# Consequences of Cross-Cultural Differences in Perceived Well-Being for Entrepreneurship

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**Abstract**

In this article, we empirically test a theory-based model that delineates the indirect effect of societal-level well-being, through societal-level self-expression values, on individual entrepreneurship. Using 881,636 individual-level responses obtained from the Global Entrepreneurship Monitor (GEM) from 44 countries and supplementing with country-level data from the World Values Survey (WVS), our results from multilevel cross-cultural analyses demonstrate that societal-level well-being - hedonic and eudaimonic - are positively related to societal-level self-expression values, and that self-expression values mediate the relation between both types of well-being and likelihood of individuals engaging in entrepreneurship. Hence, hedonic and eudaimonic well-being are *distal* whereas self-expression values are more *proximal* influencers of individual entrepreneurship. We discuss theoretical and practical implications of our findings.

**Keywords**: Eudaimonic; hedonic; well-being; self-expression; entrepreneurship

## 1. Introduction

In examining the literature at the interface of entrepreneurship and well-being we present the following gaps. First, while entrepreneurship is closely associated with well-being (Shir, 2015), extant research has predominantly seen well-being as an important entrepreneurial *outcome* (Wiklund, Nikolaev, Shir, Foo & Bradley, 2019). Well-being is also considered to be an important psychological resource for entrepreneurship and "research investigating well-being as a resource or trigger of entrepreneurial action is still limited" (Wiklund et al., 2019, p 584). Second, extant entrepreneurship research has characterized well-being as an individual's cognitive judgments of life or job satisfaction and appraisals of moods and emotions (Diener & Lucas, 1999) i.e. *happiness* or subjective well-being (SWB). However, *eudaimonic well-being*, that considers well-being as a derivative of personal fulfillment and expressiveness (Waterman et al., 2010), personal development (Erikson, 1959), self-actualization (Maslow, 1968), individuation (Jung, 1933), and self-determination (Ryan & Deci, 2000) has been less commonly used in entrepreneurship literature. Third, in regard to the level of analysis, well-being as a construct has been studied by scholars as an individual level construct. International surveys and empirical studies however point to the multilevel nature of well-being in that it operates beyond the individual-level and that it is highly contextualized and culturally implicit (Inglehart & Klingemann, 2000; Pathak, 2020; Steel, Taras, Uggerslev & Bosco, 2018; Ye, Ng & Lian, 2015). Finally, given that literature examining the influence of well-being on entrepreneurship is in its infancy, it is also important to understand possible mechanisms through which (higher order) societal well-being exercises its cross-level influences on individual entrepreneurship (Stephan & Pathak, 2016). Our study addresses the above gaps and empirically examines well-being at the societal level, characterizes societal well-being as hedonic and eudaimonic, and delineates their

indirect effects, through country-level self-expression values, on individual-level entrepreneurship.

In addressing the above gaps our study asks the specific research question "*How do different characterizations of societal-level well-being influence individual-level entrepreneurship*"? Using individual-level psychological theories of *broaden-and build theory of positive emotions* and *social and human capital theory*, we argue that perceived societal hedonic and eudaimonic well-being are resources used by individuals for entrepreneurial activities. We further argue that self-expression mediates the relationships between perceived societal well-being (hedonic and eudemonic) and individual entrepreneurship, where the former is a more proximal and the latter is a more distal influencer of individual level entrepreneurship. Using 881,636 individual-level responses obtained from the Global Entrepreneurship Monitor (GEM) of 44 countries and supplementing with country-level data from the World Values Survey (WVS), our results from multilevel analyses suggest that country-level hedonic well-being and eudaimonic well-being are both positively related to country-level self-expression values, and that self-expression values mediate the relation between both the characterizations of well-being and the individual-level likelihood of engaging in entrepreneurship. Multiple contributions stem from our study by addressing the aforementioned research gaps.

First, we contribute to literature on the multi-dimensional nature of well-being and suggest that well-being is an important *antecedent* of individual entrepreneurship. Second, we contribute to theoretical discussions on culture-entrepreneurship fit (Hayton & Cacciotti, 2013) by empirically establishing societal level dimensions of well-being as distal drivers of individual level entrepreneurship and that the effect of well-being is felt through self-expression values which are more proximal drivers of entrepreneurship. Our findings therefore extend the

discussions on the mechanisms through which cultural institutions influence entrepreneurial behavior. We specifically highlight mediating mechanism of societal-level orientations towards self-expression values. Societies with high levels of self-expression values focus on personal advancement, creativity, and growth, as opposed to societies that focus on insularity and survival (Inglehart, 2006). Our results suggest that societal hedonic and eudaimonic well-being aids in the creation of a sociocultural environment where self-expression values thrive, which subsequently create fertile grounds for individuals to engage in entrepreneurship.

Our article is organized as follows. First, we discuss relevant literature and the theoretical background on the contextual nature of hedonic well-being, eudaimonic well-being, and self-expression values. We then hypothesize their effects on individual entrepreneurship. Thereafter, we describe our methods and present our results. We conclude with a discussion of our findings and their theoretical and practical implications.

## 2. Theoretical Background

Well-being is related to key characteristics important for entrepreneurship such as higher quality social interactions, better relationships, pro-social behavior etc., (Lyubomirsky, King & Diener, 2005). It infuses individuals with key behaviors needed to persist with entrepreneurship such as a sense of being in control, self-esteem, mindfulness, optimism, autonomy, stress alleviation etc. Well-being can be characterized as hedonic and eudaimonic. Societies with individuals who on an average report higher levels of such well-being would therefore be more resourceful to favourably evaluate the feasibility of engaging in entrepreneurial behaviors. Self-expression values are informal institutions of society i.e. norms and values that enable entrepreneurial intentions (Muralidharan & Pathak, 2017). These values are defined as expressions of thoughts, beliefs, feelings, ideas, creations, emotions and being independent and

assertive. They drive the extent to which individuals assign priority to personal decisions over survival needs (Inglehart, 2006). Drawing on the understanding that well-being is more than just a mere outcome but rather an important psychological resource (Lyubomirsky et al., 2005) and an important societal level construct (Pathak, 2020) we combine well-being with self-expression values in a multi-level framework to empirically establish their effects on individual entrepreneurship. We use individual-level psychological theories such as the broaden-and-build theory of positive emotions and human and social capital theory to explain the influence of perceived societal hedonic and eudaimonic well-being on individual entrepreneurship.

Broad-and-build theory describes the function of positive emotions. The key propositions of broaden-and-build theory are that positive emotions broadens the thought-action repertoire of individuals (in contrast to narrow mindsets sparked by negative emotions) and these emotions promote discovery of novel and creative actions (Fredrickson, 2004). Individuals with positive emotions engage in positive situational assessments (Miller, Grimes, McMullen, & Vogus, 2012); interpret challenging situations to be manageable with low perceived risk and have higher willingness to take risks (Krueger & Dickson, 1994); persevere through problems that intimidate more traditional entrepreneurs (Smith & Woodworth, 2012); have superior coping skills (Tugade & Fredrickson, 2002) etc. Positive emotions also stimulate more integrative thought processes in individuals in that they are likely to pay attention to other perspectives (Miller et al., 2012).

Human and social capital theory suggests that knowledge (explicit and tacit) and the ability of individuals to extract benefits from their social structures, networks, and relationships facilitate entrepreneurial activity (Davidsson & Honig, 2003). Human capital theory claims that knowledge increases the cognitive abilities of individuals, leading to a more productive and efficient potential activity (Becker, 1964). Empirical results have shown that knowledge both

explicit and implicit have influenced entrepreneurship and success (Davidsson & Honig, 2003). Social capital theory refers to the ability of individuals to extract benefits from their social relationships (Portes, 1998). Social capital supports entrepreneurs in their discovery and exploitation of entrepreneurial activity (Davidsson & Honig, 2003). We use the former (broaden & build theory) to suggest that well-being is a positive emotion that promotes the discovery of novel and creative actions and facilitate key activities of entrepreneurship, and the latter (human & social capital theory) to suggest that well-being is a reservoir of resources both psychological and social capital that facilitate entrepreneurship.

Further, such perceived resourcefulness of well-being in societies shape their self-expressive values that subsequently increase entrepreneurship. Individual-level well-being theories can be extended to higher levels (societal levels in this study) to explain how societies can channel well-being into increased entrepreneurship (Pathak & Muralidharan, 2016). We posit a key theoretical addition in the mediating mechanism of country level self-expression values that act as conduit for the influence of societal level well-being on individual entrepreneurship to be felt. Societal hedonic and eudaimonic well-being aid in creating a context where self-expression values thrive, which in turn leads to a higher level of entrepreneurial action. Our conceptual model that reflects the multi-level associations of country-level measures of hedonic and eudaimonic well-being and self-expression values, and their direct and indirect effects on the likelihood individual entrepreneurship is shown in Figure 1.

------Insert Figure 1 about here------

*2.1 Characterizations of Well-Being*

Well-being of individuals reveals perceptions of how well their lives are going, what they think and feel about their lives, such as their physical health, the quality of their relationships,

their positive emotions and resilience, the realization of their potential, or their overall satisfaction with life (Diener, 2009). This understanding of well-being therefore integrates mental health (mind or psychological) and physical health (body or physiological) holistically. Well-being as a construct in general includes overall evaluations of life satisfaction and feelings that range from depression to joy (Diener, Scollon & Lucas, 2009). In summary, well-being captures a "global assessment of all aspects of a person's life" (Diener, 1984, p. 549) and in our study we focus on the psychological characterization of well-being. As per extant literature, psychological well-being is linked to two different perspectives, hedonism (Kahneman, Diener, & Schwarz, 1999) and eudaimonia, and is tied to specific outcomes which encompass these two viewpoints (Ryan & Deci, 2001).

Hedonism is defined as what makes experiences as well as overall life, pleasant and enjoyable versus unpleasant and not enjoyable (Diener, 2000; Kahneman et al., 1999). At the micro-level this understanding is grounded in the pleasure and pain associated with the many different factors of an individual's life. Research within the domain of psychology has linked hedonic principles to SWB or happiness (Diener & Lucas, 1999). In contrast, eudaimonic view posits that well-being results when individuals strive to accomplish feats that align with their 'true selves' (Waterman, 1993). It is the actualization achieved through greater personal autonomy, independence, growth, self-confidence, and self-acceptance (Ryff & Keyes, 1995).

Further, the measures of well-being, as used in this study, build upon the widely acknowledged construct of self-efficacy in entrepreneurship. Self-efficacy is the belief that individuals have about their capabilities and these beliefs can better predict behavior (Bandura, 1994). There is evidence that points us to corroborate the fact that a heightened sense of self-efficacy is associated with a corresponding sense of perceived well-being - high self-efficacy

leads to positive well-being and low self-efficacy is related to lower levels of well-being (Bandura et al., 2003). Further, self-efficacy relates to well-being through a sense of feeling capable and preparedness (Milam et al., 2019). More specifically, the affective (or emotional) component of hedonic well-being recognizes self-esteem as drawing from an individual's self-efficacy. Eudaimonic well-being, a derivative of personal fulfillment and expressiveness, that manifests itself in an individual's perceived self-acceptance, personal growth, purpose in life, autonomy, as well as the ability to establish and maintain positive relationships with others and handle complexity in one's environment with much ease, have all been found to be correlated to self-efficacy (Waterman et al., 2010). As a result, configurations of well-being used in this study are natural theoretical extensions of the more widely acknowledged individual-level attribute of self-efficacy in entrepreneurship.

*2.2 Well-being as a Societal-level Construct*

Research on well-being examined from hedonic and/or eudaimonic perspectives aim to address how individual-level SWB (commonly measured by life satisfaction) and/or other measures such as personal autonomy, creativity, and independence shape well-being, and lead to a variety of positive outcomes (Diener, 2000). These studies have focused primarily on how individual measures of well-being influence individual activity, although there is ample evidence to suggest that societal level measures of well-being (whether they are hedonic or eudaimonic in nature) can also lead to individual action (Diener & Diener, 1995). Deiner and Diener (1995) examined the extent to which rich countries (versus poor countries) differed along the hedonic dimension of life satisfaction. Similarly, Kasser and Ryan (1996) examined well-being from a eudaimonic perspective when studying the materialist goals of developed countries (versus developing countries). Since perceived well-being is an emotion, we draw insights from the

implicit theory of emotions to suggest that well-being is culture specific. Judgement and action on emotions are culturally driven implicit beliefs (Pathak & Muralidharan, 2020b). Facial expressions, for example, of emotions may differ across cultures and therefore may limit the right recognition of emotional behaviors displayed by members of other cultures (Marsh, Elfenbein, & Ambady, 2003). Positive emotions of well-being have also been found to be culturally embedded (Tamir et al., 2007). The understanding of implicitly held theories that individuals of different cultures hold about the nature of the world around them may explain the precise mechanisms through which cultural implicitness of well-being can be argued (Peng & Knowles, 2003). Therefore, this approach may explain judgements regarding well-being to be culturally-driven beliefs that are implicit. Research on perceptions related to context and culture has been a topic of interest in cross-cultural scholarship (Axtle-Ortiz, 2013). In terms of the indicators of such well-being, while financial and economic successes are indicators of well-being in many societies, contentment, honesty, humility etc., could be indicators in other societies. In summary, we argue that societal level measures of well-being can influence individual level entrepreneurship, an activity that is associated with happiness, independence, autonomy and growth. We now discuss the specific effects of the societal level characterizations of well-being i.e. hedonic well-being and eudaimonic well-being on entrepreneurship.

*2.3 Effects of Societal Well-Being on Individual Entrepreneurship*

Just as formal and informal institutions in a country can influence the probability of entrepreneurial startups (Pathak & Muralidharan, 2016; Muralidharan & Pathak, 2017; Pathak & Muralidharan, 2020a) we argue that societal level hedonic well-being and eudaimonic well-being facilitate individual-level entrepreneurship. We discuss the effects of each of these characterizations of well-being as follows.

Hedonic well-being, as per extant research, covers perceptions of individuals on life-satisfaction (considered as cognitive well-being or evaluative well-being), happiness, positive emotions such as optimism, and positive view of self such as self-esteem (all of which are considered as affective or emotional well-being). Life satisfaction was found to predict entrepreneurial success, as indicated by entrepreneurs reports on financial success and perceptions of personal success (Dijkhuizen et al., 2018). Its influence has been found to be stronger than that of job satisfaction (Lyubomirsky et al. 2005). Similarly, happiness was found to be positively associated with entrepreneurship. Happier people while having more satisfying work (Erdogan et al., 2012) and being more socially connected (De Neve et al., 2013) are more creative and productive, key traits required for entrepreneurship. Further, happier individuals engage in positive situational assessments (Spector, 1998) than less happier individuals thereby resulting in a *different risk-benefit calculus* (Miller et al., 2012). The risk-taking limits of such individuals are higher than less happier individuals. They display high willingness to take risks because they believe challenging situations to be manageable and that there are fewer risks associated with exploiting a new opportunity (Shepherd & Patzelt, 2018). Further, emotions are important for entrepreneurship since entrepreneurs operate in contexts of uncertainty and pressure (Baron, 2008). Different emotional states have been associated with entrepreneurial tasks such as creativity and innovation (Baron & Tang, 2011), opportunity evaluation (Welpe et al., 2012), risk perceptions and preferences (Podoynitsyna, Van der Bij & Song, 2012), and future orientated tasks (Foo, Uy, & Murnieks, 2009). As per the broad-and-build theory of positive emotions (Fredrickson, 2004) positive perceptions broaden individual's awareness and encourage them to think in a novel manner. We argue that such individuals with positive emotions (a key component of hedonic well-being) are more likely to pursue entrepreneurial

ventures. Positive emotions increase the cognitive flexibility of entrepreneurs thereby helping them to think creatively and be innovative (Baron, 2004). Such mental resources broaden the individual's thought-action repertoire (Fredrickson, 1998), thereby facilitating out-of-the box thinking and preparing them to face the challenges associated with exploiting new opportunities (Baron, 2008). In summary, hedonic well-being provides a clear sense of direction that enables individuals to overcome ambiguous situations and uncertainties associated with exploiting entrepreneurial opportunities and instils in them a feeling of being in control over the situation (Mullins & Forlani, 2005).

Eudaimonic well-being, as suggested by extant research is actualization achieved through greater personal autonomy, independence, growth, self-confidence, self-acceptance, by having a purpose in life, forming positive relationships, and effective management of the environment (Ryff & Keyes, 1995). These are important psychological resources that facilitate entrepreneurship. Autonomy is an important characteristic of well-being that is very necessary for self-initiated and risky entrepreneurial ventures (Ryff, 2019). The perception of personal growth is related to self-realization for a high performing entrepreneur, lack of which would signal personal stagnation and inability to develop new attitudes that are key to entrepreneurship (Ryff, 2019). Lack of this perception would signal inability to move forward. Self-acceptance, which is having positive attitudes towards the self, is a key psychological asset that helps individuals in effective problem solving and dealing with uncertainties. Individuals low on self-acceptance may be vulnerable in the event of a setback or failure along the entrepreneurial journey. Similarly, purpose in life would entail a sense of direction and having goals that propel entrepreneurs towards creativity and productive enterprises that would lead to a vibrant and satisfying life. Perceptions of positive relations would entail having strong inter-personal

relations and ties with others in the community, having concern for the welfare of others, understanding social relationships, and having empathy and affection for others. These qualities we argue have a pro-social orientation and are important for an entrepreneurs' success. Entrepreneurs need to develop warm and trusting relationships with all stakeholders such as suppliers, investors, customers etc. in the entrepreneurial eco-system. Finally, the perception of effective management of the environment in entrepreneurs reflects the ability to effectively and efficiently use the opportunities in the environment in a manner that their and other individual needs are met. Drawing on insights from social and human capital theory (Becker, 1964), we argue that the above perceptions, which are key constituents of eudaimonic well-being, are critical assets that facilitate entrepreneurship.

In summary, the key elements of both the societal level hedonic and eudaimonic perspectives of well-being, are psychological as well as social and cognitive resources available for individuals to perform key entrepreneurial tasks. Hedonic well-being and eudaimonic well-being are therefore assets for entrepreneurial action. While hedonic well-being largely represents psychological capital, eudaimonic well-being represents social and human capital both being essential for entrepreneurship.

Hence, we hypothesize:

**H1a:** Societal-level hedonic well-being is positively associated with individual-level likelihood of entrepreneurship.

**H1b:** Societal-level eudaimonic well-being is positively associated with individual-level likelihood of entrepreneurship.

*2.4 Societal-Level Self-Expression and Individual Entrepreneurship*

As per the World Values Survey (WVS) societal values can be grouped along the two major dimensions of traditional/secular-rational values and survival/self-expression values

(Inglehart & Welzel, 2005). Survival versus self-expression values is defined as the extent to which individuals value personal choice over the needs for survival and hence such individuals will allot maximum priority to personal choice versus survival needs (Inglehart, 2006). Analyses from the WVS show that with economic development, societies embrace those values prevailing in high-income societies (Inglehart & Baker, 2000). In rich countries that have experienced economic prosperity, values associated with survival are replaced by those that govern individual and personal choices, thereby freeing individuals from the challenges of resource scarcity and survival and allowing them to use their personal discretion (Inglehart, 2006). In societies with huge scarcity of resources, individuals avoid risky activities that have the potential to fail, whereas in societies which are prospering, individuals tend to achieve success by taking risks and being creative (Inglehart & Oyserman, 2004). Individuals with self-expression values are focused on personal growth. Inglehart, further argues that self-expression / survival dimensions relate to the underlying construct similar to Hofstede's individualism/ collectivism construct in that they are highly correlated (Inglehart & Oyersman, 2004). In societies that value self-expression (versus survival) individuals will most probably not miss opportunities for advancement and engage in innovative enterprises (Inglehart & Oyserman, 2004)—a key requirement of entrepreneurship. Extant research has however shown that countries with higher levels of self-expression values display higher opportunity-based entrepreneurship rates (Hechavarria & Reynolds, 2009). Entrepreneurs from high self-expression (versus low) societies set up firms that take advantage of international opportunities earlier in their life cycle (Muralidharan & Pathak, 2017).

In summary, societies that value self-expression facilitate entrepreneurial activities. Individuals from self-expressive societies engage in entrepreneurial activities to satisfy their needs for achievement and personal fulfillment (Hechavarria & Reynolds, 2009).

Hence, we hypothesize:

**H2:** Societal-level self-expression values are positively associated with individual-level likelihood of entrepreneurship.

*2.5 The Mediating Role of Self-Expression*

Entrepreneurial actions are driven by national cultural factors and institutions (Aragon-Mendoza, del Val, & Roig-Dobón, 2016; Bogatyreva et al., 2019). Entrepreneurship, therefore, tends to exist among individuals whose life experiences encourage individualism, experimentation, persistence, and an achievement orientation (Burch, 1986). We argue that such experiences that stem from self-expression values (a shift from survival needs in a subsistence-based economy) would be more performance oriented. Performance orientation focus on achievement of goals, encourage competition, and support individual's progress (Thai & Turkina, 2014). Such orientation manifested in self-expression values have been found to encourage opportunity-based entrepreneurship. We argue that well-being among individuals trigger the self-expression values that form the legitimizing mechanisms for entrepreneurial activity (Gupta, Veliyath, & George, 2018). Well-being is therefore accomplishment of lower order needs that trigger higher order needs.

It is established in literature that lower-order needs precede higher-order needs (Maslow, 1954; Thai & Turkina, 2014) and it is only after meeting lower order needs can higher order needs be pursued. Accomplishment of well-being, we argue is lower in the hierarchy of needs compared to self-expression values. Maslow's well-known Hierarchy of Needs theory (Maslow, 1954) suggests that entrepreneurs operating above subsistence level, are likely to have their

lower-order needs substantially satisfied leading the way to higher-order needs as primary motivators (Thai & Turkina, 2014). Using these insights from Maslow's hierarchy of needs, Sirgy (1986) suggests that improvements in quality of life as a movement from the satisfaction of lower order needs towards satisfaction of higher order needs such as self-actualization. Quality of life in society has been considered to be well-being experienced by individuals in society (Morris & Lewis,1991) and it comprises objective (materialistic) and subjective (perceptions of well-being) dimensions (Campbell, 1976). Perceptions of well-being, we argue are psychological resources that exist in society that drive self-expression values which make individuals value personal choice over survival needs (Inglehart, 2006). Specifically, we argue that hedonic well-being (characterized by life-satisfaction, happiness, positive emotions, and positive view of the self) facilitates higher self-expression through creativity. Similarly, eudaimonic well-being facilitates higher self-expression through its linkages with independence, autonomy, self-confidence, self-realization. Both the characterizations of well-being enable individuals to express themselves, and therefore facilitate entrepreneurial activity. These forms of well-being therefore set the performance orientation that drives entrepreneurial behavior. At the societal level, therefore, hedonic well-being and eudaimonic well-being are psychological resources that facilitate self-expression of the individual, which in turn drives entrepreneurship.

Hence, we hypothesize:

**H3a:** Societal-level self-expression mediates the relationship between societal-level hedonic well-being and the individual-level likelihood of entrepreneurship.

**H3b**: Societal-level self-expression mediates the relationship between societal-level eudiamonic well-being and the individual-level likelihood of entrepreneurship.

## 3. Methodology

### *3.1 Sample and Data*

We analyzed publicly available data on 881,636 individuals from 44 countries from the Global Entrepreneurship Monitor (GEM) project collected annually between years 2001-2010 through representative surveys of the adult population. We complemented the GEM individual-level data with country-level data on *life-satisfaction*, *psychological well-being*, and *happiness*, as well as on *self-expression* drawn from the World Values Survey (WVS). WVS data were collected across six waves between 1981 and 2014. However, for our study we used WVS data that were available across the five waves between 1981 and 2010. This was done to ensure that all of the four predictors used in our study either pre-date or coincide with our individual-level responses available from GEM survey. Our final sample comprised 44 countries covered in both the GEM and WVS surveys.

### *3.2 Individual-level Dependent Variable: Individual Entrepreneurship*

Our dependent variable is the *individual-level likelihood of engaging in entrepreneurship,* which was obtained from the GEM data set—this is analogous to what has been called Total Entrepreneurial Activity (TEA) (Stephan & Pathak, 2016). We included responses from *nascent* and *new* entrepreneurs as representatives of individual entrepreneurship. As per GEM definitions, *nascent entrepreneurs* are individuals who were active in the process of establishing a new firm during the preceding 12 months and who have expectations of full or part ownership but have not yet launched a venture. *New entrepreneurs* are owner-managers of young firms who have survived for 3.5 years and have paid wages to any employees for more than three months. Individuals who were identified as either nascent or new entrepreneurs were coded as 1 versus 0, otherwise, thus presenting us with our dependent variable that is dichotomous. Combining these

two stages together allowed us to comprehensively account for the 'likelihood of engaging' in entrepreneurship. While nascent entrepreneurship represents pre-entry activities (with a new venture not yet created), new entrepreneurship represents the post entry stage where a formal launch of a new venture has occurred. Since a majority of dropouts take place between these two stages, our dependent variable—by combining nascent and new entrepreneurship—ensures that individuals have 'engaged' themselves in entrepreneurship. As part of our robustness checks (and discussed later), we created two additional dependent variables—individuals identified uniquely as nascent entrepreneurs, or as new entrepreneurs. Table 1 provides information on the percent of the adult population identified as entrepreneurs. In other words, these two additional dependent variables corresponded to individual-level likelihood of engaging in nascent entrepreneurship and individual-level likelihood of engaging in new entrepreneurship respectively. Since we combine data from 2001 to 2010, we examined the stability of the entrepreneurship indicators at the country-level. We found evidence for substantial stability over time. The average retest-stability was 0.65 for the country-level rate of entrepreneurship.

------Insert Table 1 about here------

*3.3 Predictor variables at the country-level: Hedonic Well-being, Eudaimonic Well-being, and self-expression*

All three of our predictor variables—hedonic well-being, eudaimonic well-being, and self-expression—come from the WVS, and are operationalized as corresponding aggregate country-mean scores. At this point we would also like to recognize that there are several other global wellness scores available from different data sources, such as the Global Wellness Institute, United Nations Development Programme, Gallup studies, Sustainable Society Index, World Bank, Gross National Happiness index etc., that can be used in empirical research. The

rationale behind choosing WVS for our study are that (a) it makes data available for all constituent elements of both hedonic and eudaimonic well-being under a single source, (b) WVS scores also allow us to make empirical renditions of the theoretical conceptualizations of validated constructs of hedonic well-being (cognitive and affective well-being) and the eudaimonic well-being dimensions proposed by Ryff(1989) (c) it offers indicators of the socio-economic progress of a society in terms of perceived well-being as a societal value as opposed to popularly used so far economic indicators such as GDP etc. GDP alone does not mean a better life for everyone, particularly in countries that are already wealthy. It does not reflect inequalities in material conditions among individuals in a country. It also does not properly value the things that really matter to people such as social relations, health, or how they spend their free time. Hence, WVS scores we believe can reflect well a societal value measure of perceived well-being. We used data on each of the three predictor variables from waves of the WVS conducted in or before 2010. For countries that participated in more than one wave of WVS, scores from the most recent waves were used.

Hedonic well-being constitutes both cognitive (or evaluative) as well as affective (or emotional) well-being components. Cognitive well-being was operationalized as *life-satisfaction* (e.g., Diener, Emmons, Larsen, & Griffin, 1985) and corresponded to the response to "All things considered, how satisfied are you with your life as a whole these days?" (Likert Scale: 1 = Dissatisfied; 10 = Satisfied). This single-item indicator is well-established in literature and is internally consistent and temporally reliable. The item has also demonstrated convergent validity with both non-self-report criteria and multiple-item measures (Diener, Inglehart, & Tay, 2013). Affective well-being was operationalized as *happiness* – "taking all things together, would you

say you are: (1 = very happy; 4 = not at all happy)"; reverse coded. Hedonic well-being was thereafter operationalized as the arithmetic mean of life satisfaction and reverse coded happiness.

*Eudaimonic well-being* was computed following Ryff (1989) and Ryff and Keyes (1995) who proposed that it is best measured using six distinct dimensions. In combination, these dimensions encompass a breadth of wellness that includes positive evaluations of oneself and one's past life (*Self-Acceptance*), a sense of continued growth and development as a person (*Personal Growth*), the belief that one's life is purposeful and meaningful (*Purpose in Life*), the possession of quality relations with others (*Positive Relations With Others*), the capacity to manage effectively one's life and surrounding world (*Environmental Mastery*), and a sense of self-determination (*Autonomy*). We were able to identify similar measures for each of these six dimensions from the WVS. However, the maximum number of countries (44 in our case) could be retained with the use of four out of the six dimensions. They are *Autonomy* ("Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important?: *independence, determination and perseverance*"; 0= not important, 1 = important); *Purpose in Life* ("How often, if at all, do you think about the meaning and purpose of life?"; 1 = Often; 4 = Never, *reverse coded*), *Self-Acceptance and Growth Combined* ("Being very successful is important to this person; to have people recognize one's achievements"; 1= very much like me; 6 = not at all like me; *reverse coded*). A maximum likelihood factor analysis confirmed that these four dimensions loaded on to one factor. The other two pillars of eudaimonic well-being (environmental mastery and positive relations with others) were not included in score creation owing to the fact that their inclusion was reducing the number of usable countries in the sample from 44 to 30. The general characterization of well-being and

specific classification of hedonic well-being and eudaimonic well-being and entailing items are shown in Figure 2.

------Insert Figure-2 about here------

For *self-expression*, the WVS computes scores using individual-level attitudinal and behavioral indicators. It uses ten sub-pillars including "teach children obedience and faith rather than independence and determination", "respect for authority", "priority for economic and physical security (materialist values)", "feeling of unhappiness", "abstaining from signing petitions", "distrusting in other people", etc. WVS then conducts a second order factor analysis on the responses collected for the ten sub-items for each country. The ten sub-items load on to two factors that WVS calls "traditional versus secular-rational values" and "survival versus self-expression values". Both of these factors range in value from -2.5 to 2.5. Self-expression values loaded highly on items such as (1) priority to self-expression and quality of life over economic and physical security (Factor loading = 0.87), (2) justifiable homosexual behaviors (Factor loading = 0.77), (3) willingness to sign a petition (Factor loading = 0.74) and (4) does not think one has to be very careful about trusting other people (Factor loading = 0.46).[1]

We controlled for three individual-level demographic characteristics, all obtained from the GEM dataset. As age and gender influence the propensity to engage in entrepreneurship (Gatewood, Shaver, Powers, & Gartner, 2002; Verheul, Van Stel, & Thurik, 2006), we include *age* (years) and a dummy for *gender* (0= male, 1=female). Because education has been linked to entry into entrepreneurship (Levie & Autio, 2008), we control for the *level of education* (0 =

[1] Of note, as mentioned earlier, (1) traditional/secular-rational and (2) survival/self-expression values collectively explain more than 70 percent of the cross-national variance on key variables, and each dimension is strongly correlated with scores of other important attitudes. The factor scores on these two key dimensions were originally based on 22 variables, but this was reduced to only 10 for the purposes of data availability.

none; 1 = some primary; 2 = primary; 3 = secondary; and 4 = graduate).

We controlled for two country-level variables. Since prior research indicates that well-being (Diener, Diener, & Diener, 1995) and entrepreneurial activity (van Stel, Carree, & Thurik, 2005) covary with economic development, we controlled for GDP per capita in USD obtained from the World Bank (The World Bank, 2015). We also controlled for perceived regulatory quality in a country that "reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development". The scores on regulatory quality were obtained from the World Bank's World Governance Indicators (WGI) data sets. We kept the number of country-level controls to two for two reasons. First, for a moderate number of countries (N = 44) retained in this study, it is prescribed that the number of higher (country-level) level variables be kept minimal (Autio, Pathak, & Wennberg, 2013). Second, given that this study examines the influence of cross-cultural differences in perceived well-being on individual entrepreneurship, controlling for an economic indicator of socio-economic progress (GDP) and perceived correctness of formal institutions (regulatory quality) ensures that the influence we capture is then driven mainly by the culturally implicit and socially perceived aspects of well-being in a country.

*3.4 Estimation Method*

Our data contain 881,636 individuals grouped over 44 countries resulting in a nested or clustered dataset. Hence, we used multi-level (random effect) logistic regressions that allow us to consider country-level and individual-level variables simultaneously and to assess the relative impact of each (Bame-Aldred et al., 2013). For our data, the likelihood ratio test (Hox, 2010) was significant, suggesting non-independence of observations within countries. Specifically, the Intra Class-Correlation (ICC), or rho, indicated that 12% of the total variation in individual

entrepreneurship resided at the country-level. This means that substantial amounts of variance in individual entrepreneurship are due to country specific contextual influences (Hox, 2010), which supports the use of multi-level regressions. With significantly large observed ICC value in our study, employing Ordinary Least Square (OLS) regressions would have produced erroneous estimates. For multi-level regressions (models reported in Tables 5, 6, 7 and 8), all country-level predictors were z-standardized across countries, yielding a common metric ($M$=0, $SD$=1) and enabling easier interpretation of the results. All individual-level variables are unstandardized/un-centered. For the analyses that relate the two forms of well-being to self-expression at the country-level (confirmatory analyses of the initiation of the mediation chain—i.e., the two well-beings must significantly influence self-expression in the first place), single-level Ordinary Least Square (OLS) regressions at the country-level were appropriate since all constructs were measured and conceptualized at the country-level (Table 4).

Our theory is based on the effects of two forms of well-being and self-expression values on individual entrepreneurship (three direct effects) as well as mediation effect of self-expression on the influence of the two forms of well-being on individual entrepreneurship (two indirect effects). Both these possibilities were tested using random effect logistic regressions. Since we are testing the mediating influence of self-expression on the influence of well-beings on individual entrepreneurship and given that all our predictor variables operate at the country-level, we employed Multi-Level Mediation (MLM) tests (Zhang, Zyphur, & Preacher, 2009). These tests yield a t-statistic based on Freedman and Schatzkin's (1992) methodology that test possible mediations in a multi-level empirical setting such as ours. We introduced well-beings and self-expression in a pair-wise arrangement (only one well-being and self-expression in the model at one time) allowing us to observe the mediating influence of self-expression on each of the two

well beings. We also tested the mediating effects of self-expression on both the well-beings simultaneously (Model 8 of Table 5). Finally, and as supplementary analyses, we also considered possible mediation between the two well-beings.

**4. Results**

We report our descriptive statistics in Table 2. Table 3a reports the correlation matrices for the individual variables and Table 3b reports correlation matrices for country-level variables as well as variance inflation factors (VIFs) to check for collinearity. The highest VIF at the country level is 4.23 across all models suggesting that collinearity is not a concern (Hair, Anderson, Tatham, & Black, 1998).

------Insert Tables 2, 3a and 3b about here-----

*4.1 Relationship between well-beings and self-expression (initiation of mediation chain)*

We observed that hedonic well-being and eudaimonic well-being both have significant positive effects on self-expression ($\beta = 1.19$; $p < 0.001$) and ($\beta = 2.03$; $p < 0.01$) respectively in Model 1 of Table 4 suggesting that the mediation chain is initiated at the country-level.

------Insert Table 4 about here------

*4.2 Effects of country-level predictors on individual entrepreneurship*

Table 5 reports the estimates from random effects logistic regressions. Models 2 to 8 report the odds ratios (OR). We begin our estimation in Model 1 that reports the ICC score. This model does not include any predictors and reports the proportion of variance in the dependent variable across the 44 countries, a necessary first step in warranting if multi-level analysis is appropriate for this study. We observed ICC to be 12% suggesting that a significant cross-cultural variance exists in our dependent variables thus warranting multi-level estimation techniques to account for such variance. Next, we include all controls in Model 2. Then, we

introduce our predictor variables one at a time across Models 3 to 5 of Table 5. We observed that a unit standard deviation in hedonic well-being (OR = 1.16; $p < 0.039$; Model 3 of Table 5), eudaimonic well-being (OR = 1.20; $p < 0.036$; Model 4 of Table 5) and self-expression (OR = 1.36; $p < 0.002$; Model 5 of Table 5) increased the likelihood of individual entrepreneurship by 16, 20 and 36 percent respectively.

------Insert Table 5 about here------

*4.3 Mediation effects of self-expression on well-beings*

The Freedman and Schatzkin's (1992) methodology tests whether the drop in the coefficients (or the effect sizes) of the two measures of well-being (as established in Models 3 and 4 of Table 5) is significant when the mediator (self-expression) is also included in the model in a pair-wise manner with each of the well-beings (Models 6 and 7) – suggesting possible mediation effects.[2]

With regards to hedonic well-being, self-expression significantly mediates the influence of hedonic well-being on individual entrepreneurship ($t = 7.07$, $p < 0.001$). The OR for hedonic well-being in Table 5 decreases from 1.16 ($p < 0.039$) in Model 3 to that of 1.04 with total loss of statistical significance ($p < 0.618$) in Model 6, suggesting total mediation. The odds ratio of self-expression values also decreases from 1.36 ($p < 0.002$) in Model 5 to that of 1.32 ($p < 0.023$) in Model 6, however this reduction in effect size was not observed to be statistically significant (using similar calculations of t-test), suggesting that hedonic well-being does not mediate the influence of self-expression values on individual entrepreneurship. With regards to eudaimonic well-being, self-expression significantly mediates the influence of eudaimonic well-being on individual entrepreneurship ($t = 2.03$, $p < 0.05$). The OR for eudaimonic well-being decreases

[2] The detailed computations for the multi-level mediation tests are available, by request, from the authors, but not reported here due to space constraints.

from 1.20 ($p < 0.036$) in Model 4 to that of 1.15 with partial loss of statistical significance ($p < 0.085$), thereby suggesting that self-expression values mediates partially the influence of eudaimonic well-being on individual entrepreneurship.

With regards to testing the mediation effects of self-expression values when both well-being measures are introduced simultaneously (as opposed to being introduced one at a time) in the regression model (Model 8 of Table 5), we calculated the t-statistic based on Freedman and Schatzkin's (1992) methodology yet again. The mediating effects of self-expression values when both well-being measures were used in the model was still observed to hold true. Overall, it was observed that self-expression values mediate the influence of hedonic well-being on individual entrepreneurship totally but that of eudaimonic well-being only partially.

In our sample of 44 countries, the rates of entrepreneurship are the highest for Ghana and lowest for Japan. The findings are interesting given that Japan has the third largest GDP in the world and Ghana GDP ranks 72$^{nd}$ as per the World Bank in 2019. The scores on hedonic and eudaimonic well-being for the two countries support the central tenet of our study – that GDP alone is not the most significant predictor of well-being and subsequently of entrepreneurship. Ghana's eudaimonic score is 2.97 (higher than the sample average of 2.41) while Japan's is 2.2 (lower than the sample average). Ghana's hedonic well-being score is 4.71 (lower than sample average of 5.18) while Japan's is 5.01 (also lower than sample average). These observations suggest Japan by virtue of being ranked third by GDP does not make its perceived well-being higher and that is reflected in the rates of entrepreneurship as well. On the other hand, Ghana's higher eudaimonic well-being drives higher rates of entrepreneurship, in spite of the fact that its GDP is very low. Notwithstanding the type of entrepreneurship, the fact that Ghana as a happier country is displaying higher individual-level entrepreneurial behaviors supports the central tenet

of our study – well-being is a more salient predictor of socio-economic progress that casts its positive effects through formation of entrepreneurial behaviors. Self-expression values are low for Japan (where both the types of well-being are below the sample average) and is in line with our discussion that when well-being is low, so is self-expression (-0.85), leading to lower rates of entrepreneurship. In the case of Ghana, although well-being is high and entrepreneurship rates are high, self-expression values are low (-1.10 i.e. more towards survival values). This could be explained by the nature of entrepreneurship in Ghana i.e. entrepreneurship could be more necessity based as opposed to opportunity based (Hecchavarria & Reynolds, 2009), yet still consistent with our dependent variable that represents one or the other forms of display of entrepreneurial behaviors as opposed to a specific type of entrepreneurship. While our findings for the entire sample support our hypotheses that self-expression values mediate the relationship between societal well-being and individual level likelihood of entrepreneurship, future research can examine this through further conceptualizing (for types of entrepreneurship) and empirically test based on the kinds of values (survival versus self-expression) that exist in countries.

*4.4 Supplementary analysis*

As part of supplementary analyses, we also considered possible mediation between the two well-beings (as reported in Table 6). With regard to the mediation effects between hedonic and eudaimonic forms of well-being, we observed that the former mediates the influence of the latter on individual entrepreneurship. In other words, eudaimonic well-being shapes hedonic forms of well-being that then predicts individual entrepreneurship. Hedonic well-being significantly mediates (reinforces) the influence of eudaimonic well-being on individual entrepreneurship ($t = 2.31$, $p < 0.05$). The OR for eudaimonic well-being in Table 6 decreases across Models 2 (OR = 1.20) and 3 (OR = 1.12, $p < 0.05$). Put differently, while both well-beings

shape individual entrepreneurship positively, the perceptions of a "good life" (eudaimonic well-being) significantly shapes hedonic well-being in a society.

Further, we have theorized self-expression as a function of expressing views, independence, and assertiveness. We conducted another set of supplementary analyses using measures of these sub-items of self-expression. We used the WVS as the source to obtain measures of these items. *Expressing views* measure was used as "please tell me which one comes closest to your own views: 1 = understand others views; 2 = express one's own views); *independence* as "important qualities that you would want to see in your child: independence"; 0 = not important, 1 = important). *Assertiveness* measure was obtained from the Global Leadership and Organizational Behavior and Effectiveness (GLOBE) survey as "the degree to which individuals are assertive, confrontational, and aggressive in their relationships with others". The influence of each of these items on individual entrepreneurship is reported in Models 1-3 of Table 7. We observe that each of these items positively influence individual entrepreneurship (OR = 1.87; $p < 0.001$ for expressing views; OR = 1.11; $p < 0.001$ for independence; OR = 1.06; $p < 0.01$ for assertiveness). Despite the above, we were unable to use these three measures as using them would have significantly reduced the number of usable countries. As observed in Model 4 of Table 7, a composite measure of the three items (using a principal component factor analysis to construct a single measure of self-expression values) also influences individual entrepreneurship positively, but the number of usable countries was reduced to 22.

*4.5 Robustness checks*

We conducted robustness checks with two additional dependent variables: (1) nascent entrepreneurship, and (2) new entrepreneurship. Individuals identifying as either nascent or new formed the basis of the dependent variable used in our main analyses. We replicated all our

analyses on uniquely identified nascent or new entrepreneurship. The odds ratio (OR) estimates are reported in Table 8. Using the same methodologies as adopted for our main analyses, we observe no loss of generalizability of our findings (main as well as mediation effects) when we use our dependent variable as *either* nascent or *new* entrepreneurship.

We also checked for any endogeneity between well-being measures and entrepreneurship. In our study, while we hypothesize the influence of well-being on individual entrepreneurship, we also checked whether entrepreneurship influences well-being. While theoretically this may be a possibility that continued entrepreneurship over time could lead to an increase in well-being, we *did not* find any empirical evidence of endogeneity in our study. Since our predictors operate at the country-level and measure of entrepreneurship at the individual-level, a possible endogeneity between well-beings and entrepreneurship could only be checked if the individual-level entrepreneurship were to be aggregated (as means) as rates of entrepreneurship at the country-level. With well-being measures and rates of entrepreneurship at the country-level, we were able to formally check for endogeneity. OLS estimates reported in Table 9 suggest that rates of entrepreneurship in 44 countries between 2001-2010 do not influence well-being. We were thus able to confirm that our study does not suffer from endogeneity issues.

**5. Discussion**

Our current study tested a theory-based framework in which cross-cultural differences in perceived well-being shapes entrepreneurial behaviors and that societal level self-expression values mediated the effects of societal-level hedonic as well as eudaimonic well-being on the likelihood of individual level entrepreneurship. We found support for these hypotheses and established that perceived societal hedonic well-being and eudaimonic well-being are distal

whereas self-expression values are more proximal antecedents that shape individual-level entrepreneurial behaviors.

Overall, in support of Hypotheses 1a, b, and Hypothesis 2 that relate to main effects of societal level well-beings and self-expression values respectively, we observed that a unit standard deviation increase in hedonic well-being, eudaimonic well-being, and self-expression values increased the likelihood of individual entrepreneurship by 16, 20, and 36 percent respectively (odds ratios = 1.16, 1.20 and 1.36 respectively). Three separate coefficient difference Wald-t tests confirm the order of strength of these predictors (i.e., the effect sizes of one predictor relative to the other two). These findings offer intriguing insights into ascertaining the salience of these predictors for individual entrepreneurship and confirm that self-expression values matter the most for individual entrepreneurship followed by societal level eudaimonic well-being and hedonic well-being. It is consistent with our hypotheses pertaining to the main or direct effects that self-expression values are more proximal while the two well-beings are more distal predictors of individual entrepreneurship and hence exercise their influences in that order. However, it must also be noted that the observed mediation between the two well-beings (Table 6) marks the prominence, strength and salience of eudaimonic well-being to be more than hedonic well-being - while both well-beings shape individual entrepreneurship positively, the perceptions of a "good life" (eudaimonic well-being) significantly shapes perceived cognitive and affective well-beings (hedonic well-being) in a society.

In support of Hypothesis 3, the mediation effects of self-expression values on the influences of the two well-being constructs, we find that the relations between well-beings and individual entrepreneurship are mediated by country-level self-expression values. However, the mediation effect of self-expression on hedonic well-being is stronger (full mediation) than its

effect on eudaimonic well-being (partial mediation). From a theoretical standpoint, these observations suggest that the effects of perceived societal-level cognitive and affective well-beings (that together constitute hedonic well-being) in shaping a country's self-expression values to enable engagement in individual-level entrepreneurship are stronger than that of perceptions of a "good life" (eudaimonic well-being). The fact that self-expression values were observed to have mediated the effects of eudaimonic well-being only partially may very well be explained by our finding that eudaimonic well-being first shapes the hedonic component of perceived well-being in a society. When both the well-beings were introduced in the model, a more stringent test for mediation, we still observed the mediation effects of self-expression on both hedonic and eudaimonic well-being. In conclusion we find that self-expression is the strongest predictor of individual entrepreneurship, followed by eudaimonic and then by hedonic well-being. It is interesting to note that the reported results are after we controlled for GDP and regulatory quality suggesting that when countries are rendered equal in terms of the extent of their economic development and correctness of formal institutional structures, it is the cross-cultural differences in perceived well-being as well as their effects on shaping the expressiveness of members of societies that profoundly increases the likelihood of individual entrepreneurship.

*5.1 Theoretical Implications*

First, we add to the theoretical insights directly related to the multi-level exploration of macro psychological constructs as they relate to individual-level phenomena in entrepreneurship. Overall, here, we bring to the forefront the issue of cross-level exploration as most extant research in this area focuses on institutional factors (e.g., Stenholm, Acs, & Wuebker, 2013). In contrast, we move the field towards a perspective in which societal-level well-being and its relationship with country-level self-expression values drive individual-level entrepreneurship.

This provides the field a new and distinct way to view both macro and micro constructs and how they might relate. A theory-based advance such as this provides a foundation from which intriguing lines of research can emerge—for example, rethinking the predictors of individual entrepreneurship from a societal-level, and with a psychological perspective contribute to the predominant conversation in literature regarding how structural factors, at the societal-level, influence entrepreneurship.

Second, identifying the antecedents—at the societal-level—of well-being and self-expression represents a key piece of the puzzle, discussions on which has been limited in current literature. We add insight through empirical analysis to answer the question, "*How do the different characterizations of societal-level well-being influence individual-level entrepreneurship*?" Specifically, we show that the two main characterizations of psychological well-being, hedonic well-being and eudaimonic well-being positively predict the individual-level likelihood of entrepreneurship. This, from a theory-based standpoint, breaks with extant tradition in multiple ways. Well-being as the antecedent to entrepreneurship is in its early stages of conceptualization. The predominant viewpoint in the literature currently is that entrepreneurial activity drives well-being. This, we find, is not the case in our empirical analysis. One fundamental change that this signals to the academic community, as well as practitioners, is that changing the regulatory environment, engaging in entrepreneurship education, and adapting institutions may all be necessary *although not sufficient* conditions to grow the number of individuals engaging in entrepreneurial activity. In addition to focusing on such options as changing the regulatory environment, engaging in entrepreneurship education, and adapting institutions, it seems plausible based on our findings that focusing on enabling greater well-being, and therefore greater self-expression is a viable path to consider. In sum, the novel

premise that psychology-oriented societal-level influences can shape individual entrepreneurship is a departure from extant musings in literature.

Our findings also suggest that societal eudaimonic well-being which is a manifestation of human capital shapes the social capital component of society i.e. hedonic well-being (as reflected in the mediation effects by hedonic well-being to predict entrepreneurship). It is after this that in the causal chain, mediation by self-expression takes effect. Eudaimonic well-being is comprised of various items suggested to be competencies and abilities that build an individual's self-efficacy. Aggregation of individuals with such abilities (as reflected in the eudaimonic well-being) could represent a stockpile of human capital in society. This capital then shapes societies' hedonic well-being (human capital) and together they shape the self-expression values that drive entrepreneurship. Our findings, we believe would add to theory on societal human and social capital by evidencing the effects of societal well-being on entrepreneurship.

Furthermore, and importantly from a theoretical perspective, we address the issue that pertains to a lack of research and theory focused on how emotional cues influence entrepreneurial behavior. Put differently, we need to have a clearer understanding of how the emotional side influences the mental side of the equation in entrepreneurship. It is typically the case that entrepreneurship research explores how the mental side of entrepreneurship influences the emotional (for example, see Uy, Foo, & Song, 2013). We do agree with Shepherd (2015) that this is needed. But, as Van de Ven (1993, p. 211) noted the "study of entrepreneurship is deficient if it focuses exclusively on the characteristics and behaviors of individual entrepreneurs, on the one hand, and if it treats the social, economic, and political factors influencing entrepreneurship as external demographic statistics, on the other hand." In short, we

need to explore both how the emotional affects the mental, and vice versa. This is critical to unlocking the antecedents of entrepreneurial intentions (e.g., Krueger, Reilly, & Carsrud, 2000).

*5.2 Well-being and interaction with National Cultures*

While our study specifically focuses on the mechanisms (*how*) through which well-being influences entrepreneurship, we have also empirically examined the cultural landscape that the influence of well-being on entrepreneurship (i.e. the *when* of the relationship between well-being and entrepreneurship) might be contingent upon – enabling us to provide insights into the moderating effects of culture on societal well-being[3]. In this regard, we have used the national cultural dimensions of collectivism (both in-group collectivism and institutional collectivism), and uncertainty avoidance (all measures obtained from the GLOBE study) as moderators of the influence of societal well-being on individual-level entrepreneurship. In addition, we have also used the "tightness of culture' measure suggested by Gelfand et al., (2011) as another moderator. The interaction effects of these various cultural measures with hedonic and eudaimonic well-being show a pattern in that collectivistic societies weaken the influence of societal hedonic well-being on individual-level entrepreneurship (odds ratio = 0.84, $p < 0.05$ and odds ratio = 0.87, $p < 0.05$ for in-group collectivism and institutional collectivism respectively) whereas collectivist societies strengthen the influence of that of eudaimonic well-being (odds ratio = 1.05, $p < 0.001$ and odds ratio = 1.03, $p < 0.001$ for in-group collectivism and institutional collectivism respectively). Similarly, we observe that in societies where uncertainty avoidance is low the influence of societal hedonic well-being on individual-level entrepreneurship (odds ratio = 0.91, $p < 0.05$ for uncertainty avoidance) is weakened whereas in those where uncertainty avoidance is high the influence of that of eudaimonic well-being (odds = 1.11, $p < 0.001$ for uncertainty

[3] Detailed results have not been reported here but are available from authors upon request

avoidance) is strengthened. The observations were similar with the use of tightness of culture measure - tight culture societies (suggesting collectivism) weaken the influence of societal hedonic well-being on individual-level entrepreneurship (odds ratio = 0.93, $p < 0.001$ for tightness of culture) whereas they strengthen the influence of that of eudaimonic well-being (odds ratio = 1.04, $p < 0.001$ for tightness of culture).

These results offer insights into when and under what cultural contingency societal well-being (both hedonic and eudaimonic) are enablers of individual entrepreneurship. Hedonic well-being (that comprises sense of happiness, life-satisfaction, etc.) is an enabler of entrepreneurship in individualistic societies, whereas eudaimonic well-being (that comprises perceived sense of fulfilment, self-acceptance, autonomy, growth and purpose in life) is an enabler of individual entrepreneurship in more collectivistic societies. Tighter societies and uncertainty avoidance bring out the same effects on well-being.

*5.2 Practical Implications*

The predominant approach to driving individual entrepreneurship has been, and still is, to influence the external environment in which the entrepreneur is situated—the regulations or access to resources (e.g., human, financial) etc. What we find in our empirical analysis is that regardless of the regulations or the access to resources (e.g., human, financial), if societal-level well-being is high then that will affect country-level self-expression values. This, in turn will drive individual entrepreneurship. So, we advocate that policy makers (1) identify existing policies that have a direct, or indirect, effect on well-being and assess whether these initiatives drive individual entrepreneurship, (2) improve the metrics related to individuals' well-being (country-level) and identify, if possible, any historical changes (e.g., political, environmental, social) that have resulted in greater societal-level well-being. Second, we suggest that

practitioners, in concert with policymakers, iterate on extant initiatives to influence individual entrepreneurship from a psychological perspective. Specifically, for entrepreneurs who may be asking themselves whether they want to embark on an entrepreneurial journey, it makes sense to consider the well-being and self-expression environments in which they are embedded in. Finally, our findings also have implications on sustainability and entrepreneurship. Human well-being along with economic and environmental well-being are indicators of the levels of sustainability conditions in a country (Muralidharan & Pathak, 2018; Pathak & Muralidharan, 2018). In addition to establishing effectiveness of formal institutions that directly promotes entrepreneurship, policy makers should also attempt to improve living conditions that justifies human well-being such as housing, electricity, water, employment, etc., which may also indirectly (via self-expression) contribute to increased levels of entrepreneurial activities (Muralidharan & Pathak, 2018).

*5.3 Limitations and Future Directions*

We note the following limitations and future directions for research. While our study could substantiate the fact that the effects of societal well-being on entrepreneurship is felt via self-expression values, we have not been able to document the role that other institutions such as formal incentive structures or perceived state of economic inequality or other such normative institutions etc. play in in the influence of societal well-being on individual entrepreneurship. Future research could therefore benefit from considering such institutional boundary conditions upon which the effects of societal well-being on individual entrepreneurship could be contingent upon. It could be because of this that our study establishes partial mediation of eudaimonic well-being by self-expression values. Identifying additional set of institutional factors may see total mediation of eudaimonic well-being by self-expression values.

Next, as with all data drawn from archival sources, we were limited as to the variables and constructs included in the GEM, WVS, and GLOBE datasets. In conceptualizing the effects of well-being, we have not hypothesized the influences of each of the constituent items comprising both types of well-being on the likelihood of individual entrepreneurship. There could be valuable insights achieved in understanding how each well-being item influences entrepreneurship, something that can be an agenda for future research. From an empirical standpoint, we were limited in including only selective items of well-being given that missing data on items was compromising the number of usable countries in our study. There is need for either identifying data sets that offer substantial scores on a variety of well-being items or that current surveys should expand their reach out to include more countries.

Furthermore, the control variables we used (at the country-level) were limited to GDP and regulatory quality. There are other variables that could affect the relations among the constructs we examined (e.g., political climate, culture, capital availability) and hence may need to be controlled for. Here, future work is also encouraged to bring in additional data, both from archival sources as well as primary data collection efforts to further inform how the psychological and country-level factors impact individual level entrepreneurial activity. Our work just scratched the surface with regard to the research possibilities here—e.g., questions related to country-level entrepreneurial orientation as well as social embeddedness would be fruitful areas to explore. In particular it would be helpful to compare the effects of country level predictors of well-being on country-level rates of entrepreneurship with the individual level likelihood of entrepreneurship. Such comparisons could help fine tune initiatives that countries can take to improve national rates of entrepreneurship.

Further, the repeated measures nature of these data make it difficult to draw casual conclusions—instead we are limited to making more broad inferences from these data. Future research, at the country and individual levels, has the opportunity to improve on our method and include more nuanced measures related to well-being, self-expression, and entrepreneurial activity in longitudinal designs where individuals are tracked over time. Here, researchers may also need to be cognizant of the positive as well as negative aspects of affective environments (e.g., Baron, Hmieleski, & Henry, 2012).

Multiple other directions for future research emerge from our work. First, extent of well-being in society can profoundly shape *types* of entrepreneurship. Extant research suggests that informal institutions affect commercial and social entrepreneurship differently (Pathak & Muralidharan, 2016). Would hedonic and eudaimonic well-being influence commercial and social entrepreneurship differently? Can lower levels of perceived well-being in societies (perceived unhappiness, lack of life satisfaction and self-confidence, etc.) be opportunities for social entrepreneurs to take advantage of? We advocate that researchers examine what factors (societal and individual-level) might buffer the degree to which relatively lower characterizations of societal-level well-being or self-expression translate to lower entrepreneurship activity. Put differently, in countries where well-being and/or self-expression are relatively lower, how can we still facilitate individual entrepreneurship? The answer to this question would be of substantial value, both theoretically and practically. Further, it would be interesting to know whether country-level well-being and self-expression values are robust to short experiments or interventions. For example, can well-being and/or self-expression be primed or manipulated in a field, or laboratory settings? And, for how long do these effects, if any, last? Answers to these questions could inform policy-makers and practitioners regarding ways to impact entrepreneurs

that would complement existing efforts to illuminate key "evidence-based" policies that can help "create a nourishing entrepreneurial environment" (Global Entrepreneurship Research Association, 2017, p. 11).

### *5.4 Conclusion*

Research related to influencing the contexts in which early-stage entrepreneurial activity emerges is an important area of focus for both researchers and practitioners. Our findings show how different characterizations of societal-level well-being influence the likelihood of individuals engaging in entrepreneurship. This may necessitate a fundamental re-examination by scholars on the way we view the relationship between well-being and entrepreneurship. Our key empirical contribution that suggests societal-level self-expression values as mediator between societal-level well-being and entrepreneurial activity is an important advancement in the literature that relates well-being and entrepreneurship, and we trust that this finding will motivate future research in this domain.

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**Figure 1 Theoretical and empirical framework**

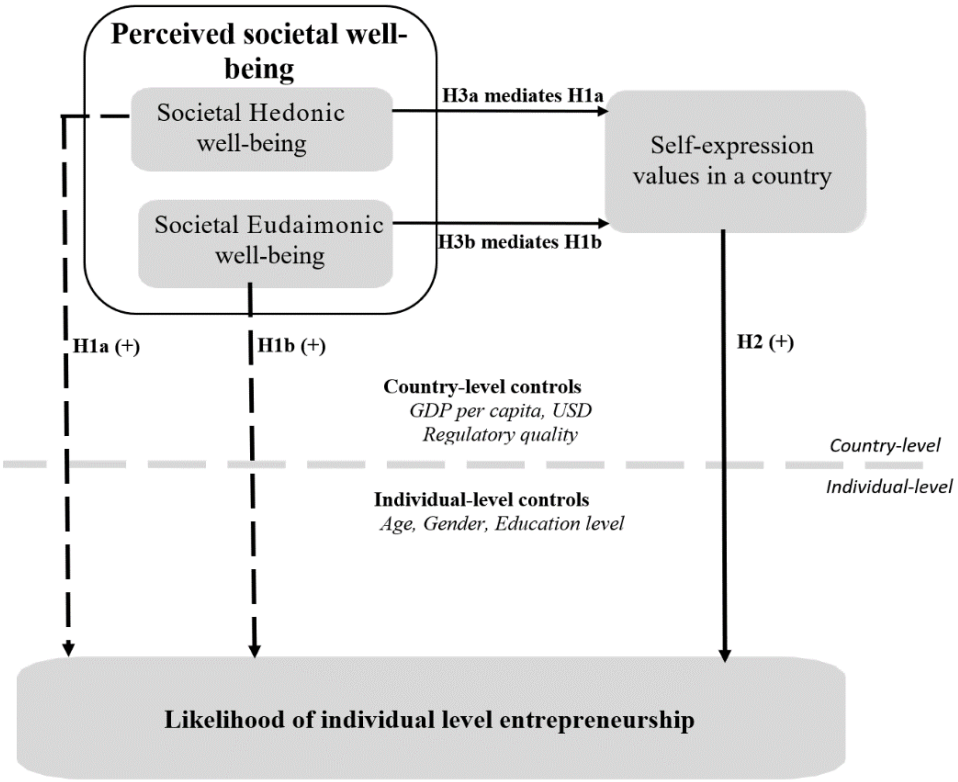
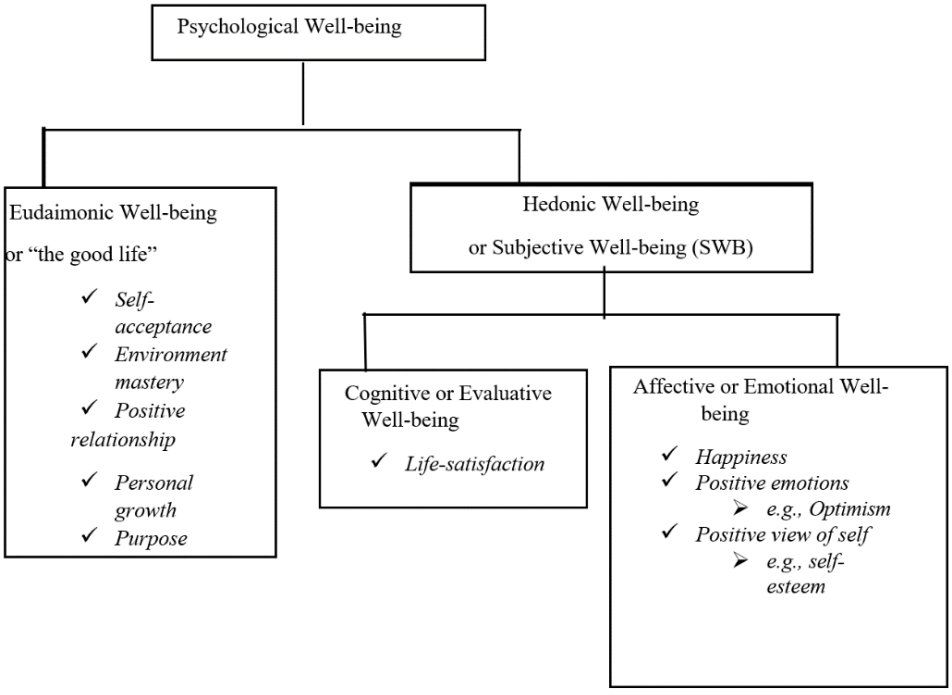



**Figure 2 General characterization of Well-being**



## Table 1: Sample descriptives

| **Country** | Rate of Entrepreneurship [a] | Hedonic well-being | Eudaimonic well-being | Self-expression |
|---|---|---|---|---|
| Algeria | 0.16 | 4.54 | 2.72 | -1.58 |
| Argentina | 0.14 | 5.33 | 2.37 | -0.40 |
| Australia | 0.10 | 5.23 | 2.31 | 1.05 |
| Brazil | 0.13 | 5.44 | 2.43 | -0.15 |
| Canada | 0.09 | 5.58 | 2.51 | 1.22 |
| Chile | 0.14 | 5.17 | 2.51 | -0.80 |
| China | 0.15 | 4.91 | 2.43 | -2.02 |
| Colombia | 0.20 | 5.93 | 2.75 | -0.16 |
| Egypt | 0.10 | 3.36 | 2.76 | -1.37 |
| Finland | 0.05 | 5.52 | 2.28 | 0.38 |
| France | 0.04 | 5.07 | 2.40 | 0.39 |
| Germany | 0.06 | 5.20 | 2.57 | -0.02 |
| Ghana | 0.35 | 4.71 | 2.97 | -1.10 |
| Hong Kong | 0.05 | 4.65 | 2.37 | -1.83 |
| Hungary | 0.06 | 4.40 | 2.52 | -2.09 |
| India | 0.12 | 4.40 | 2.60 | -1.02 |
| Indonesia | 0.19 | 5.03 | 2.67 | -1.64 |
| Iran | 0.10 | 4.67 | 2.69 | -1.27 |
| Japan | 0.03 | 5.01 | 2.20 | -0.85 |
| Jordan | 0.15 | 4.76 | 2.99 | -1.91 |
| Malaysia | 0.07 | 5.33 | 2.62 | -0.70 |
| Mexico | 0.10 | 6.06 | 2.55 | 0.29 |
| Morocco | 0.16 | 4.44 | 2.63 | -1.90 |
| Netherlands | 0.05 | 5.35 | 2.09 | 0.67 |
| New Zealand | 0.14 | 5.43 | 2.27 | 1.17 |
| Norway | 0.07 | 5.64 | 2.33 | 1.49 |
| Pakistan | 0.09 | 5.40 | 2.68 | -2.12 |
| Peru | 0.30 | 5.11 | 2.48 | -0.77 |
| Philippines | 0.21 | 5.36 | 2.80 | -0.91 |
| Poland | 0.07 | 5.10 | 2.48 | -0.95 |
| Romania | 0.03 | 4.73 | 2.54 | -2.43 |
| Russia | 0.03 | 4.47 | 2.42 | -2.30 |
| Singapore | 0.06 | 5.14 | 2.64 | -1.09 |
| Slovenia | 0.04 | 5.17 | 2.68 | -0.42 |
| South Africa | 0.06 | 4.86 | 2.75 | -0.90 |
| South Korea | 0.10 | 4.83 | 2.62 | -2.24 |
| Spain | 0.06 | 4.90 | 2.30 | -0.23 |
| Sweden | 0.03 | 5.45 | 2.26 | 1.68 |
| Switzerland | 0.06 | 5.68 | 2.44 | 1.21 |
| Thailand | 0.17 | 5.44 | 2.55 | -0.79 |
| Turkey | 0.06 | 5.20 | 2.74 | -1.15 |
| United Kingdom | 0.05 | 5.51 | 2.31 | 0.98 |
| United States | 0.10 | 5.30 | 2.37 | 1.06 |
| Uruguay | 0.11 | 5.39 | 2.19 | 0.25 |

[a] % Rate of entrepreneurship can be obtained by multiplying this column by 100

Hedonic well-being is the arithmetic mean of *life-satisfaction* and *happiness,* whereas eudaimonic well-being is the arithmetic mean of *autonomy (independence), reverse coded purpose in life and reverse coded self-acceptance and growth.*

**Table 2: Descriptive statistics of all variables**

| Variables | N | Mean | Std. Dev. |
|---|---|---|---|
| **Individual-level variables** | | | |
| Rate of entrepreneurship | 881,636 | 0.07 | 0.26 |
| Age | 881,636 | 40.88 | 12.89 |
| Gender | 881,636 | 0.53 | 0.49 |
| Education level | 881,636 | 2.14 | 1.06 |
| **Country-level variables** | | | |
| GDP per capita, USD | 44 | 26,663.17 | 14,602.98 |
| Regulatory quality | 44 | 1.13 | 0.71 |
| Hedonic or subjective well-being | 44 | 5.18 | 0.37 |
| Eudaimonic well-being | 44 | 2.41 | 0.16 |
| Self-expression | 44 | 0.73 | 0.95 |

**Table 3a: Correlation matrix of individual-level variables**

| Variables | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| 1. Rate of entrepreneurship | 1.00 | | | |
| 2. Age | -0.09* | 1.00 | | |
| 3. Gender | -0.07* | 0.03* | 1.00 | |
| 4. Education level | 0.03* | -0.10* | -0.02* | 1.00 |

* $p < 0.05$, correlation matrix based on N = 881,636 individual responses grouped across 44 countries.

**Table 3b: Correlation matrix of country-level variables**

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | VIF[a] |
|---|---|---|---|---|---|---|---|
| 1. Rate of entrepreneurship [b] | 1.00 | | | | | | 1.67 |
| 2. GDP per capita, USD | -0.51* | 1.00 | | | | | 4.23 |
| 3. Regulatory quality | -0.43* | 0.76* | 1.00 | | | | 2.50 |
| 4. Hedonic well-being | -0.03 | 0.38* | 0.35* | 1.00 | | | 1.75 |
| 5. Eudaimonic well-being | 0.45* | -0.61* | -0.53* | 0.35* | 1.00 | | 1.82 |
| 6. Self-expression | -0.17 | 0.71* | 0.58* | 0.64* | 0.58* | 1.00 | 3.41 |

* $p < 0.05$, correlation matrix based on N = 44 countries. [b] rate of entrepreneurship aggregated at the country-level
[a] VIF = Variance Inflation Factor; scores less than 10 suggest no multicollinearity (Hair et al., 1998).

**Table 4: Effects of the two forms of well-being on self-expression (OLS with N = 44)**

| Variables | 1 |
|---|---|
| Hedonic well-being | **1.19***(0.22)** |
| Eudaimonic well-being | **2.03**(0.6)** |

*** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$; 2-tailed significances; all variables are at country-level

## Table 5: Effects on individual-level likelihood of engaging in entrepreneurship [a]

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| **Fixed effects estimates** | | | | | | | | |
| **Individual level** | | | | | | | | |
| Age | | 0.98***(0.00) | 0.98***(0.00) | 0.98***(0.00) | 0.98***(0.00) | 0.98***(0.00) | 0.98***(0.00) | 0.98***(0.00) |
| Gender | | 0.58***(0.01) | 0.58***(0.01) | 0.58***(0.01) | 0.58***(0.01) | 0.58***(0.01) | 0.58***(0.01) | 0.58***(0.01) |
| Education level | | 1.18***(0.00) | 1.18***(0.00) | 1.20***(0.00) | 1.20***(0.00) | 1.20***(0.00) | 1.20***(0.00) | 1.18***(0.00) |
| **Country-level** | | | | | | | | |
| **Controls** | | | | | | | | |
| GDP per capita, USD | | 0.99***(0.00) | 0.99***(0.00) | 0.99***(0.00) | 0.99***(0.00) | 0.99***(0.00) | 0.99***(0.00) | 0.99***(0.00) |
| Regulatory quality | | 0.88***(0.02) | 0.88**(0.02) | | 0.88***(0.02) | 0.88***(0.02) | 0.88***(0.02) | 0.88***(0.02) |
| **Predictors** | | | | | | | | |
| Hedonic well-being: **H1a** | | | **1.16*(0.01)** | | | **1.04(0.08)** | | **1.04(0.08)** |
| Eudaimonic well-being: **H1b** | | | | **1.20*(0.11)** | | | **1.15+(0.08)** | **1.15+(0.09)** |
| Self-expression: **H2** | | | | | **1.36**(0.14)** | **1.32**(0.16)** | **1.41**(0.14)** | **1.36**(0.16)** |
| **Random parameters** | | | | | | | | |
| Number of observations | 881,636 | 881,636 | 881,636 | 881,636 | 881,636 | 881,636 | 881,636 | 881,636 |
| Number of countries | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 |
| % of Variance (ICC) [b] | 12.0 | 9.7 | 9.0 | 9.1 | 8.2 | 8.2 | 8.1 | 7.3 |
| Variance component | 0.45 | 0.36 | 0.32 | 0.33 | 0.29 | 0.29 | 0.29 | 0.26 |
| **Model fit statistics** | | | | | | | | |
| Degrees of freedom | 0 | 5 | 6 | 6 | 6 | 7 | 7 | 8 |
| Prob > Chi-squared | *** | *** | *** | *** | *** | *** | *** | *** |
| Log likelihood | -220,540 | -228,354 | -228,350 | -228,350 | -228,348 | -228,344 | -228,345 | -220,534 |
| Likelihood ratio test [1] | *** | *** | *** | *** | *** | *** | *** | *** |

*Notes*: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$; 2-tailed significances; [a] Estimates represent Odds Ratios (OR). OR > 1 represent a positive relationship, whereas OR < 1 represent a negative relationship. Standard errors are shown in parentheses; [1]Statistical significance of the LR test indicates that a multi-level regression model is preferred; [b] ICC = Intra Class Correlation Coefficient.

Hedonic well-being is the arithmetic mean of *life-satisfaction* and *happiness,* whereas eudaimonic well-being is the arithmetic mean of *autonomy (independence), reverse coded purpose in life and reverse coded self-acceptance and growth.*

## Table 6: Supplementary analyses: possible mediation among the two forms of well-being

| | 1 | 2 | 3 |
|---|---|---|---|
| **Fixed effects estimates** | | | |
| **Individual level** | | | |
| Age | 0.98***(0.00) | 0.98***(0.00) | 0.98***(0.00) |
| Gender | 0.58***(0.01) | 0.58***(0.01) | 0.58***(0.01) |
| Education level | 1.20***(0.00) | 1.20***(0.00) | 1.20***(0.00) |
| **Country-level** | | | |
| **Controls** | | | |
| GDP per capita, USD | 0.99***(0.00) | 0.99***(0.00) | 0.99***(0.00) |
| Regulatory quality | 0.88***(0.02) | 0.88***(0.02) | 0.88***(0.02) |
| **Predictors** | | | |
| Hedonic well-being: **H1a** | **1.16*(0.01)** | | 1.17*(0.08) |
| Eudaimonic well-being: **H1b** | | **1.20*(0.11)** | **1.12(0.09)** |
| **Random parameters** | | | |
| Number of observations | 881,636 | 881,636 | 881,636 |
| Number of countries | 44 | 44 | 44 |
| % of Variance (ICC) [b] | 9.0 | 9.1 | 9.0 |
| Variance component | 0.32 | 0.33 | 0.32 |
| **Model fit statistics** | | | |
| Degrees of freedom | 6 | 6 | 7 |
| Prob > Chi-squared | *** | *** | *** |
| Log likelihood | -228,350 | -228,350 | -228,346 |
| Likelihood ratio test [1] | *** | *** | *** |

*Notes*: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$; 2-tailed significances; [a] Estimates represent Odds Ratios (OR). OR > 1 represent a positive relationship, whereas OR < 1 represent a negative relationship. Standard errors are shown in parentheses; [1]Statistical significance of the LR test indicates that a multi-level regression model is preferred; [b] ICC = Intra Class Correlation Coefficient
Hedonic well-being is the arithmetic mean of *life-satisfaction* and *happiness,* whereas eudaimonic well-being is the arithmetic mean of *autonomy (independence), reverse coded purpose in life and reverse coded self-acceptance and growth.*

## Table 7: Supplementary analyses using different measures of self-expressions – expressing views, independence and assertiveness

| | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| **Fixed effects estimates** | | | | |
| **Individual-level** | | | | |
| Age | 0.98***(0.00) | 0.98***(0.00) | 0.98***(0.00) | 0.98***(0.00) |
| Gender | 0.58***(0.01) | 0.58***(0.01) | 0.58***(0.01) | 0.58***(0.01) |
| Education level | 1.20***(0.00) | 1.20***(0.00) | 1.21***(0.00) | 1.21***(0.00) |
| **Country-level** | | | | |
| **Controls** | | | | |
| GDP per capita, USD | 0.99***(0.00) | 0.99***(0.00) | 0.99***(0.00) | 0.99***(0.00) |
| Regulatory quality | 0.88***(0.02) | 0.88***(0.02) | 0.88***(0.02) | 0.88***(0.02) |
| **Predictors** | | | | |
| Expressions | 1.87***(0.11) | | | |
| Independence | | 1.11***(0.01) | | |
| Assertiveness | | | 1.06***(0.01) | |
| Self-expression (composite created with above three items) | | | | 1.30***(0.01) |
| **Random parameters** | | | | |
| Number of observations | 601,115 | 881,636 | 681,264 | 547,011 |
| Number of countries | 30 | 44 | 34 | 22 |
| **Model fit statistics** | | | | |
| Degrees of freedom | 6 | 6 | 6 | 6 |
| Prob > Chi-squared | *** | *** | *** | *** |
| Log likelihood | -153,718 | -228,583 | -195,709 | -123,849 |
| Likelihood ratio test [1] | *** | *** | *** | *** |

*Notes*: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$; 2-tailed significances; [a] Estimates represent Odds Ratios (OR). OR > 1 represent a positive relationship, whereas OR < 1 represent a negative relationship. Standard errors are shown in parentheses; [1]Statistical significance of the LR test indicates that a multi-level regression model is preferred; [b] ICC = Intra Class Correlation Coefficient

## Table 8: Robustness checks

| | Nascent Entrepreneurship | | | | New Entrepreneurship | | | |
|---|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** |
| **Fixed effects estimates** | | | | | | | | |
| **Individual-level** | | | | | | | | |
| Age | 0.98***(0.00) | 0.98***(0.00) | 0.98***(0.00) | 0.98***(0.00) | 0.98***(0.00) | 0.98***(0.00) | 0.98***(0.00) | 0.98***(0.00) |
| Gender | 0.58***(0.01) | 0.58***(0.01) | 0.58***(0.01) | 0.58***(0.01) | 0.61***(0.01) | 0.58***(0.01) | 0.58***(0.01) | 0.58***(0.01) |
| Education level | 1.22***(0.00) | 1.22***(0.00) | 1.22***(0.00) | 1.22***(0.00) | 1.16***(0.00) | 1.20***(0.00) | 1.20***(0.00) | 1.20***(0.00) |
| **Country-level** | | | | | | | | |
| **Controls** | | | | | | | | |
| GDP per capita, USD | 0.99***(0.00) | 0.99***(0.00) | 0.99***(0.00) | 0.99***(0.00) | 0.99***(0.00) | 0.99***(0.00) | 0.99***(0.00) | 0.99***(0.00) |
| Regulatory quality | 0.88***(0.02) | 0.88***(0.02) | 0.88***(0.02) | 0.88***(0.02) | 0.88***(0.02) | 0.88***(0.02) | 0.88***(0.02) | 0.88***(0.02) |
| **Predictors** | | | | | | | | |
| Hedonic well-being: **H1a** | 1.11***(0.01) | | | 1.02(0.11) | 1.21***(0.01) | | | 0.87(0.12) |
| Eudaimonic well-being: **H1b** | | 1.02*(0.01) | | 0.93(0.08) | | 1.05***(0.01) | | 0.94(0.11) |
| Self-expression: **H2** | | | 1.32***(0.14) | 1.35**(0.16) | | | 1.23***(0.01) | 1.28+(0.19) |
| **Random parameters** | | | | | | | | |
| Number of observations | 881,636 | 881,636 | 881,636 | 881,636 | 881,636 | 881,636 | 881,636 | 881,636 |
| Number of countries | 44 | 44 | 44 | 44 | 44 | 44 | 44 | 44 |
| **Model fit statistics** | | | | | | | | |
| Degrees of freedom | 5 | 5 | 5 | 8 | 5 | 5 | 5 | 8 |
| Prob > Chi-squared | *** | *** | *** | *** | *** | *** | *** | *** |
| Log likelihood | -145,342 | -145,426 | -145,291 | -145,238 | -137,505 | -137,559 | 137,490 | -137,353 |
| Likelihood ratio test [1] | *** | *** | *** | *** | *** | *** | *** | *** |

*Notes*: *** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$; 2-tailed significances; [a] Estimates represent Odds Ratios (OR). OR > 1 represent a positive relationship, whereas OR < 1 represent a negative relationship. Standard errors are shown in parentheses; [1]Statistical significance of the LR test indicates that a multi-level regression model is preferred; [b] ICC = Intra Class Correlation Coefficient; The mediation effects of self-expression values on each of the two forms of well-being (hedonic and eudaimonic) were also checked in pairwise combinations (similar to models 6, 7 and 8 of Table 5, but not reported here for brevity) and we observed confirmed statistically significant mediations in each of those three models also.

## Table 9: Robustness check (continued): Endogeneity check between entrepreneurship and well-being (OLS with N = 44)

| **Variables** | **Hedonic well-being** | **Eudaimonic well-being** |
|---|---|---|
| Rate of entrepreneurship | **1.68(1.16)** | **0.52(0.42)** |
| GDP per capita, USD | 0.00*(0.00) | 0.00*(0.00) |
| Regulatory quality | 0.07(0.09) | -0.02(0.03) |

*** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$; 2-tailed significances