Uhlaner, 2010), may also influence the wellbeing benefits of entrepreneurship through culture fit (Tung et al., 2007). Performance-based cultures (PBCs) encourage performance orientation and self-reliance (Stephan & Uhlaner, 2010), which are key characteristics of entrepreneurship. PBCs combine most of the individual cultural practice dimensions associated with a population's subjective wellbeing in past research (Ye et al., 2015) while avoiding multicollinearity that arises from considering multiple GLOBE practice dimensions in one study (Stephan & Uhlaner, 2010).

In high PBCs, entrepreneurs are likely to benefit from high legitimacy (Zimmerman & Zeitz, 2002) as entrepreneurs fit with the cultural expectations of succeeding through hard work and merit rather than societal position or affiliation with powerful groups (Stephan & Uhlaner, 2010). Greater legitimacy will mean that entrepreneurs find it easier to accomplish their work (Kibler & Kautonen, 2016) and that they have greater autonomy and opportunity

to shape their business in line with their values and skills, thereby enhancing these important wellbeing resources. By contrast, lower legitimacy translates into greater difficulties for entrepreneurs to operate their businesses (Zimmerman & Zeitz, 2002) because stakeholders will prefer to work with larger businesses rather than entrepreneurs. Beyond this, higher legitimacy also implies greater appreciation, positive social regard, and respect for entrepreneurs in PBCs, which can support wellbeing. For instance, research on workplace wellbeing finds that appreciation is an important wellbeing resource (see Semmer et al., 2019, for a mini-review). Similarly, some research on entrepreneurs suggests that a perceived lack of societal esteem or regard for entrepreneurship diminishes their wellbeing (Kallioniemi et al., 2016; Kwon & Sohn, 2017).

In sum, enabling contexts are marked by relative resource affluence, greater predictability and fairness, easier transactions, and greater legitimacy, whereas in constraining contexts, entrepreneurs find it more difficult to access resources and have to grapple with high uncertainty and unfairness, demanding transactions, and regulatory stumbling blocks, as well as with cultural norms that diminish their legitimacy. Thus,

*Hypothesis 3: Country institutional context moderates the relationship of entrepreneurship with **positive wellbeing**: Compared to employees, entrepreneurs experience higher (lower) **positive wellbeing**, in enabling (constraining) contexts characterized by high (low) economic development (H3a), strong (weak) rule of law (H3b), low (high) regulation (H3c), and high (low) PBC (H3d).*

*Hypothesis 4: Country institutional context moderates the relationship of entrepreneurship with **negative wellbeing**: Compared to employees, entrepreneurs experience higher (lower) **negative wellbeing**, in constraining (enabling) contexts characterized by low (high) economic development (H4a), weak (strong) rule of law (H4b), high (low) regulation (H4c), and low (high) PBC (H4d).*

METHODS

Identification and Coding of Studies

We followed the detailed guidelines of Kepes et al. (2013) for meta-analytical reviews and reporting standards. In a first step, we used Web of Science to retrieve relevant studies. Web

of Science is a comprehensive database that includes papers and conference proceedings published across disciplines, including entrepreneurship, management, medicine, epidemiology, occupational health, economics, and psychology, since 1950.³ We used a range of keywords, specifying entrepreneurs and self-employed and their synonyms combined with a comprehensive set of search terms for wellbeing, mental health, distress, and their synonyms (the full list of 67 search terms is available upon request). We applied the terms to search abstracts, titles, and keywords. The searches retrieved 2,402 results.

Second, we screened studies for inclusion in the meta-analysis based on reading the title and abstract. Sources had to be empirical quantitative papers that measured entrepreneurs' wellbeing and compared it to that of employees. This step identified 153 studies.

Third, two authors independently read all studies in detail and coded them. At this stage we had to exclude further studies because of insufficient statistical information to compute effect sizes even after contacting study authors. In addition, two publications were excluded because they used the same sample to study the same wellbeing indicators. Where multiple publications using the same sample reported on *different* wellbeing indicators (e.g., Jenkins et al., 2015a, b, c), we aggregated the effects across these publications to preserve the requirement of only including independent samples in the meta-analysis. Two further publications were excluded because they investigated country-level relationships of entrepreneurship rates and wellbeing instead of individual-level relationships that were the focus of our research. Moreover, seven studies did not compare entrepreneurs to employees (e.g., their sample included students, unemployed, or retired), thus, it was impossible to calculate effect sizes for employees only. Finally, two studies did not assess the wellbeing of entrepreneurs despite referring to entrepreneurs in the abstract. Overall, 319 independent

³ The oldest study included in the meta-analysis was published in 1975.

samples (283 effect sizes for positive and 54 effect sizes for negative wellbeing) from 94 studies provided sufficient data to be considered in the meta-analysis. These 319 samples covered 82 identifiable countries to test context moderation effects (H3 and H4). Several studies combined samples from different countries without providing separate analyses. Such studies are not included in the moderator analyses but are included in tests of H1 and H2. Appendix 1 (see Online Supplement) lists the 82 countries and Appendix 2 lists the 94 studies included in the meta-analysis. Appendix 3 lists the 319 samples, their sample sizes, the effect sizes for wellbeing components, and the coding of the bivariate moderators. The full coding sheet/data set including the detailed coding for all measures, effect sizes, sample characteristics, numeric moderator scores, and so on, is available from the authors upon request.

Variable Coding: Wellbeing Components

Two authors independently coded each study. Disagreement between the two coders was discussed and eliminated. The two authors coded sample size and sample characteristics for entrepreneurs and employees, country context, and year of data collection, 29 measures of wellbeing, research design, reliability, and validity of measures. Positive and negative wellbeing were coded to differentiate between general and work-related cognitive, positive and negative affective, and eudaimonic wellbeing and stress-related mental health problems (see Figure 1). This required reading the studies at the item level and matching the items to the wellbeing components because some studies referred to indicators of distress, satisfaction, and positive affect equally as “wellbeing.” We now describe the coding of each component.

Cognitive wellbeing was measured as life and work satisfaction in the primary studies (i.e., as general and domain-specific cognitive wellbeing). *Life satisfaction* was typically captured with the item, “Overall, how satisfied are you with your life?”, based on Diener’s Satisfaction with Life Scale (SWLS; Pavot & Diener, 2008). Few studies included the entire

SWLS scale or used adapted versions that similarly asked for overall evaluations of participants' lives. *Work satisfaction* was predominantly assessed with the question, "Overall, how satisfied are you with your job?", which is a frequently used measure of work-related wellbeing (Judge et al., 2017; Wanous et al., 1997). A few studies included multi-item measures, such as the general job satisfaction scale from the Job Diagnostic Survey (Hackman & Oldham, 1975) and combined items asking about satisfaction with particular aspects of work (e.g., the type of work, pay, hours, security) that are often contained in large-scale household surveys (Millán et al., 2013).

Positive affective wellbeing included reports of happiness and the frequency of experiencing positive emotions. Most studies included measures of positive affect as described, for instance, in the Positive and Negative Affect Schedule (PANAS, Tellegen et al., 1999), one of the most widely used scales to assess affect and commonly used in composite measures of hedonic/subjective wellbeing (Diener et al., 2018; Lucas et al., 1996).

Eudaimonic wellbeing was measured as subjective vitality (i.e., positive energy to the self; Ryan & Frederick, 1997), with Ryff's psychological wellbeing scale (Ryff & Keyes, 1995), or with measures that build on Ryff's scale. Compared to vitality, Ryff's measure of eudaimonic wellbeing is more cognitively based (e.g., evaluations of agency/mastery). There were too few studies to test for differences between these two measures.

Measures of negative affective wellbeing included burnout, emotional exhaustion, feelings of lack of accomplishment, depersonalization, feeling tired, feeling stressed, as well as perceiving one's work as stressful. We also included measures of burnout, which entails a range of negative emotions. Primary studies included either the composite measure of burnout or one focused on its components (emotional exhaustion, lack of accomplishment, depersonalization; Maslach, Schaufeli, & Leiter, 2001). We also included measures of

negative affect as described in the PANAS (Tellegen et al., 1999) that are commonly used in composite measures of hedonic wellbeing (Diener et al., 2018; Lucas et al., 1996).

We included *stress-related mental health problems* and impairments that have been related to stress exposure (McEwen, 2004; Stephan & Roesler, 2010) in our final category of negative wellbeing indicators. We included studies that measured different types of depression and anxiety disorders and symptoms, suicide, post-traumatic stress, drug abuse including alcohol abuse and gambling, psychosomatic complaints, and self-reports of overall poor mental health. This means that we excluded mental health problems that are less directly linked to (work or life) stress, such as attention deficit hyperactivity disorder (ADHD).

Variables for Moderator Analyses

We include substantive moderators (institutional context) to test H3 and H4 and methodological moderators to check the robustness of our findings. We tested moderation in two ways (Kepes et al., 2013; Rauch, 2020): first, we used sample median-split scores of institutional moderators in bivariate moderation analyses (Table 1) complemented by, second, meta-analytic regression using the continuous scores of institutional moderators (Table 2).

For *country institutional context* we used data from different sources that are commonly used in comparative entrepreneurship research to assess these institutions (Aidis et al., 2012; McMullen et al., 2008; Terjesen et al., 2016). We matched data on institutional indicators based on country and on study year as closely as possible (e.g., a study conducted in 1990 in the US would be assigned the value for GDP in 1990, and one conducted in 2000 would be assigned the GDP value for 2000). Where data were not available (e.g., labor market regulations data were only available from 2005 onwards), we used the nearest value (i.e., 2005 was used for studies conducted before 2005). Study year was coded as the year of data collection from the methods section of the papers. If unavailable, we used publication year as a proxy.

We used the level of *economic development* as a proxy for the level of resources available in a country (Van de Vliert et al., 2016) measured as GDP per capita in international dollars and purchasing power parity from the World Bank. From the Economic Freedom database collated by the *Wall Street Journal* and Heritage Foundation (Beach & Kane, 2008), we obtained indicators for *rule of law* and freedom from labor market *regulation* following Aidis et al. (2012). In line with Aidis et al.'s (2012) factor analysis, we combined several dimensions that form the *rule of law* factor, including property rights, freedom from corruption, business freedom, investment freedom, trade freedom, and financial and monetary freedom. Low values indicate a weak rule of law. For *regulation*, we focus on labor market regulation because the different business regulations relating to the labor market have the strongest and most consistent relationship with entrepreneurship (Van Stel et al., 2007). Freedom from labor market regulation factored separately from other institutions in Aidis et al.'s (2012) study. We keep the original coding in which high values represent low levels of labor market regulation (i.e., they reflect enabling regulation or “freedom from the constraints of labor market regulation”; Beach & Kane, 2008).

We used scores for PBC based on GLOBE-study cultural practices (Stephan & Uhlaner, 2010). High-PBC practices emphasize individual choice and self-reliance based on performance-oriented behavior (Stephan & Uhlaner, 2010; Thai & Turkina, 2014). They combine high individualism, low power distance, predictability, future orientation, and performance orientation (Stephan & Uhlaner, 2010). We focus on cultural practices as opposed to cultural values because the former align with our theoretical arguments. They reflect current cultural norms that determine what is acceptable and legitimate (Frese, 2015; Stephan & Uhlaner, 2010) and have been found to relate to entrepreneurship (Autio et al., 2013; Stephan & Uhlaner, 2010; Thai & Turkina, 2014) and wellbeing (Ye et al., 2015), whereas cultural values relate only indirectly to entrepreneurship (Stephan & Pathak, 2016).

As an extension, reported in Appendix 4.1 and 4.2 in the Online Supplement, we conducted moderation tests for a further informal institution. Stephan and Uhlaner (2010) identified PBC and socially supportive culture as the two higher-order dimensions that summarize the different measures of GLOBE cultural practices and avoid multicollinearity concerns. Thus, complementing our main analyses that focus on PBC (see the Results section), we performed further moderation tests for socially supportive culture, which is a positive societal climate encouraging cooperation (Stephan & Uhlaner, 2010). We find no moderating effects for this informal institution.

We conducted a further robustness check for *different types of entrepreneurs*. Country differences in entrepreneurship are often explained by referring to the different quality of entrepreneurship (i.e., more opportunity entrepreneurship in enabling contexts; Amorós et al., 2019). Thus, we expect the pattern of results to be similar for enabling contexts and opportunity entrepreneurship, and for constraining contexts and necessity entrepreneurship. Opportunity entrepreneurs choose to be entrepreneurs, whereas necessity entrepreneurs are “forced” into entrepreneurship due to a lack of alternative employment options (Reynolds et al., 2005). We coded studies qualitatively for necessity and opportunity entrepreneurship, adopting a broad definition because only two studies employed questions about the motives for business creation (i.e., to take advantage of an opportunity or due to lack of employment options; Johansson Sevä et al., 2016; Larsson & Thulin, 2019). Following Stephan (2018), we also coded as necessity entrepreneurs: sole proprietors, own-account workers, and entrepreneurs without employees. Those heading incorporated companies and employing others were considered opportunity entrepreneurs (e.g., Cortes Aguilar et al., 2013; Hessels et al., 2017). This applied to 13 studies and follows the literature that sees self-employment as a qualitative form of entrepreneurship relative to opportunity-exploiting entrepreneurship (Shane, 2009; Welter et al., 2017). Three studies used related differentiations of forms of

entrepreneurship.⁴ All studies considered in the analysis of opportunity–necessity entrepreneurship are indexed in Appendix 2.

For *methodological moderators*, we included the *impact factor* of the journal in which a study was published (set to zero for non-published data and working papers). This value was taken from the 2018 Web of Science Journal Citation Reports. Two raters rated the *overall study quality* as high (1) or low (0) considering the publication status (published vs. unpublished), common method bias, and quality criteria for measurement (reliabilities and validities). We also coded the *sample composition* in terms of gender and age. For *gender*, we coded for each study the percentage of men in the entrepreneur and employee samples; based on the sample median, we created a category with values coded zero for more women and one for more men. We followed the same logic when coding the average *age* of the entrepreneur and employee samples. We included the *time of data collection* (if this was not mentioned in the paper, we used the year of publication) to differentiate between studies that collected data before 2000 (coded zero, and one otherwise). We chose the year 2000 to test for time trends because information technology changes in the past 20 years have been argued to have had particularly transformative impacts on economies and societies (Hillyer, 2020). Finally, we differentiated between *large-sample* and smaller studies by coding the 10% of studies with the largest sample size as one and all others as zero.

Analysis

We performed a random-effects meta-analysis based on the Hunter and Schmidt (2004) approach and followed best practice guidelines (Combs et al., 2019; Kepes et al.,

⁴ One study differentiated between the precarious self-employed, self-employed, and professionals and business owners. We classified the first two groups as necessity entrepreneurs and the last two as opportunity entrepreneurs (Cortes Aguilar et al., 2013). Another study compared self-employed people who were dependent or independent from the contracting organization they mainly worked for; we classified the former as necessity entrepreneurs and the latter as opportunity entrepreneurs (Vande Heuvel & Wooden, 1997). A third study differentiated between low- and high-grade self-employed with zero to three and more than three employees, which we classified as necessity and opportunity entrepreneurs, respectively (Rugulies et al., 2010).

2013). Since our analysis compares entrepreneurs with employees, we used the d -statistic as an effect size to express group differences. A standardized mean difference of $d = 0.50$ would imply that entrepreneurs score half a standard deviation higher on wellbeing than do employees. We first calculated the standardized mean differences for each study using Formulas 1 and 2.

----- Insert Formulas 1 and 2 here -----

We then calculated the average effect size (d) across studies, weighting the studies by their sample size, which provides an unbiased estimate of the weighted average effect size (Sanchez-Meca & Marín-Martínez, 1998). We calculated the 95% confidence interval around the d value. In addition, we calculated the reliability corrected effect size dr assuming that about 20% of the variance in variables is random error (following Aguinis et al., 2011). We used a Z-test to examine the significance of the effect size. Next, we examined the heterogeneity statistics. The I^2 statistic describes the percentage of variation across studies that is due to heterogeneity. An I^2 value below 25% indicates little heterogeneity. The fail-safe N provides information about the number of studies with null findings that need to be located and included for the combined two-tailed p -value to exceed 0.05. In other words, it provides information about the robustness of a finding. To assess potential bias in the effect size estimate, we first created the funnel plot, which plots a study's effect size against its standard error. It typically has a "funnel" form, as effect sizes of smaller studies vary more at the bottom of the plot and those of larger studies at the top of the graph cluster near the mean effect size. In the absence of publication bias, the funnel plot would be symmetric given that the standard errors vary randomly around the mean effect size estimate. We tested publication bias statistically by conducting a trim-and-fill test (Duval & Tweedie, 2000). The trim-and-fill method assesses the symmetry of the funnel plot. If the plot is asymmetric, the method fills in the missing studies and estimates the true mean based on the filled funnel plot.

We tested the institutional moderator hypotheses through bivariate psychometric meta-analysis and through multivariate meta-analytical regression analysis (MARA), which is a multivariate extension of a subgroup moderator analysis (Schmidt, 2017). For the *bivariate moderator* effects of institutional context, we dichotomized moderators based on the sample median (Rauch & Hatak, 2016) for the 82 countries. We used a *Q*-test to assess the significance of the moderator effect. For the MARA, we used a random-effects model and estimated between-study variance using maximum likelihood estimates (Hunter & Schmidt, 2004). In this meta-regression the effect size is the dependent variable, and we entered the moderators as continuous variables in the equation. This analysis allowed us to test the moderating effects of country institutions while including control variables. We calculated and reported the standardized coefficient (*B*), the standard error of the estimate (*SE*), the proportion of variance explained by the predictors (R^2), the *Q*-statistic and the ΔQ -statistic indicating whether the regression model is significant and has significantly improved. Finally, I^2 reports the amount of variance that remains unexplained. For ease of interpretation, we z-standardized the institutional moderators so that the regression coefficients can be compared. All analyses were conducted with the program Comprehensive Meta Analysis, version 3.3.070 (accessible at www.meta-analysis.com).

RESULTS

Table 1 displays the results of the bivariate analyses that tested differences between entrepreneurs and employees in terms of the wellbeing components. We discuss the main results first. We return to the byline results, which exclude the 10% largest samples and GEM samples from the effect size estimates, at the end of this section (see the subsection Robustness Tests).

Hypothesis 1 predicted higher overall *positive wellbeing* for entrepreneurs. We first tested Hypothesis 1 by aggregating all positive wellbeing indicators and found a reliability

corrected standardized mean difference of $dr = 0.117$ ($p < 0.01$, $k = 283$, $N = 788,170$), providing support for H1 overall that entrepreneurs experience higher positive wellbeing than do employees. The results are heterogeneous, as 86% of the variance of the effect sizes remains unexplained. Moreover, the funnel plot of the standard errors is asymmetric (see Figure 2a) and the trim-and-fill bias-corrected estimate is 0.064 ($p < 0.01$). This heterogeneity indicates that it is useful to compare entrepreneurs and employees along specific components of positive wellbeing. In support of H1a and H1b, entrepreneurs had significantly higher cognitive wellbeing, including higher work satisfaction (H1a; $dr = 0.129$, $p < 0.01$, $k = 260$, $N = 710,742$) and life satisfaction (H1b; $dr = 0.056$, $p < 0.01$, $k = 88$, $N = 256,454$) than employees. While differences between entrepreneurs and employees in positive affective wellbeing (H1c) and in eudaimonic wellbeing (H1d) are in the expected direction, the effect size estimates are not significant. Thus, our results regarding H1c and H1d are inconclusive.

[--- Insert Table 1 and Figures 2a and 2b here ---]

Next, we tested whether entrepreneurs and employees differ in their overall *negative wellbeing* (H2) and found no significant differences ($dr = 0.000$, *n.s.*, $k = 54$; $N = 6,738,243$; see page 2 of Table 1). The results are heterogeneous, as 89% of the variance of the effect sizes remains unexplained. The funnel plot of the standard errors is asymmetric (see Figure 2b) and the trim-and-fill bias-corrected estimate remains non-significant ($dr = 0.006$). When we further differentiated between negative affective wellbeing and stress-related mental health problems, we replicated the non-significant results ($dr = -0.036$, $k = 19$, $N = 89,047$, and $dr = 0.011$, $k = 41$, $N = 6,682,348$, respectively). Thus, our results regarding H2, H2a, and H2b are inconclusive.

We tested the moderating effect of country institutional context for positive wellbeing overall (H3) and negative wellbeing overall (H4). We first present the results of the bivariate moderator tests (see the bottom segments of the first and second pages of Table 1, respectively) and then discuss the moderation tests conducted using MARA (Table 2).

Regarding the *bivariate moderation* tests, the results are inconclusive for H3a, which stated that economic development (GDP) affects differences in entrepreneur vs. employee *positive wellbeing* overall ($Q = 0.99$, n.s.). In line with H3b, H3c, and H3d, the rule of law, regulation, and PBC moderate the entrepreneurship–wellbeing relationship such that the differences in entrepreneur vs. employee wellbeing are more pronounced in enabling institutional contexts—that is, with a strong rule of law ($Q = 16.40$, $p < 0.01$), low regulation (high labor freedom, $Q = 10.96$, $p < 0.01$), and high PBC ($Q = 7.49$, $p < 0.01$). The differences in entrepreneur vs. employee wellbeing are less pronounced in constraining institutional contexts—specifically, the effect sizes are smaller but remain positive and significant in institutional contexts with a weak rule of law, high regulation, and low PBC (see the bottom segment of the first page of Table 1). Thus, even in constraining contexts, entrepreneurs had higher positive wellbeing than did employees.

Next, the second page of Table 1 (bottom) reports the results for the institutional moderators for *negative wellbeing* overall. Supporting Hypotheses 4a, 4b, 4c, and 4d, entrepreneurs exhibited more negative wellbeing than employees did in constraining institutional contexts with low economic development ($Q = 8.16$, $p < 0.01$), a weak rule of law ($Q = 15.86$, $p < 0.01$), high regulation (low labor freedom, $Q = 7.16$, $p < 0.01$), and low PBC ($Q = 14.40$, $p < 0.01$). Conversely, the negative effect sizes for enabling institutional contexts (i.e., those with a strong rule of law, low regulation, and high PBC) mean that in these contexts employees exhibited more negative wellbeing than did entrepreneurs. There was no difference in entrepreneur vs. employee wellbeing in high GDP contexts.

Table 2 displays the *MARA* results, which tested the same moderating effects but controlled for study quality (impact factor and author coding of study quality). The top of the regression table displays the moderator effects for positive wellbeing overall, while the bottom displays the results for negative wellbeing overall. The variance inflation factors do

not exceed 3.19 for positive wellbeing and 2.9 for negative wellbeing for the regressions including GDP, rule of law, labor freedom, PBC, and the two study quality control variables. This indicates that multicollinearity was not a concern.

Model 1 in Table 2 includes the control variables. This regression model is significant, indicating that study quality reduced the difference between entrepreneurs and employees in *positive wellbeing* overall ($B = -0.03, p < 0.01$). Next, we included GDP in the regression, revealing non-significant results (Model 2). Models 3a, 3b, and 3c tested the indicators of the institutional context individually (controlling for GDP). We controlled for GDP, as is common practice in comparative entrepreneurship research (Estrin et al., 2016; Stephan & Uhlaner, 2010), to assess the additional explanatory power of the remaining institutional indices. We replicated the results of the bivariate analyses. Specifically, the size of the differences in entrepreneur vs. employee positive wellbeing was moderated by the rule of law ($B = 0.04, p < 0.01$, Model 3a), labor freedom (low regulation, $B = 0.02, p < 0.01$, Model 3b), and PBC ($B = 0.02, p < 0.05$, Model 3c). In line with our predictions, a strong rule of law, low regulation, and high PBC further enhanced the differences in positive wellbeing to the advantage of entrepreneurs (vs. employees), whereas a weak rule of law, high regulation, and low PBC reduced them. The R^2 values indicate that these indicators explain an additional 10%, 7%, and 3%, respectively, of variation in the wellbeing differences between entrepreneurs and employees beyond GDP. Model 4 shows that all variables jointly explain 19% of the variance (12% beyond controls, including GDP). Only the rule of law is significant ($B = 0.03, p < 0.01$), thus, it is the strongest predictor.

The MARA results predicting the size of entrepreneur–employee difference in *negative wellbeing overall* are all in the expected direction (lower half of Table 2) but not significant at $p < 0.05$, with the exception of a significant moderation effect of the rule of law in Model 3a ($B = -.07, p < .05$), explaining 8% additional variation in the difference in

employee–entrepreneur negative wellbeing beyond the control variables. This effect is in line with H4b.

[--- Insert Table 2 here ---]

Robustness Tests

We conducted several robustness checks. First, we explored whether entrepreneur–employee differences in wellbeing were moderated by the *type of entrepreneurship* (necessity or opportunity). There were significant moderation effects for overall positive wellbeing ($Q = 73.62, p < 0.01$), work satisfaction ($Q = 30.49, p < 0.01$) and life satisfaction ($Q = 83.65, p < 0.01$, Table 3). Opportunity entrepreneurs exhibited higher positive wellbeing overall, higher work satisfaction, and higher life satisfaction than did employees. Necessity entrepreneurs exhibited lower positive wellbeing overall and lower life satisfaction than employees but did not differ significantly in work satisfaction. We found no significant moderation effects for type of entrepreneur for positive affective, eudaimonic, overall negative, or negative affective wellbeing and mental health problems (for the results of the Q -tests, see Table 3). However, the results for positive and negative affective wellbeing and for eudaimonic wellbeing should be seen as very preliminary as they rest on fewer than the recommended $k = 10$ studies (Schmidt, 2017).

Next, we explored whether *study and sample characteristics* affected the results of our meta-analysis. Table 4 shows the results for the moderator analyses regarding study quality and sample composition. The Q -tests indicate significant moderating effects on the effect sizes of overall positive wellbeing for study quality ($Q = 15.29, p < .01$, lower study quality reveals higher effect sizes), gender ($Q = 6.68, p < .01$, more women in study samples lead to higher effect sizes), and time—that is, older studies (conducted before 2000) reported larger differences between entrepreneurs and employees than did more recent studies ($Q = 10.98, p < .01$). We did not find significant moderator effects for the age of participants,

sample size, or in any analysis of overall negative wellbeing (all Q -tests n.s.; see Table 4). Importantly, even when significant moderator effects of study characteristics are present, the entrepreneur–employee effect sizes remain significant and in the same direction. For example, the high and low study quality effect size estimates for the difference in entrepreneur–employee positive wellbeing ($dr = 0.121$ and $dr = 0.067$, respectively) are significant ($p < 0.01$). This supports the robustness of the results of this meta-analysis.

[--- Insert Table 3 and 4 here ---]

Furthermore, we tested whether *study sample size* affected entrepreneur–employee differences in wellbeing. Overall, there is no significant moderation effect comparing effect sizes in the 10% largest samples against those in smaller samples (the last two rows of Table 4). Table 1 shows each effect size when the 10% largest samples are excluded. None of these analyses excluding the largest 10% study samples indicate that study sample size affects the results of our meta-analysis. The effect sizes often even increase marginally when large samples are excluded. The effect size for positive affective wellbeing becomes significant in support of H2c when the 10% largest samples are excluded (whereas it was not significant previously). In further robustness checks, we excluded the two largest studies, and the results remained unchanged. Therefore, we conclude that including large-sample studies does not disproportionately affect our results.

We took a similar approach to understand how effect sizes from the GEM consortium may impact the results of our meta-analysis. GEM contributes effect sizes for samples from 70 countries to this meta-analysis. Therefore, we check whether our findings depend on this particular set of studies.⁵ Excluding GEM samples increased the effect size for overall positive wellbeing marginally (from $dr = 0.117$ to $dr = 0.137$, both $p < 0.01$). Similarly, if we

⁵ GEM provides effect sizes for 26 countries (e.g., from South and Central America, Africa, and Asia) that are not covered in any other study in the meta-analysis. GEM provides information on two specific wellbeing components: on work satisfaction for 61 countries and on life satisfaction for 70 countries.

exclude the GEM samples, the entrepreneur–employee difference in work satisfaction increases marginally (from $dr = 0.129$ to $dr = 0.148$, both $p < 0.01$), while the effect size for life satisfaction decreases marginally (from $dr = 0.056$, $p < 0.01$ to $dr = 0.045$, $p < 0.05$). We conclude that including the GEM samples does not substantially alter our findings.

Finally, we conducted a one-study-removed analysis as a sensitivity analysis to determine whether our results are affected by a single outlier. The results are available upon request and are not affected by such outliers.

DISCUSSION

Our meta-analytical review integrates empirical evidence from over 40 years of research across 319 independent samples and 94 studies, including up to 6.7 million individuals from 82 countries to understand whether, in what way, and where individuals can derive wellbeing from working for themselves or for others. We propose an organizing framework of different wellbeing components for entrepreneurship research and offer a contextualized perspective anchored in institutional theory. Doing so, we find the following. Entrepreneurs exhibit higher positive wellbeing (especially work and life satisfaction) than do employees, and these wellbeing benefits are more pronounced in institutional contexts marked by a strong rule of law. Entrepreneur–employee differences in negative wellbeing are shaped even more by the institutional context: when the rule of law is weak, entrepreneurs have significantly higher negative wellbeing than employees; in turn, employees have higher negative wellbeing than entrepreneurs in contexts marked by a strong rule of law. Thus, the nature of the entrepreneurship–wellbeing relationship is contingent on which wellbeing component and which institutional context is investigated. We now turn to the implications of our work. We summarize recommendations for future research discussed throughout this section in Table 5.

[--- Insert Table 5 here ---]

The Component View of Wellbeing as an Organizing Framework

Leveraging insights from the science of wellbeing (Diener et al., 2018; Keyes et al., 2002; Ryff et al., 2006; Warr, 2013) and informed by the unique nature of entrepreneurship as richer and more “extreme” in wellbeing resources *and* stressors than employed work (e.g., Baron, 2010), we proposed a framework that organizes wellbeing components according to their association with motivating/salutogenic and health-impairing/pathogenic processes. This theoretical anchoring leads to the key insight of our framework: Positive and negative wellbeing components are relatively independent of each other and thus need to be considered jointly and simultaneously to understand and assess entrepreneur wellbeing in a meaningful way. In doing so, we advance past research that treats wellbeing (implicitly or explicitly) as a single dimension ranging from positive to negative, and that has resulted in confusing findings on the entrepreneurship–wellbeing relationship (as reviewed in the Introduction). Our framework highlights that we need to move away from searching for one singular relationship of wellbeing with entrepreneurship, and instead investigate how wellbeing components relate to entrepreneurship. Our framework additionally draws attention to specific components of positive and negative wellbeing that are related to distinct theoretical mechanisms (cognitive, affective, eudaimonic, and stress-strain processes). In sum, our framework elaborates the multifaceted and complex nature of entrepreneur wellbeing as called for by all recent reviews in this area (Stephan, 2018; Torrès & Thurik, 2019; Wiklund et al., 2019). It thereby contributes an essential guidepost for research on entrepreneurship and wellbeing and a systematic perspective on how to think about the psychological mechanisms and outcomes of entrepreneurship.

The focus on *either* positive or negative wellbeing is not constrained to entrepreneurship research; thus, our organizing framework may also help inspire more

integration across research areas that investigate wellbeing. For instance, organizational behavior focuses on positive wellbeing and its motivational effects (Judge, Weiss, Kammeyer-Mueller, & Hulin, 2017), whereas distress and health impairments are prominent outcomes in occupational health research (Ganster & Rosen, 2013). The results of such parallel developments are, at best, incomplete and, at worst, misleading, when research does not even consider the possibility that high positive wellbeing may co-occur with high negative wellbeing. An example is research on work redesign, which seeks to create more high-quality jobs and to empower employees. Yet, as Grant et al. (2007) discuss, such interventions can lead to unexpected outcomes, increasing both positive wellbeing (satisfaction) *and* negative wellbeing (strain and overload; Grant et al., 2007; Martin & Wall, 1989, also Fried et al., 2013; Warr, 1994). Thus, if only either positive or negative wellbeing components are assessed, individual studies will yield misleading findings and research areas will be marked by conflicting results.

This insight is particularly relevant for research on the future of work, which sees an increase in flexibility, autonomy, responsibility, and self-managed work (i.e., an increase of work with “entrepreneurial” characteristics; Carnevale & Hatak, 2020; Gorgievski & Stephan, 2016; Grant & Parker, 2009). Here, our framework with its entrepreneurship perspective suggests investigating potentially detrimental effects of high levels of wellbeing resources, such as when high autonomy is accompanied by the “burden” of responsibility, especially in the face of high uncertainty. In this way, we hope our theorizing can also inspire emerging research on leader personal wellbeing (Byrne et al., 2014; Inceoglu et al., 2021), as leaders—especially strategic leaders (Hambrick et al., 2005)—share similar wellbeing resources and stressors with entrepreneurs.

As an organizing framework that acknowledges the complexity of entrepreneur wellbeing, the component view opens new avenues for theory building on entrepreneur

wellbeing regarding wellbeing trade-offs and the interplay of positive and negative wellbeing. First, our framework encourages research to consider possible wellbeing trade-offs. For instance, our findings suggest that entrepreneurs operating in weak-rule-of-law contexts might experience such wellbeing trade-offs characterized by simultaneously high positive and high negative wellbeing (Grant et al., 2007). Such trade-offs remain hidden without a framework that guides researchers to consider positive and negative wellbeing at the same time. Our findings also hint at another potential trade-off among domain-specific and general cognitive wellbeing (van der Zwan et al., 2018). Van der Zwan et al. (2018) suggest that entrepreneurs trade leisure satisfaction for higher work satisfaction in line with the “bottom-up approach,” which views life satisfaction as the aggregate of different domain satisfactions (Erdogan et al., 2012). Thus, if work satisfaction is high, other domain-specific satisfactions may be low, which would be consistent with the pattern that we observed (i.e., of a lower life than work satisfaction; the effect size for life satisfaction was roughly half the size of the effect size for work satisfaction).

Second, our framework implies that it is important to investigate the interplay of positive and negative wellbeing, its antecedents, and its consequences for entrepreneurial action and economic performance. For instance, what does the subjective experience of simultaneously high positive and high negative wellbeing look like? Do entrepreneurs regard the experience of distress as a necessary part of achieving high positive wellbeing, especially of achieving self-actualization (eudaimonic wellbeing)? Have entrepreneurs found coping strategies to balance and perhaps even leverage this experience for entrepreneurial action and performance? For instance, research suggests that negative affect can aid a focus on “getting things done” in the short term, whereas positive affect and eudaimonic wellbeing may fuel planning for the longer term and future growth visions (Foo et al., 2009; Ryff, 2019); what happens when they co-occur? The notion that specific components of wellbeing relate to

outcomes in differentiated ways also extends to cognitive wellbeing (satisfaction), which in isolation might have few performance implications altogether. Satisfaction indicates a positive appraisal of the status quo; if it does not co-occur with high eudaimonic wellbeing, there may be no perceived need to act, be proactive, or innovate (Hahn et al., 2012).

Not only is the interplay of positive and negative wellbeing still poorly understood in entrepreneurship, but our meta-analysis also indicates a certain “positivity bias” (i.e., a greater focus on positive compared to negative wellbeing in entrepreneurship research). We found and synthesized five times as many effect sizes for positive than for negative wellbeing. Yet, negative wellbeing is consequential for the individual entrepreneur and their immediate social context (Hatak & Zhou, 2021) and for the business (diminishing persistence, innovation, and success; Stephan, 2018). Thus, the findings of our meta-analytic review echo calls for more research on the dark side of entrepreneurship that explores an “actor’s negative psychological and emotional reactions from engaging in entrepreneurial action” (Shepherd, 2019, p. 3). They also reiterate calls for more nuanced attention to understand the role of different mental health conditions in entrepreneurship (Wiklund et al., 2020), which we had to combine in one index due to the limited number of original studies.

Finally, if we consider wellbeing as an important outcome in entrepreneurship, we also need to understand which wellbeing component is most important to entrepreneurs personally (see Adler et al., 2017) and thus acts as the main guidepost for their actions.

Contextualizing Research on Entrepreneurship and Wellbeing

Building on institutional theory (Williamson, 2000) and the notion of context as external enabler of entrepreneurship (Kimjeon & Davidsson, 2021), our study develops a contextualized perspective on entrepreneurship and wellbeing that theorizes the effects of four levels of institutions. We find that institutions (especially the rule of law) strengthened the relationship of entrepreneurship with positive wellbeing, and changed the direction of the

relationship of entrepreneurship with negative wellbeing. In this way, our study demonstrates the general importance of institutions for wellbeing in line with growing concern about contextualization in entrepreneurship research (Welter, 2011; Zahra & Wright, 2011) in general and in research on entrepreneurs' wellbeing in particular (Stephan, 2018; Wiklund et al., 2019).

Specifically, our findings contribute to the comparative entrepreneurship literature that considers how institutional context impacts entry into entrepreneurship (Estrin et al., 2013; Terjesen et al., 2016) and moderates entrepreneurial performance (Rauch et al., 2013; Saeed et al., 2014). Our findings complement this literature and extend it to entrepreneur wellbeing as a new outcome. They also complement research on the reverse relationship—that is, on a population's wellbeing as a predictor of entrepreneurial entry (Pathak, 2020; Pathak & Muralidharan, 2021).

Furthermore, our findings provide valuable insights into the mechanisms at play. Recall that we theorized that the four levels of institutions impact entrepreneur wellbeing through different mechanisms: resources (proxied by GDP), uncertainty and fairness (rule of law), hassles and workload (regulation), and legitimacy (culture). This makes our findings on the rule of law particularly revealing, as they suggest that alleviating uncertainty and enhancing predictability and fairness are the most critical aspects of institutional contexts for entrepreneur wellbeing (i.e., enhancing its wellbeing benefits and avoiding wellbeing costs).

Our findings on the rule of law parallel those in the comparative entrepreneurship literature that demonstrate the enabling effects of the rule of law on entrepreneurial entry (Autio & Acs, 2010; Estrin et al., 2016; Mickiewicz et al., 2021). Since the rule of law is closely intertwined with democratic institutions (Acemoglu & Robinson, 2012), our findings also contribute to the recent discussion on democracy and entrepreneurship (Audretsch & Moog, 2020; Mickiewicz et al., 2021), suggesting fewer wellbeing benefits and more

wellbeing costs in more autocratic systems compared to more wellbeing benefits and no wellbeing costs in democratic systems.

For contexts marked by a weak rule of law, our findings point to a potentially dangerous combination of high positive wellbeing in the face of stressful work that may lead to self-exploitation by entrepreneurs, consistent with their simultaneously higher negative wellbeing in these contexts. This may endanger entrepreneurs' careers, their businesses, and the employees that depend on them in the long term: because entrepreneurs enjoy their work, they keep working and do not grant themselves respite from the stresses that their work entails (Williamson et al., 2021). At the same time, it was encouraging to see that even in these more uncertain contexts individuals still gained some positive wellbeing benefits from entrepreneurship, pointing to the resilience of these entrepreneurs (Miller & Le Breton-Miller, 2017). Future research should explore how entrepreneurs can preserve and strengthen their mental health in such contexts (e.g., through interventions; Williamson et al., 2021).

The specific findings for resources (GDP) suggest an intriguing pattern such that resources are important for negative but not positive wellbeing. GDP explained no variation in entrepreneur vs. employee positive wellbeing, but for negative wellbeing, the bivariate moderation effect of GDP was significant. These findings are intriguing considering the importance attributed to financial resources in entrepreneurship and for entrepreneur wellbeing (Gorgievski et al., 2010). Yet, they are in line with stress theories (Hobfoll, 1989), where resources are especially important to forestall health impairment processes. This fits with related findings on the relationship of income with wellbeing. Income is important for wellbeing at low and medium levels, but several studies suggest diminishing returns from high personal or national income to further enhance individual or national positive wellbeing (see Diener et al., 2018, for an overview).

The effects of regulation and culture were significant for both positive and negative wellbeing in the bivariate moderation analyses, but they were trumped by the explanatory power of the rule of law in the regression on positive wellbeing and not significant for negative wellbeing. While policy makers and entrepreneurs often focus their interventions and complaints on regulations as a salient obstacle impeding entrepreneurial action, our findings fit with research that the rule of law is more consequential than regulation for entrepreneurial action (e.g., Mickiewicz et al., 2021).

In conclusion, by developing an organizing framework, drawing on an institutional perspective, and conducting a meta-analytic review, we make sense of diverging findings in past research and estimate the entrepreneurship–wellbeing relationship. As far as we know, this is the first meta-analysis synthesizing research in the fragmented area of entrepreneurial wellbeing and integrating evidence across disciplines, a large number of effect sizes, and 82 diverse countries, including developing countries. This is important because most of the world’s entrepreneurial activity takes place in developing economies (GEM, 2018) where it is often reinforced as a means of economic development (Sutter et al., 2019). To our knowledge, we include more countries and theorize and test more diverse institutional variables (i.e., resources, different formal institutions, and culture) than we commonly see in meta-analyses in entrepreneurship research. In this way, our meta-analytic review provides a robust foundation for future research and helps to move research on entrepreneur wellbeing forward.

Limitations and Future Research

Any meta-analysis is aggregating findings of primary studies and, thus, might be limited by limitations of these primary studies, such as publication bias and p-hacking. While we provide tests for publication bias, one recently published paper reports p-hacking in primary family business studies (Brinkerinkk, 2021), whereby results are selectively

published to confirm hypotheses. Notably, the interdisciplinary nature of our meta-analytic review likely helps to mitigate concerns about p-hacking. For instance, we included epidemiological and occupational health studies that describe the wellbeing of different occupations (of which entrepreneurship happens to be one). Thus, these studies were not motivated to identify positive or negative wellbeing effects of entrepreneurship. Nevertheless, we encourage future research to investigate potential p-hacking further.

While we conducted several robustness tests to check for potential bias in effect sizes due to large-sample studies or studies with a common survey protocol (GEM), future research could use methodological advances to investigate and decompose the heterogeneity of effect sizes using more sophisticated multilevel modeling (Cheung, 2014, 2019). While psychometric meta-analyses and meta-regressions (MARA) that we performed remain common in entrepreneurship and across management sciences (e.g., Coombs et al., 2019; Rauch, 2020), more sophisticated methodological approaches become feasible as more primary data accumulate. As an example, for our meta-analysis, a decomposition could lead to misleading findings because certain survey programs (e.g., GEM) provide data for countries that are not covered by other studies. Thus, applying the decomposition approach could confound methodological and systematic country differences. We hope future research can explore such concerns more fully.

Regarding our constructs of interest, we hope that future research can explore the precise relationships among wellbeing components for entrepreneurship. We drew on relationships established in the large body of research on wellbeing and health, yet we could not test whether we see the same or perhaps different relationships among wellbeing components when analyzing differences between entrepreneurs and employees. This was because less than 6% of the studies in our review assessed both positive and negative wellbeing, and even fewer studies assessed combinations of specific wellbeing components.

There is evidence that the relationships among wellbeing components generalize to entrepreneurship; for instance, Bernoster et al. (2020) find positive and negative affect to be largely independent and, equally, the pattern of our findings suggests the independence of positive and negative wellbeing components. We hope that future research can additionally assess relationships among the specific components (e.g., replicating the positive relationships among life satisfaction, positive affect, and eudaimonic wellbeing; Keyes et al., 2002) in samples of entrepreneurs. Such research would help to enhance the component view of wellbeing, which implies reflective relationships within the two higher-order positive and negative wellbeing components. The relative independence of these components suggests that they may form a formative construct of general wellbeing.

Several individual components of wellbeing also need more empirical attention. For example, the number of studies assessing affective and eudaimonic wellbeing was small and these wellbeing components warrant more research (also Shir & Ryff, 2021). More research on other domains of satisfaction (with one's financial situation, health, friends, or leisure time) would also help to understand how potential wellbeing trade-offs may play out across life domains as discussed above (van der Zwan et al., 2018).

We did not find the hypothesized relationships of entrepreneurship with affective and eudaimonic wellbeing. This may be due to the low number of studies, although the pattern of findings is consistent with research that shows that life circumstances have a stronger impact on cognitive compared to affective wellbeing (Luhmann et al., 2012). Future research may differentiate activated and deactivated positive and negative affect. Considering the autonomy and meaningfulness, but also the challenging nature, of entrepreneurship, activated emotions, such as enthusiasm, excitement, frustration, and anxiety, are more likely to occur than deactivated emotions, such as boredom, sadness, and calmness.

While we do not wish to diminish entrepreneurs' satisfaction with their work and life, we suggest that future research explores whether entrepreneurs engage in self-justification and rationalization to avoid cognitive dissonance (Hinojosa et al., 2016). For entrepreneurs, work comes to define their identity (Cardon et al., 2009) and they typically choose this work freely in the first place (van Gelderen & Jansen, 2006). Thus they may justify their sacrifices (e.g., time away from family and leisure, and relatively low income; van Praag & Versloot, 2007) by enhancing and prioritizing their work satisfaction. Considering such justification processes, research on biomarkers of wellbeing might offer important complementary insights. Studies mapped physiological biomarkers related to *negative* wellbeing and stress processes, such as allostatic load (Patel et al., 2019), telomere length (Lee et al., 2020), blood pressure (Cardon & Patel, 2015; Stephan & Roesler, 2010), cortisol (Schermuly et al., 2021), oxidative stress and triglyceride levels (Patel & Wolfe, 2021). Yet, research on biomarkers of *positive* wellbeing, such as serotonin and oxytocin (Huppert, 2009), is missing in entrepreneurship research and in management research generally (Nicolaou et al., 2021; Nofal et al., 2017), presenting a valuable opportunity for future contributions.

Our meta-analytic approach does not allow us to disentangle the causality of effects of entrepreneurship on wellbeing. We built on past research that predominantly approaches entrepreneur wellbeing through the lens of personal working conditions in terms of resources and demands (e.g., Tetrick et al., 2000), suggesting that entrepreneurship impacts wellbeing. Future research could consider broader characteristics of the task environment in their impact on entrepreneur wellbeing relative to employee wellbeing, such as the age, size, and culture of the organization, and the dynamics and pressures of the wider industry.

Additionally, some researchers suggest personality rather than working conditions as a key determinant of entrepreneur wellbeing (e.g., Baron et al., 2016). As we outlined in our theoretical framework, certain personality characteristics (such as achievement orientation,

self-efficacy, and optimism) likely work in tandem with working conditions (especially autonomy) to underpin the wellbeing benefits and costs that we hypothesized. The effects of personal characteristics on wellbeing are difficult to disentangle and we could not address them in our meta-analysis. Future meta-analyses could incorporate predictors such as traits once enough primary studies are available. Some research suggests that individuals high in positive affect—and, thus, positive affective wellbeing—may self-select into entrepreneurship (Baron et al., 2011, 2012). We found no significant differences in positive or negative affective wellbeing between entrepreneurs and employees, suggesting that systematic self-selection is not a likely alternative explanation of our findings.

In terms of personal characteristics, we considered at the sample level the gender composition (more men vs. more women) and the average age of the sample. While there was no effect for age, we found that in samples with more women, the entrepreneurship–wellbeing relationship was stronger for positive wellbeing. This suggests wellbeing benefits for women entrepreneurs in our meta-analysis, which extends and contrasts with past research that suggests that women either reap no wellbeing benefits or encounter more strain in entrepreneurship (Parslow et al., 2004; Stephan et al., 2020b). Unpacking gender effects in entrepreneur wellbeing is thus another area in need of more research. Might it be that discrimination in organizational employment makes entrepreneurship a relatively more fulfilling career for women associated with positive wellbeing? Future research could investigate further characteristics. Entrepreneurs from minority and low socio-economic-status backgrounds might similarly experience relatively higher positive wellbeing in entrepreneurship than in organizational employment due to employment discrimination.

Our findings for necessity and opportunity entrepreneurship showed the expected patterns for positive wellbeing but not for negative wellbeing: necessity entrepreneurs exhibited lower, and opportunity entrepreneurs higher, positive wellbeing than employees,

but they did not differ in their negative wellbeing from employees. We hope that future work can use more fine-grained typologies of entrepreneurs than necessity–opportunity and shed more light on the wellbeing benefits and costs for other types of entrepreneurs, such as high-growth, innovative, family, and social entrepreneurship, that we were unable to consider. For these entrepreneurs, wellbeing trade-offs may be especially salient. Their work offers many wellbeing resources (autonomy, self-fulfillment through realizing own ideas, working for a greater purpose [family and social goals]), yet may also come with increased stressors (needing to manage growth and increasing numbers of employees and stakeholders, increased uncertainty about the viability of innovations, managing multiple often conflicting demands arising from combining business with family or social logics). Other types of entrepreneurship—for instance, in the gig economy—may offer fewer wellbeing benefits altogether because their autonomy is restricted by the platform, which also introduces additional stressors such as user evaluations and lack of control over algorithms assigning work (Cutolo & Kenney, 2020; Petriglieri et al., 2018).

Future research should explore the mechanisms through which entrepreneurship is related to wellbeing over time, thus treating entrepreneurship as a process (McMullen & Dimov, 2013) that entails many challenges, failures, successes, learning, motivations, and habituation (Rauch et al., 2018). This calls for process- and time-sensitive research (Lévesque & Stephan, 2020). For instance, some research suggests that entrepreneurs experience an uplift in their health, low strain, and satisfaction only in the first years after starting their business (Binder & Coad, 2013; Stephan et al., 2020b), while others report sustained effects for work satisfaction (van der Zwan et al., 2018). Unfortunately, most studies included in our meta-analysis were cross-sectional. Future research using longitudinal and experience sampling research designs (Uy et al., 2010) would allow scholars to uncover process issues.

Especially with regard to stress-related mental health conditions, future research could advance our understanding of how different conditions may develop at different time points in the entrepreneurial process. Substance abuse may reflect avoidance- or emotion-focused coping and develop earlier, followed potentially by burnout a few years after the start-up phase. At the latter point in time entrepreneurs may realize that the financial returns from entrepreneurship (van Praag & Versloot, 2007), and at times even their autonomy (van Gelderen, 2016), are more limited than they first expected, especially relative to the time and effort they invest in their business. Over time, accumulated exposure to stress and burnout may eventually manifest in depression, anxiety disorders, and suicide, especially in times of downturn, crises, and difficulty for the business.

Practical Implications

Our findings also offer insights for policy makers who should be mindful that the positive effect of entrepreneurship on wellbeing is small by statistical standards (e.g., $dr = .129$, which corresponds to $r = .064$ for work satisfaction). Yet, they are comparable to other effect sizes found in meta-analyses in the entrepreneurship literature; for example, the relationship between entrepreneur human capital and performance is $r = .049$ (Unger et al., 2011). Similar effects sizes drove public health campaigns and legislation to prevent smoking (Meyer et al., 2001). We believe that research into entrepreneur wellbeing is scientifically and practically meaningful because entrepreneur wellbeing has important consequences for business (Stephan, 2018) and because they personally value their wellbeing (Wach et al., 2016). Moreover, even small effect sizes, at little as 1%, can have substantial consequences when they capture consequential phenomena for many individuals (as wellbeing does), and when they imply effects that have cumulative consequences in the longer term (Abelson, 1985; Martell et al., 1996). Consider that stress and allostatic load build up “silently” over time (without symptoms) to potentially lethal consequences (Peters et al., 2017). For instance,

work-stress-related mortality typically starts to manifest with a lag of 15 to 20 years (Kivimäki et al., 2018). Thus, small effects now can aggregate to substantial effects later.

Our findings imply that policy interventions can boost entrepreneur positive wellbeing and mitigate negative wellbeing (including stress-related mental health issues) through strengthening the rule of law. Recent research finds that the rule of law changes in the short term (1 to 5 years) and that deteriorations in the rule of law suppress entry into entrepreneurship (Mickiewicz et al., 2021). Thus, by strengthening the rule of law, policy makers can enhance both the number of start-ups and the wellbeing of those leading them.

Conclusion

Entrepreneurship—like a continuous rollercoaster ride (Cardon et al., 2012; Oldford, 2018)—offers potential for experiencing both positive and negative wellbeing (i.e., joy and satisfaction but also anxiety and burnout). This meta-analytic review integrates existing research on the wellbeing benefits and costs of working for oneself vs. for others. It offers a component view of wellbeing as an organizing framework to make sense of existing work and to guide future research, and finds that the wellbeing benefits and costs of entrepreneurship are shaped by institutional contexts (especially the rule of law). So far, researchers have sought to link entrepreneurship to wellbeing and to encourage interest in wellbeing among entrepreneurship scholars (e.g., Rauch et al., 2018; Stephan, 2018; Torrès & Thurik, 2019; Wiklund et al., 2019). Our meta-analysis suggests that it is now time to adopt a more refined approach that is mindful of wellbeing components and institutional contexts.

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Please see Appendix 2 for studies included in the meta-analysis

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TABLE 1
Random-Effects Meta-Analysis: Effect Sizes for the Entrepreneur–Employee Wellbeing Relationship for Positive and Negative Wellbeing, Wellbeing Components, and Four Context Moderators

Wellbeing (WB) component	K	N	d	dr	95% CI	Heterogeneity I^2	Z-test	Fail-safe N	Q-test	Publication bias (Trim & Fill)
Positive WB overall	283	788,170	.104	.117	.090; .117	86.15	15.24**	6,466		58/ .064
largest 10% samples excluded	258	350,755	.107	.120	.093; .121	73.41	15.36**	4,733		49/ .070
GEM excluded	213	655,171	.122	.137	.106; .138	88.04	14.89**	4,939		59/ .066
Types of positive WB										
Work satisfaction	260	710,742	.115	.129	.101; .129	86.10	16.03**	8,673		48/ .079
largest 10% excluded	239	315,570	.118	.133	.103; .133	73.54	16.01**	6,230		40/ .084
GEM excluded	199	596,857	.132	.148	.115; .149	88.31	15.27**	5,603		57/ .073
Life satisfaction	88	256,454	.050	.056	.030; .070	81.90	4.86**	2,148		0/ .050
largest 10% excluded	78	123,360	.055	.062	.034; .076	70.08	5.11**	1,707		2/ .051
GEM excluded	18	123,455	.040	.045	.004; .076	85.91	2.15*	94		2 / .026
Positive affective WB	8	36,434	.063	.071	-.005; .131	87.45	1.81 n.s.	29		0/ .063
largest 10% excluded	6	12,481	.078	.089	.022; .134	50.89	2.72**	23		0/ .078
Eudaimonic WB	6	11,935	.043	.048	-.052; .137	81.33	0.89 n.s.	6		2/ -.025
largest 10% excluded ¹	6	11,935	.043	.048	-.052; .137	81.33	0.89 n.s.	6		2/ -.025
Context moderators for positive WB overall										
<i>Development</i>										
GDP low	143	248,649	.098	.110	.077; .119	82.79	9.29**	5,349	0.99 n.s.	27/ .059
GDP high	130	450,605	.111	.125	.095; .128	83.61	13.13**	8,163		21/ .084
<i>Formal institutions</i>										
Labor freedom low	139	336,365	.085	.096	.067; .102	81.81	9.31**	3,082	10.96**	25/ .048
Labor freedom high	132	360,963	.126	.142	.109; .144	80.55	14.34**	1,063		25/ .092
Rule of law low	138	244,649	.078	.088	.060; .097	78.10	8.20**	8,442	16.40**	0/ .078
Rule of law high	134	453,922	.130	.146	.114; .147	84.07	15.16**	9,793		35/ .089
<i>Culture</i>										
PBC low	97	221,185	.087	.098	.062; .112	87.22	6.77**	7,641	7.49**	15/ .054
PBC high	104	411,148	.130	.146	.113; .148	83.65	14.33**	5,082		7/ .090

Table 1 second page

Wellbeing (WB) component	K	N	d	dr	95% CI	Heterogeneity I ²	Z-test	Fail-safe N	Q-test	Publication bias (Trim & Fill)
Negative WB overall	54	6,738,243	.000	.000	−.012; .012	89.16	0.032 n.s.	76		3/ .006
largest 10% samples excluded	38	44,030	.023	.026	−.025; .072	82.10	0.94 n.s.	0		5/ −.016
Types of Negative WB										
Negative affective WB	19	89,047	−.032	−.036	−.077; .014	88.27	1.38 n.s.	43		2/ −.050*
largest 10% excluded	14	21,420	−.034	−.038	−.108; .040	83.56	−0.90 n.s.	24		0/ −.034
Mental health problems	41	6,682,348	.010	.011	−.002; .022	88.78	1.60 n.s.	267		2/ .007
largest 10% excluded	28	30,731	.050	.056	−.000; .101	75.67	1.95 n.s.	61		0/ .050
Context moderators for negative WB overall										
<i>Development</i>										
GDP low	14	22,960	.101	.113	.026; .175	82.43	2.64**	56	8.16**	1/ .019
GDP high	37	6,651,747	−.010	−.011	−.023; .003	90.80	−1.47n.s.	0		0/ .006
<i>Formal institutions</i>										
Labor freedom low	18	117,916	.062	.070	.007; .117	90.61	2.22*	121	7.61**	3/ .025
Labor freedom high	33	6,556,791	−.015	−.017	−.027; −.002	85.52	−2.34*	0		0/ −.015
Rule of law low	19	117,347	.080	.090	.032; .128	86.27	3.28**	226	15.86**	3/ .049
Rule of law high	32	6,557,360	−.021	−.024	−.033; −.008	87.80	−3.16**	3		0/ −.021
<i>Culture</i>										
PBC low	16	114,111	.077	.087	.027; .127	87.24	3.00**	174	14.40**	0/ .077
PBC high	30	6,556,319	−.023	−.026	−.036; −.011	88.06	−3.60**	36		0/ −.023

Notes. Q-test for significance of moderation effect; Z-test for significance of effect size, * $p < 0.05$, ** $p < 0.01$, PBC – Performance-based culture, ¹the sample size and number of studies remain unchanged as none of the studies falls into the cut-off of the 10% largest studies (see methods section).

TABLE 2
Multivariate Meta-Regression (MARA): Institutional Context, Positive and Negative Wellbeing

	Model 1 controls		Model 2 + GDP		Model 3a + Rule of law		Model 3b + Labor freedom		Model 3c + PBC culture		Model 4 All	
	B	SE	B	SE	B	SE	B	SE	B	SE	B	SE
Dependent variable: Effect size for POSITIVE wellbeing overall, K = 199 effect sizes												
Intercept	.11**	.01	.11**	.01	.11**	.01	.11**	.01	.11**	.01	.11**	.01
Impact factor	.00	.01	.00	.01	.00	.01	-.00	.01	.00	.01	-.00	.01
Study quality	-.03**	.01	-.03**	.01	-.02	.01	-.03**	.01	-.02**	.01	-.02	.01
GDP			.01	.01	-.02	.01	.01	.01	.00	.01	-.02	.01
Rule of law					.04**	.01					.03**	.01
Labor freedom							.02**	.01			.01	.01
PBC									.02*	.01	.00	.01
R^2	.07		.07		.17		.14		.10		.19	
I^2	84.72		84.68		83.29		82.45		84.75		81.39	
Q	9.76**		11.33*		25.77**		20.67**		16.95**		29.48**	
ΔQ			1.52		13.65**		8.85**		5.43*		17.17**	
Dependent variable: Effect size for NEGATIVE wellbeing overall, K = 46 effect sizes												
Intercept	-.01	.02	.00	.02	.02	.02	.01	.02	.01	.02	.01	.02
Impact factor	-.01	.01	-.01	.01	-.01	.01	-.01	.01	-.01	.01	-.01	.01
Study quality	.01	.02	.01	.02	.02	.02	.01	.02	.01	.02	.02	.02
GDP			-.03	.03	.02	.05	-.02	.03	-.01	.03	.01	.04
Rule of law					-.07*	.04					-.05	.04
Labor freedom							-.02	.02			.00	.02
PBC									-.04	.02	-.02	.03
R^2	.03		.07		.15		.09		.18		.18	
I^2	87.81		88.01		87.10		86.3		86.43		86.42	
Q	0.68		1.91		5.94		2.97		5.24		6.57	
ΔQ			1.20		3.91*		1.03		3.16		4.48	

Note. Coefficients = standardized beta coefficients. I^2 = unexplained variance, Q is model test; * p <0.05, ** p <0.01

TABLE 3

Robustness Check:

Entrepreneurship–Wellbeing Relationship for Necessity vs. Opportunity Entrepreneurship

Wellbeing (WB) component	Type of entrepreneur	K	N	d^1	Q-test moderator
Positive WB overall	Necessity	78	210,530	−.035**	72.63**
	Opportunity	78	218,031	.084**	
Work satisfaction	Necessity	69	193,921	−.002 n.s.	30.49**
	Opportunity	69	199,780	.086**	
Life satisfaction	Necessity	75	153,676	−.056**	83.65**
	Opportunity	75	161,478	.090**	
Positive affective WB	Necessity	2	1,327	.100 n.s.	2.82 n.s.
	Opportunity	2	977	−.045 n.s.	
Eudaimonic WB	Necessity	2	1,327	.188**	2.61 n.s.
	Opportunity	2	977	.051 n.s.	
Negative WB overall	Necessity	10	38,291	.001 n.s.	0.14 n.s.
	Opportunity	11	1,315,078	−.007 n.s.	
Negative affective WB	Necessity	4	20,507	−.101**	0.11 n.s.
	Opportunity	4	20,086	−.081 n.s.	
Mental health problems	Necessity	6	17,825	.058 n.s.	1.58 n.s.
	Opportunity	7	1,294,992	.008 n.s.	

Note. Q-test for significance of moderation effect; ¹ significance based on model Z-test and examination of 95% confidence interval, * $p < 0.05$, ** $p < 0.01$. Grey font – results should be interpreted with caution as moderation test was based on fewer than the recommended $k = 10$ studies (Schmidt, 2017).

TABLE 4
Robustness Check: Bivariate Moderators for Study Quality

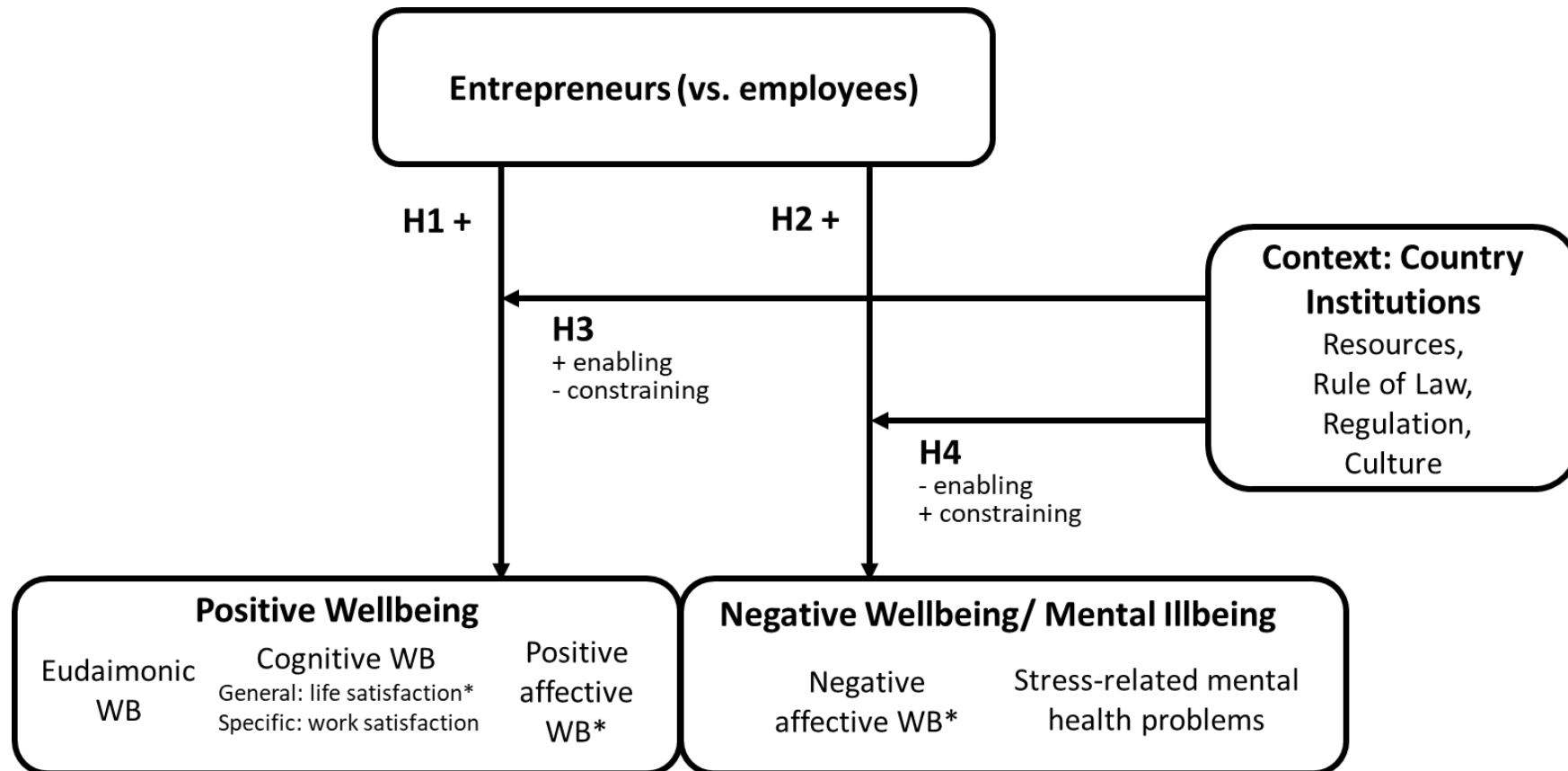
Moderator type	Moderator value	Positive wellbeing overall				Negative wellbeing overall			
		<i>K</i>	<i>N</i>	<i>d</i> ¹	<i>Q</i> -test	<i>K</i>	<i>N</i>	<i>d</i> ¹	<i>Q</i> -test
Impact factor	Low	60	286,649	.123**	1.99 n.s.	26	1,819,811	.004	0.02 n.s.
	High	223	501,530	.096**		28	4,918,432	.002	
Study quality	Low	194	615,540	.121**	15.29**	26	1,836,035	-.009	2.11 n.s.
	High	89	172,630	.067**		28	4,902,208	.018	
Gender	More females	73	194,952	.110**	6.68**	22	6,528,753	-.005	0.73 n.s.
	More males	85	380,211	.065**		21	131,888	.016	
Age	Younger	75	296,090	.074**	1.24 n.s.	6	28,785	.065	2.16 n.s.
	Older	73	160,954	.093**		24	4,890,893	-.015	
Time	Before 2000	120	390,214	.130**	10.98**	15	1,668,261	.028	2.10 n.s.
	After 2000	163	397,956	.084**		39	5,069,082	-.005	
Sample size	Smallest samples	258	350,755	.107**	2.02 n.s.	38	44,030	.023	0.77 n.s.
	10% biggest samples	25	437,415	.076**		16	6,694,212	.001	

Note. *Q*-test for significance of moderation effect; ¹ significance based on model *Z*-test and 95% confidence interval; **p* < 0.05, ***p* < 0.01

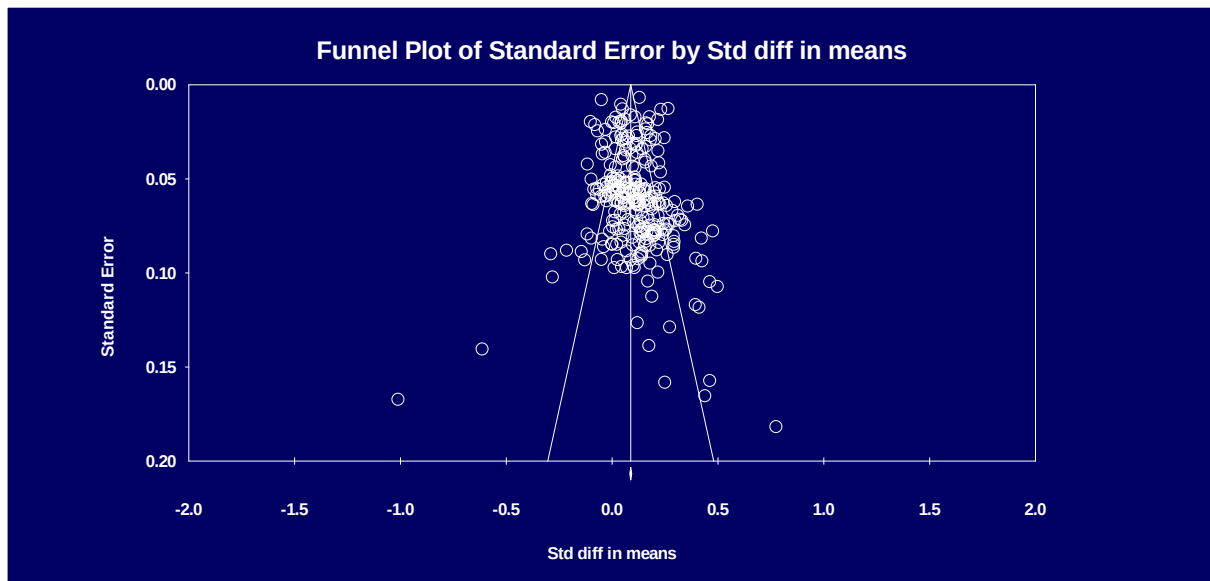
TABLE 5
Overview of Future Research Directions

Component view of wellbeing	• Examine positive and negative wellbeing components jointly, not treating them as interchangeable, to understand the wellbeing benefits and costs of entrepreneurship • Align theorizing about theoretical mechanisms (cognitive, affective, eudaimonic, and stress-strain processes) with specific wellbeing components to understand their antecedents and consequences • Investigate wellbeing trade-offs and the interplay of positive and negative wellbeing in subjective experience, their antecedents, and consequences for entrepreneurial outcomes • Theorize distinct (performance) consequences of specific wellbeing components (e.g., satisfaction vs. eudaimonic wellbeing) • Understand which wellbeing component(s) entrepreneurs value most • Advance insight into the relationships among specific wellbeing components and test the structure of wellbeing for entrepreneurs (e.g. via factor analysis) • Elaborate the physiological underpinnings and biomarkers of positive and negative wellbeing reflecting motivational and strain processes
Individual wellbeing components	Study the less-researched components of wellbeing, including: • Negative wellbeing (addressing bias toward positive wellbeing) • Different stress-related mental health conditions • Different types of affective wellbeing, including activated and deactivated positive and negative affect • Eudaimonic wellbeing • Facets of cognitive wellbeing in life domains (e.g., satisfaction with financial situation, health, friends, leisure)
Types of entrepreneurs	Develop understanding of the relative wellbeing benefits and costs of different types of entrepreneurs • Do women, minorities, and those from low-status backgrounds reap potentially higher wellbeing benefits in entrepreneurship but also experience wellbeing trade-offs more intensely? • Consider entrepreneur typologies beyond necessity–opportunity entrepreneurship: employer-entrepreneurs, high-growth entrepreneurs, social entrepreneurs, family business entrepreneurs, entrepreneurs in the gig economy, and platform-dependent entrepreneurs
Entrepreneurial process	Attend to wellbeing over time and the entrepreneurial process • Might the relative wellbeing benefits of entrepreneurship (positive wellbeing) compared to organizational employment “wear off” after the start-up phase, and the wellbeing costs (negative wellbeing) intensify over time? • Might specific stress-related mental health conditions reflect adjustment to different phases of the entrepreneurial process? • Greater use of longitudinal and experience sampling designs

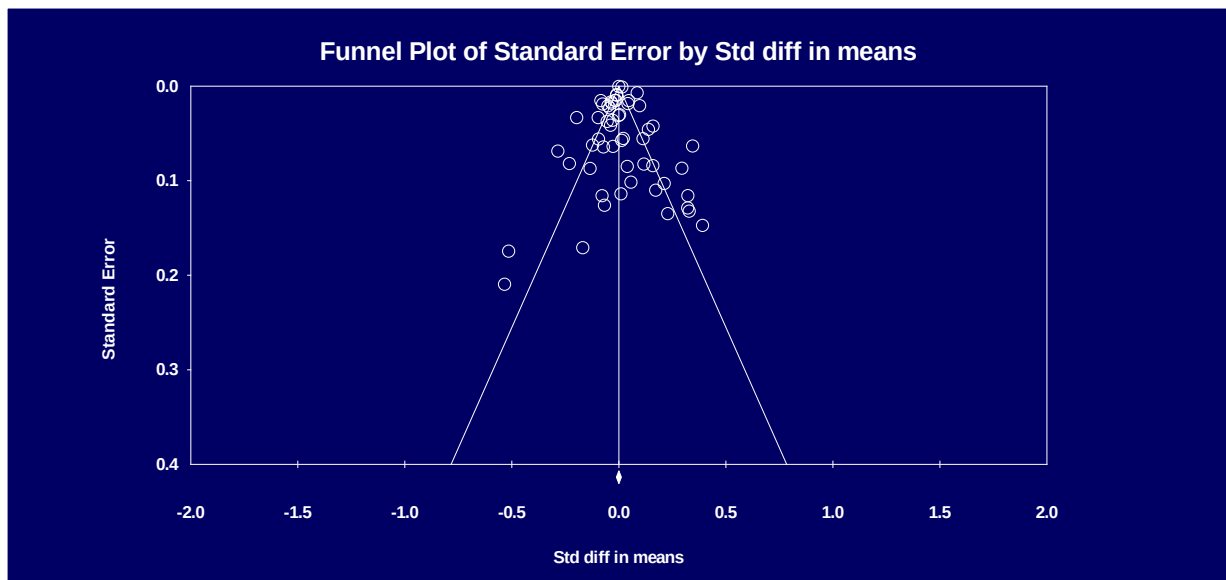
Figure 1. Research Framework



Note. * indicates wellbeing components that are included in Diener et al.'s (1999) conceptualization of hedonic wellbeing (high life satisfaction, high positive affect, and low negative affect).

Figure 2a. Funnel Plot, Positive Wellbeing Overall

Note. Smaller studies (lower part of the plot) produce exaggerated effect estimates.

Figure 2b. Funnel Plot, Negative Wellbeing Overall

FORMULAS**Formula 1**

$$d = \frac{\overline{X}_1 - \overline{X}_2}{S_{within}}.$$

Formula 2

$$S_{within} = \sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}}$$