



Lay beliefs about meaning in life: Examinations across targets, time, and countries

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ABSTRACT

We examined how lay beliefs about meaning in life relate to experiences of personal meaning. In Study 1 ($N = 406$) meaning in life was perceived to be a common experience, but one that requires effort to attain, and these beliefs related to levels of meaning in life. Participants viewed their own lives as more meaningful than the average person's, and technology as both creating challenges and providing supports for meaning. Study 2 ($N = 1719$) showed cross-country variation in levels of and beliefs about meaning across eight countries. However, social relationships and happiness were identified as the strongest sources of meaning in life consistently across countries. We discuss the value of lay beliefs for understanding meaning in life both within and across cultures.

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1. Introduction

Meaning in life is a centerpiece of human motivation and psychological well-being (Frankl, 1946; Maslow, 1968). Psychologists define meaning in life experience as a subjective feeling state comprised of three central components: (1) significance, the extent to which one feels like they matter and are connected with others, (2) purpose, or engagement in goal directed pursuits, and (3) coherence, the degree to which one's life and experiences make sense (Heintzelman & King, 2014; King, Hicks, Krull, & Del Gaiso, 2006; Martela & Steger, 2016; Park & George, 2013). Research on meaning in life, however, frequently sidelines this precise definition when gathering information from participants (Heintzelman & King, 2013). Instead, because meaning in life is conceptualized as a *subjective feeling state*, assessments typically use face-valid self-report items simply asking participants how meaningful they find their lives to be (e.g., Meaning in Life Questionnaire, Steger, Frazier, Oishi, & Kaler, 2006; Purpose in Life Test, Crumbaugh & Maholick, 1964). Certainly, a large body of evidence supports the predictive validity of self-reports of meaning in life, which predict a host of objective outcomes including physical health indicators (Czekierda, Banik, Park, & Luszczynska, 2017; Roepke, Jayawickreme, & Riffle, 2014). However, we know little about what

the average person thinks about key features of this often abstractly construed experience. As with beliefs about other feelings, beliefs about meaning in life may shape a person's experience of meaning.

Lay views of psychological constructs can influence experience and behavior. For example, implicit theories about intelligence as malleable or stable can predict important outcomes including goal pursuit (Dweck, 1990) and academic achievement (Costa & Faria, 2018, though c.f., Li & Bates, 2019). Similarly, lay conceptions of well-being relate to experienced well-being (McMahan & Estes, 2011a, 2011b). Those who believe that happiness is closely linked to relationships report greater life satisfaction, but those associating happiness with material possessions are less satisfied with their lives (Bojanowska & Zalewska, 2016). If lay beliefs about psychological constructs can shape experiences, it is important to understand how people view meaning in life and how these beliefs relate to the experience of meaning.

1.1. Lay beliefs about meaning in life

Past studies on lay beliefs of meaning in life fall into two categories: (1) those that examine broad beliefs of the good life, and (2) those that examine lay beliefs about the sources of meaning in life. First, lay beliefs of the good life tend to include eudaimonic aspects (e.g., meaning in life) of well-being alongside hedonic elements (e.g., positive affect; Furnham & Cheng, 2000; King & Napa, 1998; McMahan & Estes, 2011b). Importantly, these eudaimonic

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conceptualizations of well-being, such as self-development and contribution to others, have stronger correlations with multiple measures of experienced well-being than hedonic conceptualizations, such as pleasure (McMahan & Estes, 2011a).

Other work has documented perceived sources of meaning in life. Broadly, these findings suggest that meaning is comprised of cognitive, motivational, affective, relational, and personal components (Wong, 1998). More narrowly, social relationships have emerged as an important source of personal meaning, as nominated by lay people (Debats, 1999; Lambert et al., 2010; Wong, 1998). In one study, 82% of young adults credited their family and friends as contributing the most meaning to their lives (Lambert et al., 2010). Participants have also identified happiness as a central source of meaning (Lambert et al., 2010; though c.f., Wong, 1998).

Research on lay beliefs about the good life or sources of meaning provides limited insight regarding how lay people think about meaning in life and how these beliefs may relate to lived experiences of personal meaning. In the current research, we examine lay beliefs of meaning in life as constructed vs. discovered and common vs. rare. We also focus on how meaning in life is perceived for various targets, across time, and across countries.

1.2. Broad conceptualizations of meaningful lives

Several diverging perspectives and scholarly levels of analysis are commonly used to conceptualize and study meaning in life. Some perspectives are concerned with reaching ideal statuses in moral goodness and activities that transcend personal achievement (Auhagen, 2000; Frankl, 1946). An alternate focus is on individual experiences of meaning in life at either a global or situated level (Park, 2013). It is important to expand these approaches to explicitly include the ways that lay people view meaning in life to appreciate how these beliefs may relate to their lived experiences of meaning in life. Two features of meaning in life that shape these broad perspectives center on the amount of effort required to experience personal meaning via construction or detection and its epidemiology as rare or common.

1.2.1. Effortful Construction vs. Automatic Detection

There exist varied perspectives regarding the level of effort required to attain meaning in life. Central to existentialist views of meaning is the notion that the human experience of meaningfulness is wholly the product of effortful construction against the backdrop of the inherent meaninglessness of the objective world (Camus, 1955; Frankl, 1946; Sartre, 1946; Yalom, 1980). Likewise, psychological conceptualizations of meaning in life often focus on meaning as a constructive process. For example, the meaning-making model (Park, 2010) focuses on instances in which individuals must effortfully construct meaning in the face of traumatic experiences.

While the primary focus in scholarly work regarding meaning in life has been on its creation, there is, as well, a side of meaning that is not actively constructed, but rather, simply detected (King & Hicks, 2009). Detected meaning in life may represent the default mode when one's experiences are fitting with their expectations for the world—when things are going smoothly (King & Hicks, 2009)—while meaning construction is only required and enacted in response to disruptions such as trauma (Davis, Nolen-Hoeksema, & Larson, 1998) or stress (Tedeschi & Calhoun, 2004). Supporting these views and counter to the idea that the experience of meaning requires cognitive exertion, meaning in life is positively associated with a reliance on intuitive information processing (Heintzelman & King, 2016). Meaning in life is also sensitive to seemingly trivial encounters. For instance, meaning in life is higher among participants who have been exposed to manipulations of

positive affect (King et al., 2006), ease of processing (Trent, Lavelock, & King, 2013), or environmental coherence (Heintzelman, Trent, & King, 2013). Further, participants detect meaning even in trivial life events like watching a good movie or getting a bad haircut (King & Hicks, 2009), or engaging in mundane daily routines (Heintzelman & King, 2019). Some experiences of meaning do not require effortful construction, but rather simply the detection of meaning.

1.2.2. Rare vs. Common

Differing perspectives on the effort required to experience a sense of personal meaning feed views regarding the prevalence of meaning in life. For instance, while there exists nuance across the field, existentialism and nihilism are historically rooted in the notion that human existence is essentially *meaningless* (Camus, 1955). The added barrier of constructing meaning on top of nothingness would seem to impede the prevalence of this experience and may beget the conclusion that meaningful lives are rare. Further, to the extent that meaning in life is categorized as a key element of eudaimonic well-being, characterized by self-realization (Waterman, 1993) or self-actualization (Ryff, 2012), it is often placed above hedonic well-being on a moral hierarchy (Ward & King, 2016), which can result in perceptions of the experience of meaning as less attainable, at least in comparison to pleasure or happiness.

Alternately, epidemiological data and systematic reviews of research using established measures suggest that meaning in life is a fairly common experience, with self-report data from large representative samples indicating that most people across a variety of life circumstances feel their lives are quite meaningful (Heintzelman & King, 2014; Kobau, Snizek, Zack, Lucas, & Burns, 2010). Established sources of meaning in life, including positive affect (King et al., 2006), social inclusion and close personal relationships (Stavrova & Luhmann, 2016), religion (Steger & Frazier, 2005), and environmental coherence (Heintzelman et al., 2013) are readily available psychological resources (Cacioppo, Gardner, & Berntson, 1997; Diener & Diener, 1996; Diener, Tay, & Myers, 2011; King, 2012; Leary & Cox, 2008).

Scholars offer differing perspectives on key aspects of meaning in life—but the question remains: What do lay individuals—those who haven't devoted their professional lives to the topic—think about meaning in life, and do these beliefs relate to their experiences of meaning in life? In addition, how do people perceive meaning in life across targets, time, and space?

1.3. Whose life is perceived to be meaningful?

People often hold unrealistically positive views of themselves (Alicke & Govorun, 2005; Pronin, Lin, & Ross, 2002). Self-serving bias extends to self-perceptions of happiness and life satisfaction (Cummins & Nistico, 2002; Loughnan et al., 2010). In some ways, these inaccurate perceptions are adaptive, in that they are associated with higher well-being, adjustment, and motivation (Taylor & Brown, 1988; Taylor, Lerner, Sherman, Sage, & McDowell, 2003). On the other hand, exaggerated self-enhancements are also linked to negative personality traits, low self-esteem, and less personal growth (Brookings & Serratelli, 2006; Robins & Beer, 2001). With respect to meaning in life, past research found that self-ratings of personal meaning fell well short of conceptualizations of the ideal meaningful life (Wong, 1998). However, research has not examined whether people's views of their own meaning in life diverges from how they view the meaning in life experienced by *average* others, which the present studies address.

1.4. Is meaningfulness perceived to have changed over time?

Arguments that the postmodern world lacks meaning are common (Pennock, 2018; Roberts, 2007). The rise of mental illnesses such as depression, addiction, and aggressive behaviors has been attributed to an existential vacuum formed as a result of a perception of meaninglessness (Frankl, 1946; Pattakos, 2008). Further, many modern pursuits are perceived as shallow and lacking meaning (Pennock, 2018) and as an erosion of meaningful and purposeful traditions (Roberts, 2007). Do lay people similarly perceive a lack of meaning associated with modern life? Evidence pertaining to the roles of nostalgia and technological advances in relation to meaning in life may suggest that these beliefs are widely held.

Nostalgia is a sentimental longing or wistful affection for the past (Pearsall, 1998), and can act as a psychological resource in meaning-making (Sedikides & Wildschut, 2018). Nostalgia engenders a sense of purpose and meaning (Baldwin & Landau, 2014; Sedikides et al., 2018), reduces the search for meaning (Routledge et al., 2011), and can be used as a meaning-making device to counteract precursors of meaninglessness such as mortality threat (Routledge, Arndt, Sedikides, & Wildschut, 2008). The link between nostalgia and meaning in life may suggest that people perceive that lives in the past were more meaningful than lives in the present.

Perhaps the most distinctive hallmark of postmodern life is the rise of personal technology (e.g., smartphones), which now permeates almost every aspect of existence and thus holds inevitable implications for psychological experiences. Personal use technology can improve well-being through activities that promote positive emotions, social connectedness, and efficiency (Kushlev, 2018; Kushlev & Dunn, 2015), while also holding broad potential to disrupt well-being (Kushlev, 2018; Kushlev & Heintzelman, 2018).

Meaning in life may be similarly implicated in the rise of personal use technology. Mekler and Hornbæk (2016) found that human-technology interactions relating to the pursuit of personal ideals and achievements were strongly related to meaning in life, by way of need fulfilment. They also identify five components of the experience of meaning in technology use: connectedness, purpose, coherence, resonance, and significance (Mekler & Hornbæk, 2019). In contrast, technology use can interfere with experienced meaning in life. For instance, parents who were assigned to freely use their phones during a visit to a science museum with their children reported lower meaning in life following their visit than parents who were assigned to use their phones as little as possible during this time (Kushlev & Dunn, 2019). In the present research, we examine how lay people think of meaning in life across time and the perceived effect of modern personal technology on this experience.

1.5. How do people across the world view meaning in life?

Most meaning in life research has focused on this experience through the lens of participants in western cultures, primarily the United States. However, central aspects of the self vary across cultural contexts (Markus & Kitayama, 1991; Triandis, 1989). Cross-cultural research has identified variation in the conceptualization and experience of many subjective experiences as a factor of geography and culture. For instance, interdependent cultures view social belonging and understanding (Oishi, Koo, & Akimoto, 2008), and social appraisal (Suh, Diener, Oishi, & Triandis, 1998) as integral to happiness, in contrast to independent cultures which see happiness as internal and individually oriented (Lu & Gilmour, 2004; Pflug, 2009; Uchida & Kitayama, 2009). Furthermore, cultural differences in conceptualizations of happiness shape this

experience (McMahan, Ryu, & Choi, 2014; Wong, Ho, Li, Shin, & Tsai, 2011).

The focus on culture across the meaning in life literature is more limited (for exceptions see, Oishi & Diener, 2014; Steger, Kawabata, Shimai, & Otake, 2008). To conduct comparative analyses of subjective experiences across cultures, it is imperative to examine the cultural equivalency in the conceptualization of a given construct across samples. Thus, examinations of lay beliefs about meaning in life can contribute to the limited information regarding this experience across cultures in a number of ways. First, do broad beliefs about meaning in life (i.e., effortful vs. automatic; rare vs. common) differ across cultures? Additionally, do perceived sources of personal meaning differ around the world, and how might these beliefs relate to the experience of meaning in life in those contexts?

1.6. Overview of current studies

Two studies examined beliefs about meaning in life across targets, time, and countries. Study 1 assessed participants' particular lay beliefs about meaning in life and well-being measures. Additionally, participants in Study 1 completed one of two sets of additional items to further address a variety of beliefs about meaning in life. Subsample A made meaning in life ratings for themselves and the "average person;" subsample B rated meaning in life for people across various times in history. Study 2 examined the experience of and beliefs about meaning in life in participants drawn from eight countries across the world. Data and materials for both studies are openly available on the Open Science Framework¹, https://osf.io/rqngf/?view_only=248a926ca0174d52b7b895a30f45f021. We report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in each study (Simons, Shoda, & Lindsay, 2017).

2. Study 1

Study 1 participants indicated their beliefs about the common, effortful, and mysterious nature of meaning in life, and reported on their own levels of meaning in life, psychological well-being, and religiosity to examine their relationships with beliefs about meaning in life.

2.1. Method

2.1.1. Participants

The initial pool of participants were 430 Mechanical Turk workers who began an online assessment and were compensated \$1. Of these, seven provided no data and two did not respond to any self-report items; these nine participants were removed from the data file, leaving 421 participants. To ensure data quality, we then screened for duplicate IP addresses and identified 15 duplicates involving 30 cases, 13 pairs were participants who had completed the materials for both Subsample A and Subsample B. For the full sample analyses, we retained the first response and removed the second response for each of the 15 pairs based on the survey submission time. The participants included in data analyses were 406 (232 women, 166 men, 8 not reporting gender). Participants ranged in age from 18 to 82, $M(SD) = 32.81 (11.47)$ and 75.6% reported their race/ethnicity as White/Caucasian, 9.6% Black/African American, 6.2% Asian/Asian American, 5.2% Hispanic/Latinx, 1.2% "other race/ethnicity," and 1.7% not reporting. A sensitivity analysis using G*Power 3.1 (Faul, Erdfelder, Lang, & Buchner, 2007) shows that

¹ The data analyses for these studies were not preregistered.

the minimum detectable effect size with a sample of this size with 95% power and 0.05 alpha level is $r = 0.10$.

2.1.2. Measures

Means, reliabilities, and intercorrelations for all scales are presented in Table 1. All items were rated on 1 (low endorsement) to 7 (high endorsement) scales.

Meaning in Life. Participants rated their own meaning in life using the Meaning in Life Questionnaire, Presence of Meaning subscale (Steger et al., 2006). This scale consists of five items assessing the degree to which participants find their own lives to be meaningful and purposeful, e.g., “I understand my life’s meaning.” We also collected three ad hoc items regarding meaning in life; patterns of findings were consistent when including these in the scale and so we report findings with the validated Meaning in Life Questionnaire scale only.

Beliefs about Meaning in Life. Participants rated their beliefs about the commonality, required effort, mysteriousness, and process of attaining meaning in life. Four items assessed the degree to which participants believed meaning in life was a common experience: “Meaning in life is a common experience,” “Meaning in life is only experienced by some people” (reverse), “Just about everyone experiences meaning in life nearly all the time,” “Meaning in life is rare” (reverse), $\alpha = 0.72$. Three items focused on the degree to which participants believed that meaning in life required effortful construction: “Meaning in life is experienced without effort” (reverse), “Experiencing meaning in life takes a great deal of effort,” “Living a meaningful life is hard work,” $\alpha = 0.72$. Two items assessed perceptions of meaning in life as mysterious: “Meaning in life is a mystery,” “Meaning in life cannot be described,” $r = 0.48$. Two items captured the degree to which participants believed “Meaning in life is something people must create for themselves,” “Meaning in life is something that people discover about themselves.”

Subjective Well-Being. Participants also rated affect with items asking to “Indicate the extent you feel this way right now.” Four items each assessed positive affect: cheerful, enjoyment/fun, happy, and pleased; and negative affect: anxious, frustrated, nervous, and worried. Participants also completed the five-item Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985; e.g., “In most ways my life is close to my ideal”).

Religious Commitment. Participants completed the 10-item Religious Commitment Inventory-10 (Worthington et al., 2003; e.g., “My religious beliefs lie behind my whole approach to life.” We included a “Not applicable” option (used by 23 to 45 participants per item; treated as missing values). Average religious commitment was calculated using only the applicable items. Participants also completed the Tolerance for Ambiguity measure (Budner, 1962) and the Cognitive Reflection Task (Frederick, 2005). While these measures were not central to the focus of this research, their correlations with other study variables are reported in the Supplement.

2.2. Results

Descriptive statistics for participants’ beliefs about meaning and the correlations among these beliefs are shown in Table 2, item level information is provided in the Supplement. We conducted one-sample t -tests to examine the degree to which responses differed from the neutral midpoint of the response scale (4). Participants generally agreed that meaning in life was something that was common, requiring effort, and both discovered and created as these ratings were significantly higher than the midpoint of the scale. Participants were more neutral regarding the mysterious nature of meaning in life as this rating did not differ from the scale midpoint. Histograms showed this rating was the result of true

neutrality across participants (i.e., normal distribution) rather than the product of bimodal distributions of competing strong beliefs about meaning in life across people (see Supplement for histograms at the composite and item levels).

With regard to the correlations between beliefs and meaning in life ratings, Table 2 shows the belief that meaning in life was a common experience was positively associated with personal ratings of meaning in life, while the beliefs that meaning in life required effort to attain and was a mystery were negatively associated with meaning in life ratings. Beliefs that meaning is created or discovered were unrelated to experienced meaning in life.

Table 2 shows, as well, the correlations between meaning beliefs, subjective well-being, and religious commitment. Positive affect and life satisfaction were positively related to the belief that meaning is common and negatively related to the belief that meaning in life is mysterious. The belief that meaning demands effort was negatively related to life satisfaction, but not positive affect. Negative affect was only related to the belief that meaning in life is mysterious. Participants reporting stronger religiosity were more likely to espouse the belief that meaning in life is common, and less likely to believe meaning is mysterious or self-created.

3. Subsample A: Meaning in the lives of the self and others

We next sought to examine potential biases in the way that one thinks about the experience of meaning in others’ lives compared to their own lived experiences of meaning in life. Is there a divergence between the way people think about meaning in life as a concept that applies to other people and their own experiences of meaning in life?

3.1. Method

Subsample A included 103 participants from Study 1 (43 men, 58 women, 2 not reporting gender), ages 18 to 62, $M(SD) = 33.29$ (9.95). A G*Power 3.1 (Faul et al., 2007) sensitivity analysis shows that the minimum detectable effect size with 95% power and 0.05 alpha is $r = 0.19$. These participants completed additional items assessing the degree to which they believed the average person finds his or her life to be meaningful. We altered Meaning in Life Questionnaire items to assess “the average person,” (e.g., “The average person understands his or her life’s meaning;” $\alpha = 0.87$). This measure was counterbalanced with the self-report of meaning in life.

3.2. Results

The average person and self-ratings of meaning in life were positively correlated, $r = 0.46$, $p < .001$. The average person ratings of meaning in life, $M(SD) = 3.76$ (1.07), fell below the scale midpoint and were significantly lower than their self-ratings of meaning in life, $M(SD) = 4.54$ (1.54), paired $t(102) = 5.64$, $p < .001$, $d = 0.58$. Order did not affect these differences (see Supplement for details).

Next, we computed a difference score to indicate the degree to which participants had a self-serving meaning in life bias. Positive values indicate higher self-ratings for meaning in life vs. perceptions of the average other’s meaning in life, values ranged from -2.6 to 4.4 , $M(SD) = 0.79$ (1.42). Most participants, 73 of 103 (71%), rated their own lives as more meaningful than they rated the life of the average person. Self-serving meaning bias related to positive affect, $r = 0.36$, and life satisfaction, $r = 0.42$, $ps < 0.001$, but not negative affect, $r = -0.12$, $p = .23$. Correlations between average person meaning in life ratings and meaning beliefs are in the Supplement. These findings show that a majority of people believe they are the exception to the rule when it comes

Table 1
Descriptive statistics, reliabilities and correlations among variables, Study 1.

	<i>M(SD)</i>	α	PA	NA	SWLS	RCI
Meaning in Life	4.55 (1.64)	0.95	0.59***	−0.34***	0.64***	0.34***
Positive Affect	4.12 (1.55)	0.95		−0.33***	0.62***	0.29***
Negative Affect	2.43 (1.45)	0.89			−0.42***	−0.01
Satisfaction with Life	4.17 (1.58)	0.92				0.25***
Religious Commitment	3.31 (2.05)	0.98				

Note. All measures assessed on scales from 1 to 7. *** $p < .001$; ** $p < .01$, * $p < .05$.

Table 2
Beliefs about meaning in life, Study 1.

Belief Measure	Mean (SD)	Difference from Midpoint (4) & 95% CI of difference	<i>r</i> with Meaning in Life	Common	Effort	Mystery	Discover	Created
Common	4.26 (1.23)	$t(403) = 4.31^{***}$ [0.14, 0.38]	0.31***		−0.44***	−0.04	−0.02	−0.13**
Effortful	4.51 (1.29)	$t(403) = 7.86^{***}$ [0.38, 0.63]	−0.11*			0.07	0.17***	0.34***
Mysterious	4.00 (1.57)	$t(403) = 0.00$ [−0.16, 0.16]	−0.30***				0.04	0.06
Discovered	5.58 (1.18)	$t(399) = 26.73^{***}$ [1.47, 1.70]	0.06					0.40***
Created	5.09 (1.48)	$t(400) = 14.71^{***}$ [0.94, 1.24]	−0.07					
PA				0.15**	−0.03	−0.14**	0.17***	−0.004
NA				−0.07	0.04	0.21***	−0.05	−0.01
SWLS				0.21***	−0.15**	−0.13**	0.04	−0.10*
RCI				0.16**	−0.01	−0.13*	0.00	−0.19***

Note. *** $p < .001$; ** $p < .01$, * $p < .05$.

to leading a meaningful life, seeing their lives as more meaningful than the average life.

4. Subsample B: Meaning in life in the past and present

Do people believe that lives are differently meaningful in the modern era compared to times past? We next sought to assess participants' perceptions of personal meaningfulness across time and the role of technological advances in beliefs about experiences of meaning in life.

4.1. Method

Subsample B included 316 participants² (125 men, 180 women, 11 not reporting gender) ranging in age from 18 to 82, $M(SD) = 32.56$ (11.82). The minimum detectable effect size with a sample of this size with 95% power and 0.05 alpha is $r = 0.11$ (Faul et al., 2007). (See Supplement for descriptive statistics and reliabilities.) These participants completed additional single item ratings of the amount of meaning in the average person's life at different points in time, rating the item "How meaningful was the average person's life in [year]?" on a scale from 1 (*not at all meaningful*) to 7 (*very meaningful*) for the years 1850, 1900, 1950, and 2012 (the year the data were collected). Participants also rated two items directly comparing contemporary and historical meaning in life on a scale from 1 (*many less*) to 7 (*many more*) with a midpoint of 4 (*about the same number of*): "Compared to the past, the contemporary world has ___ aspects that *challenge* a sense of meaning in life," $M(SD) = 4.86$ (1.47), and "Compared to the past, the contemporary world has ___ aspects that *support* a sense of meaning in life," $M(SD) = 4.42$ (1.50). Further, we formed a composite technology variable with the average of four items, $\alpha = 0.87$, assessing the impact technological advances: cell phones, Internet, television, and social media (i.e., Facebook, Twitter, etc.) on the "general meaningfulness of people's lives" from 1 (*has made life less meaningful*) to 7 (*has made life more meaningful*) with neutral midpoint 4 (*hasn't changed*).

² The 13 participants who had completed both sets of materials, as indicated by duplicate IP addresses in the full dataset, were retained in the Subsample B analyses.

4.2. Results

As Table 3 shows, participants believed the average person's meaning in life was especially low in 1850, climbed through 1900 and 1950, and remained at that level for the 2012 (the time of the study) estimate. The perceived meaningfulness of the average person's life varied across the assessed years, Multivariate $F(3, 307) = 17.20$, $p < .001$, $d = 0.40$. All years differed except 1950 did not differ from 1900 or 2012. Participants' personal levels of meaning in life shared consistent positive relationships with their time-situated estimates, and were most strongly related to the present-day average estimate. We computed a perceived meaning in life progress score by subtracting meaning in life estimates for 1850 from estimates for the average person in the present day. Participants generally gave higher average meaning in life estimates for present times compared to 1950, $M(SD) = 0.36$ (1.89), which was statistically different from 0, $t(315) = 3.36$, $p = .001$, $d = 0.38$; 33% of participants perceived higher average meaning in life in present day compared to the past, while 48% gave the same ratings for 1950 and 2012.

Participants rated *both* the degree that modern times come with more challenges *and* more sources of support for meaning in life above the midpoint on the items' scales, on average. The contemporary world was seen as more challenging to meaning in life than the past, $M(SD) = 4.86$ (1.47), and 59% of respondents rated this item above the midpoint (25% at the midpoint). Modern times were seen, also, as providing more support for the experience of meaning in life compared to the past, $M(SD) = 4.42$ (1.50), and 44% of participants rated this item above the midpoint (31% at the midpoint). Contemporary challenges and supports were *positively* correlated, $r = 0.34$, $p < .001$. To the extent that participants believed the contemporary world was increasingly challenging for experiencing meaning in life, they were also more likely to believe that it offered more supports for this experience than in the past. Neither perceived challenges or support structures in modern times were related to self-reported meaning in life, r 's = 0.05 & 0.09. The meaning in life progress score shared a small positive correlation with the perception that the contemporary world challenges meaning, $r = 0.17$, $p = .003$, and was more strongly positively related to perceptions that the contemporary

Table 3
Ratings of the meaning in life for the average person by year, Study 1B.

How meaningful was the average person's life in...	Rating	MLQ self-rating	Modern Challenges	Modern Supports	Technology
1850	5.05(1.63) _a	0.28***	0.03	-0.22***	-0.13*
1900	5.26(1.39) _b	0.28***	0.07	-0.14*	-0.08
1950	5.49(1.22) _c	0.32***	0.10	-0.01	0.04
2012	5.41(1.52) _{bc}	0.39***	0.24***	0.35***	0.33***
MLQ self-rating	4.52 (1.68)		0.05	0.09	0.09

Note. $N = 316$. The effect of year is significant, Multivariate $F(3, 307) = 17.20, p < .001$. Means with differing subscripts differ significantly, $p \leq 0.001$.

world supports meaning, $r = 0.47, p < .001$, and that technological advances have made life more meaningful, $r = 0.38, p < .001$.

With regard to the impact of technological advances on meaning in life, on average, participants perceived these advances to make life somewhat more meaningful, $M(SD) = 4.29 (1.32)$, with a small difference from the neutral midpoint (4), $t(315) = 3.91, p < .001, d = 0.44$. The modal response for the composite variable and for each of the items was the neutral midpoint, frequency distributions are provided in the Supplement. The perception of these technological advances as supporting meaning was positively related to perceptions of the average meaningfulness at the present time—but not to one's own present meaning in life—and was negatively related to the perceived meaning in life norms in the 1850s.

Lastly, we examined the relationships between general beliefs about meaning in life and meaning in life perceptions across times and the role of advances in meaning (see Supplement for all correlations). The perception that meaning in life is common was positively associated with time-situated meaning estimates, and with perceptions of modern advances as both challenges to and supports for meaning. Perceptions that meaning in life requires effort, is discovered, or is created were unrelated to meaning estimates for any of the assessed historical periods or to perceptions of modern advances and technology as having a role in meaning.

5. Study 2: Cross-Country conceptualizations of meaning

Is meaning in life perceived and experienced similarly around the world? To address this question we examined meaning in life ratings, sources of meaning in life, and beliefs about meaning in samples drawn from eight countries across Asia (Japan, Korea, Singapore), Europe (Germany, Norway, Portugal), Africa (Angola), and North America (United States). Study 2 addresses three central aims. First, this study allows a direct comparison of meaning in life levels across eight countries on four continents. Previous work has reported national meaning in life scores for countries across the world using the Gallup World Poll data (Oishi & Diener, 2014), by calculating the percentage of respondents from a given nation who answer yes (vs. no) to the item: "Do you feel your life has an important purpose or meaning?" This dichotomous response group-level aggregation approach offers a limited understanding of mean levels of meaning in life among citizens of these nations. Additional research has directly compared responses to validated meaning in life scales across two countries (e.g., U.S. and Japan; Steger et al., 2008). The current study extends this work by examining Meaning in Life Questionnaire responses across samples from eight countries simultaneously. Second, Study 2 extends research examining lay beliefs about important sources of personal meaning (e.g., Lambert et al., 2010) beyond U.S. samples by examining participant ratings of the centrality of candidate sources of meaning in life across the eight sampled countries. Third, Study 2 extends our examination of general beliefs about the common nature of meaning in life, the role of hard work in achieving meaning, and the mysteriousness of this experience to a cross-cultural sample. Additionally, since meaning in life may be differentially valued across

cultural contexts, and these values may have implications for the experience of personal meaning, we also examine the degree to which participants believed it was important to live a meaningful life.

5.1. Methods

5.1.1. Participants

Data from a total of 1719 participants from eight countries—Angola, Germany, Japan, Korea, Norway, Portugal, Singapore, and the United States—were collected between July 2017 and October 2018 in college settings with the exception of 174 of the participants from the Korean sample, which were collected with panel sampling. All participants received partial credit towards a course research requirement or payment for completing the survey. Samples sizes and demographic information within sample for each nation are provided in Table 4. G*Power 3.1 (Faul et al., 2007) sensitivity analyses show that at 95% power and 0.05 alpha value, the minimum detectable effect size in our smallest national sample (Singapore; $n = 104$) is $r = 0.19$ and in our largest national sample (United States; $n = 403$) is $r = 0.10$.

5.1.2. Materials

Meaning in Life. Meaning in life was measured using the presence of meaning subscale of the Meaning in Life Questionnaire (Steger et al., 2006), $\alpha = 0.87$ for full sample (see Supplement for reliability estimates within each country for all scale variables). We also included three ad hoc items to assess coherence, significance, and purpose separately; further information regarding these items across countries can be found in the Supplement.

Sources of Meaning in Life. Participants next read the following instructions: "Below is a list of some things that give people's lives meaning. We would like you to think about whether these things influence your experience of meaning in life too. After thinking about what gives your life meaning, please rate all of the items in terms of how much each one influences your experience of meaning in life." They then rated six potential sources of meaning in life from 1 (*not at all important*) to 5 (*very important*): social relationships (e.g., family, friends, romantic partner), happiness, religious faith, personal goals and achievements, self-acceptance, self-worth, and growth, helping others.

Beliefs about Meaning in Life. Next, participants were asked to "Please rate the extent to which you agree or disagree with each of the following items" on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). To reduce participant burden, enabling the data collection across countries, we reduced the number of items used to assess beliefs about meaning in this study by selecting the most face valid items to address each the three primary beliefs about meaning assessed in Study 1: commonality ("Meaning in life is a common experience," "Meaning in life is rare"), effortful ("Living a meaningful life is hard work"), and mysteriousness ("Meaning in life is a mystery"). As the previous study did not reveal a trade-off between beliefs about discovering and creating meaning, we dropped these items from Study 2. Finally, given the potential for value differences to influence perceptions and experiences of

Table 4
Sample characteristics by Country, Study 2.

	N	Language	Age	Gender	Social Class
Angola	150	Portuguese	23.72 (5.48)	91 Women (60.7%) 48 Men 3 'Other' 8 Missing	2.71 (0.80)
Germany	155	German	25.40 (10.23)	122 Women (78.7%) 28 Men 2 'Other' 3 Missing	3.10 (0.95)
Japan	232	Japanese	20.03 (2.83)	133 Women (57.3%) 96 Men 2 'Other' 1 Missing	2.98 (0.67)
Korea	292	Korean	32.60 (11.85)	136 Women (46.6%) 156 Men	2.76 (0.90)
Norway	125	Norwegian	28.53 (10.99)	93 Women (74.4%) 32 Men	2.91 (0.88)
Portugal	258	Portuguese	23.16 (7.35)	180 Women (69.8%) 71 Men 1 'Other' 6 Missing	3.01 (0.72)
Singapore	104	English	21.58 (1.73)	63 Women (60.6%) 40 Men 1 Missing	3.17 (0.84)
United States	403	English	18.61 (0.98)	254 Women (65%) 139 Men 10 Missing	3.63 (0.89)

Note. Social Class: 1 (lower class) to 5 (upper class).

personal meaning, particularly in the context of cultural value differences, we added an item to assess the perceived importance of meaning in life, "It is important for me to live a meaningful life." With this more limited pool of belief items in this study, we examined each item individually.

Subjective Well-Being. Participants completed measures of subjective well-being. First, life satisfaction was measured using the Satisfaction with Life Scale (Diener et al., 1985), rated from 1 (*strongly disagree*) to 7 (*strongly agree*), $\alpha = 0.85$ for full sample. Positive and negative affect were measured using the Scale of Positive and Negative Experience (Diener et al., 2010), rated from 1 (*very rarely or never*) to 5 (*very often or always*), positive affect $\alpha = 0.90$ for full sample, negative affect $\alpha = 0.83$ for full sample.

Additional Measured Variables. Participants rated five adjectives from 1 (*not at all true*) to 5 (*very true*) for each of five personality traits: neuroticism (e.g., tense), extraversion (e.g., talkative), openness (e.g., imaginative), agreeableness (e.g., sympathetic), and conscientiousness (e.g., organized). The Supplement include descriptive statistics and reliabilities for each personality trait by nation and correlations between personality traits, subjective well-being and meaning in life by nation. All items were appended to the end of a data collection for another project examining well-being and psychological richness across nations (Oishi et al., 2020). Only those items described here were included in analyses for this project.

5.2. Results

5.2.1. Measurement invariance across nations

We began with measurement invariance tests to assess the psychometric equivalence of the constructs across nations. We tested equivalence in the measurements across samples for the items from the Meaning in Life Questionnaire, the Satisfaction with Life Scale, and the Scale of Positive and Negative Experience simultaneously, allowing each latent construct to correlate with one another. We evaluated model fit using comparative fit index (CFI), standardized root mean square residual (SRMR), and root mean square error

of approximation (RMSEA) and its 90% confidence interval (CI). CFI values ≥ 0.95 , SRMR values < 0.08 , and RMSEA values ≤ 0.06 are taken as evidence of a well-fitting model (Hu & Bentler, 1999), while RMSEA values ≤ 0.08 and CFI values ranging from 0.92 to 0.94 support reasonable fit (Byrne, 2008).

First, we tested a configural invariance model (Vandenberg & Lance, 2000), which estimates whether the constructs have the same pattern of free and fixed loading across groups (Putnick & Bornstein, 2016). The configural invariance model showed good model fit $\chi^2(1624) = 2744.95$, $p < .001$, CFI = 0.94, SMSR = 0.055, RMSEA = 0.057, 90% CI [0.053, 0.060], supporting the same factor model across groups. We next tested a metric invariance model which tests the equivalence of the item loadings on the factors (meaning in life, life satisfaction, positive affect, and negative affect) across nations, by constraining the item loadings on the construct factors to be equivalent across nations (Putnick & Bornstein, 2016). The intercepts and latent correlations among the four variables were allowed to vary across samples. Fit indices support the metric invariance model, $\chi^2(1750) = 3060.92$, $p < .001$, CFI = 0.93, SMSR = 0.075, RMSEA = 0.059, 90% CI [0.056, 0.063]; items similarly contributed to the four measured constructs in each nation.

5.5.2. Meaning in life by nation

We examined levels of meaning in life by nation (Table 5, Column 2). The sample from Portugal reported the highest levels of meaning in life, followed by Angola, Norway and Korea, Germany, Singapore, United States, and Japan. The relative rankings of nations on meaning in life can be compared to their relative subjective well-being rankings (Table 5, Columns 3–5). Notable differences emerged in the samples from Angola, which reported some of the highest meaning in life scores, but reported some of the lowest life satisfaction and affect scores, and from the United States, which reported some of the lowest meaning in life scores while reporting some of the highest life satisfaction and affect scores among the countries sampled.

Table 5
Meaning in life and subjective well-being levels and rankings by nation, Study 2.

<i>M(SD)</i> Rank Order	Meaning in Life	Life Satisfaction	Positive Affect	Negative Affect
Angola	4.93 (1.22) 2	4.06 (1.42) 8	3.70 (0.71) 6	2.82 (0.67) 6
Germany	4.67 (1.49) 5	5.08 (1.18) 1	3.84 (0.69) 2	2.57 (0.75) 2
Japan	3.95 (1.14) 8	4.23 (1.09) 6	3.80 (0.62) 3	3.11 (0.73) 8
Korea	4.72 (1.08) 3 (tie)	4.12 (1.22) 7	3.38 (0.68) 7	2.71 (0.69) 5
Norway	4.72 (1.34) 3 (tie)	4.87 (1.16) 3	3.74 (0.71) 5	2.65 (0.71) 4
Portugal	5.00 (1.08) 1	4.63 (1.18) 4	3.77 (0.64) 4	2.55 (0.72) 1
Singapore	4.42 (1.12) 6	4.29 (1.11) 5	3.26 (0.71) 8	2.97 (0.67) 7
United States	4.41 (1.33) 7	4.96 (1.26) 2	3.87 (0.65) 1	2.59 (0.69) 3

Note. Rank orders indicate highest levels on each metric of well-being across countries: 1 = highest values for Meaning in Life, Life Satisfaction, and Positive Affect, 1 = lowest value for Negative Affect.

Table 6
Sources of meaning in life by country and rank order within nation, Study 2.

	Social Relationships		Happiness		Self-Acceptance, Self-Worth, & Growth		Personal Goals & Achievements		Helping Others		Religious Faith	
	<i>M(SD)</i> Rank in Nation	<i>r</i> with MIL	<i>M(SD)</i> Rank in Nation	<i>r</i> with MIL	<i>M(SD)</i> Rank in Nation	<i>r</i> with MIL	<i>M(SD)</i> Rank in Nation	<i>r</i> with MIL	<i>M(SD)</i> Rank in Nation	<i>r</i> with MIL	<i>M(SD)</i> Rank in Nation	<i>r</i> with MIL
Full Sample	4.56 (0.66) 1	0.13 ***	4.45 (0.73) 2	0.10 ***	4.38 (0.74) 3	0.18 ***	4.17 (0.79) 4	0.21 ***	4.03 (0.88) 5	0.19 ***	2.59 (1.45) 6	0.23 ***
Angola	4.59 (0.73) 2	0.30 ***	4.62 (0.73) 1	0.23 **	4.52 (0.74) 3	0.22 *	4.39 (0.74) 4 t	0.05 t	4.36 (0.80) 6	0.31 ***	4.39 (1.06) 4 t	0.26 **
Germany	4.67 (0.63) 1	0.23 **	4.10 (0.93) 3	0.10 *	4.31 (0.84) 2	0.17 *	4.07 (0.85) 4	0.28 ***	4.05 (0.91) 5	0.27 ***	2.58 (1.35) 6	0.39 ***
Japan	4.47 (0.70) 1	0.04 *	4.44 (0.72) 2	0.11 *	4.16 (0.84) 3	0.14 *	3.76 (0.92) 4	0.28 ***	3.67 (0.96) 5	0.08 *	1.75 (0.83) 6	0.02 *
Korea	4.29 (0.74) 2	0.11 *	4.43 (0.71) 1	0.17 **	4.21 (0.70) 3	0.24 ***	3.97 (0.76) 4	0.27 ***	3.46 (0.84) 5	0.21 ***	2.43 (1.25) 6	0.15 **
Norway	4.77 (0.56) 1	0.18 *	4.06 (0.82) 5	0.05 *	4.62 (0.59) 2	0.008 *	4.14 (0.74) 4	0.09 *	4.30 (0.78) 3	0.04 *	1.55 (0.93) 6	0.24 **
Portugal	4.66 (0.59) 2	0.09 *	4.67 (0.55) 1	0.07 *	4.51 (0.71) 3	0.18 *	4.49 (0.61) 4	0.06 *	4.36 (0.67) 5	0.08 *	2.69 (1.42) 6	0.11 *
Singapore	4.57 (0.57) 1	0.20 *	4.49 (0.74) 2	0.002 *	4.35 (0.74) 3	0.26 *	3.96 (0.80) 4	0.16 *	3.98 (0.79) 5	0.21 *	2.80 (1.46) 6	0.12 *
United States	4.63 (0.61) 1	0.09 *	4.57 (0.67) 2	0.11 *	4.49 (0.70) 3	0.15 **	4.43 (0.68) 4	0.13 *	4.31 (0.76) 5	0.24 ***	2.87 (1.53) 6	0.27 ***

Note. Rank orders indicate the sources of meaning rated as most important within each nation: 1 = highest importance rating among the six available sources of meaning for that nation.

5.2.3. Sources of meaning in life by nation

We next examined the sources of meaning in life across nations. Table 6 shows average ratings of the sources of meaning in life within nation as well as the rank order among the six assessed sources within each nation. There was a great deal of cross-national consistency in the rank order of the most important sources of meaning in life with social relationships given the most importance in five nations (while 2nd in the other three nations), and happiness seen as first or second in importance in six of the nations. Furthermore, within the full sample, each source of meaning in life was positive related to reports of experienced meaning in life, while there was some variability in these relationships across nations (Table 6). While religion was consistently rated the lowest as a source of meaning in life, it shared the strongest correlations with meaning in life compared to other potential meaning sources in Germany, Norway, and the United States.

5.2.4. Beliefs about meaning in life by nation

Lastly, we turned our focus to the beliefs about meaning in life. Descriptive statistics are provided in Table 7 along with indicators of differences from the neutral midpoint (4) of each scale.

Participants in four countries believed more than disbelieved that meaning in life is a common experience and conversely disbelieved more than believed that meaning in life is somewhat rare. Participants in all countries except Singapore were more likely to indicate that meaning in life involved, to some extent, hard work. This was a particularly strong belief among the United States sample. Participants in all countries except Singapore, endorsed that meaning in life was mysterious and was an aim that was important to them.

Table 7 also shows the nation-level correlations of these beliefs about meaning with meaning in life. The more commonplace participants in five countries found meaning in life to be, the more they reported experiencing it themselves. In all countries, the belief that meaning in life is rare related to lower self-reports of meaning in life. The belief that meaning in life was hard work was not consistently related to meaning in life across the countries, but was positively correlated in Germany and Japan. Finding meaning in life to be more mysterious was negatively related to personal meaning in six countries. The strongest and most consistent associations with meaning in life were found for the importance assigned to leading a meaningful life.

Table 7
Beliefs about Meaning and Correlations between Beliefs about Meaning and Meaning in Life by Nation, Study 2.

	Common	<i>r with MIL</i>	Rare	<i>r with MIL</i>	Hard Work	<i>r with MIL</i>	Mystery	<i>r with MIL</i>	Important	<i>r with MIL</i>
Full Sample	4.33 (1.47)***	0.18***	3.52 (1.67)***	-0.21***	5.05 (1.61)***	-0.04	4.58 (1.60)***	-0.21***	5.55 (1.51)***	0.30***
Angola	4.14 (1.71)	-0.05	4.09 (1.85)	-0.21*	5.05 (1.79)***	-0.12	5.06 (1.68)***	-0.23**	5.90 (1.16)***	0.39***
Germany	4.35 (1.46)**	0.54***	3.16 (1.77)***	-0.56***	4.33 (1.70)*	0.24**	4.41 (1.70)**	-0.24**	5.66 (1.45)***	0.51***
Japan	4.78 (1.34)***	0.29***	3.00 (1.59)***	-0.32***	5.49 (1.15)***	0.15*	4.94 (1.52)***	-0.35***	5.05 (1.51)***	0.33***
Korea	3.99 (1.28)	0.25***	4.05 (1.25)	-0.18**	5.02 (1.36)***	-0.10	4.34 (1.33)***	-0.05	5.50 (1.17)***	0.49***
Norway	4.78 (1.59)***	0.34***	3.39 (1.55)***	-0.44***	5.06 (1.50)***	0.09	4.48 (1.60)***	-0.31***	5.69 (1.27)***	0.35***
Portugal	4.17 (1.47)	-0.02	3.80 (1.87)	-0.18**	4.90 (1.69)***	-0.07	4.84 (1.63)***	-0.18**	6.17 (1.14)***	0.28***
Singapore	3.64 (1.41)*	-0.07	3.70 (1.59)	0.21*	3.01 (1.60)***	-0.24*	3.22 (1.55)***	0.08	2.66 (1.65)***	-0.28**
United States	4.50 (1.42)***	0.25***	3.24 (1.64)***	-0.27***	5.71 (1.30)***	-0.04	4.69 (1.52)***	-0.30***	6.09 (1.03)***	0.25***

Note. *** $p < .001$, ** $p < .01$, * $p < .05$. Asterisks below $M(SD)$ denote the significance of the t -test comparing the mean to the neutral midpoint of the scales (4).

6. General discussion

The beliefs a person holds about psychological constructs can influence their experiences and alter the manner in which they report about these experiences in a research setting. Because meaning in life measures rely on participants' intuitive notions about the meaning of personal meaning (Heintzelman & King, 2013), it is necessary and important to understand the content of these lay perceptions. The current work examined perceptions about key elements of meaning in life, particularly those that are represented differently across the scholarly literature. Our results provide insights regarding the content of lay perceptions of meaning in life and the ways in which they relate to self-reports of meaning in life. Furthermore, these findings help to shape a broader understanding of the meaning in life construct by highlighting areas of both convergence and divergence from traditional scholarly conceptualizations in a generative manner.

6.1. Meaning in life as discovered and created

First, we examined perceptions of meaning in life as something that is effortfully created, aligning with research on meaning-making (e.g., Park, 2010), or discovered, aligning with research regarding the automatic detection of meaning (e.g., King, Heintzelman, & Ward, 2016). Lay participants in the United States (Study 1) and in seven of eight surveyed countries³ (Study 2) agreed that meaning in life is hard work. Additionally, in Study 1, we found that lay participants held dialectical conceptualizations of meaning in life as *both* discovered and personally created. Furthermore, these beliefs were positively correlated with one another,

³ Beliefs about meaning in life in the Singapore sample were evident outliers. While this sample espoused meaning in life and well-being levels on par with the other countries and shared commonalities in regards to the primary sources of meaning, they departed dramatically in their perceptions of the importance, commonality, hard work, and mysteriousness of meaning in life. It is possible that these findings represent true signal regarding the unique beliefs about meaning in life within this culture. Alternately, this may reflect beliefs unique to the attained sample non-representative of the nation and diverging from the other samples included here. Specifically, this sample was collected from students at Singapore Management University, a school with primary focus on business education. Previous research indicates field of study value differences between business students, who emphasize power and achievement, and psychology students, who emphasize benevolence and universalism (Sagiv & Schwartz, 2000). Thus the present findings may reflect differences in this particular sample that may not generalize to a more representative Singaporean sample. Given these uncertainties and the fact that this was the smallest sample across the included nations ($n = 104$), we will withhold conclusions about beliefs about meaning in Singapore until additional data are attained.

which we propose indicates that discovered and created meaning are experienced at different times within person instead of representing different conceptualizations of meaning in life across people. It may be useful for scholars to take a similarly coordinated approach to compare and contrast experiences of meaning in life that are discovered and created to best understand the full human experience of meaning. Future research examining meaning in life from a process orientation, for instance, targeting a deeper understanding of unique and shared antecedents and consequences of discovered and created meaning, could importantly inform our understanding of these as unified or fundamentally distinct experiences of personal meaning.

6.2. Meaning in life as commonplace

We also examined lay individuals' perceptions of the prevalence of meaning in life. While epidemiological data suggests that most people find their lives to be quite meaningful (Heintzelman & King, 2014), this runs counter to a prevailing perspective that meaning in life, as emblematic of morally-valued eudaimonic well-being, is less attainable than happiness (Ward & King, 2016). Study 1 showed that lay people think meaning in life is a common experience, aligning with data on the experience of meaning. Collapsing samples from eight countries in Study 2, we found added support for the general perception of meaning in life as commonplace.

Still, we found variability in beliefs about meaning in life as common (and not rare) across countries. Beliefs that meaning is common were expressed (ratings statistically above the scale midpoint) in half of the countries surveyed. Those countries included the wealthiest in our sample with 2018 GDP rankings, according to the World Bank's World Development Indicators database, of 1, 3, 4, and 28, vs. 12, 34, 47, and 62 for countries with common ratings not different from the scale midpoint. One might speculate that these differences simply reflect accurate representations of the meaning in life levels in one's reference group. However, nation-level meaning in life did not correlate with nation-level prevalence beliefs, but instead shared a nonsignificant *negative* correlation (-0.34), suggesting tentatively that the belief that meaning in life is common is not just an accurate representation of one's national reference group.

We also found that stronger perceptions of meaning in life as commonplace were related to higher reported levels of personal meaning in life. However, there was also cross-national variability in the degree to which beliefs about meaning in life related to the experience of personal meaning within each country. These pat-

terns highlight a need for additional research examining the roots of differing beliefs about meaning across cultures and the resultant outcomes of such beliefs, particularly as most meaning in life scholarship is conducted within wealthier nations, such as those expressing shared commonality beliefs about meaning.

The study of meaning in life across cultures has been limited, with little comparative work to examine the universality vs. culturally-specific aspects of this experience (see Steger et al., 2008; Oishi & Diener, 2014, for notable exceptions). We are hopeful that meaning in life researchers will follow the example of subjective well-being scholars to expand our focus beyond WEIRD—western, educated, industrialized, rich, and democratic—contexts (Henrich, Heine, & Norenzayan, 2010). The variability we found in lay beliefs about the common nature of meaning and its relationship with reports of meaning across countries highlights the importance of understanding both individual and culturally-based conceptualizations of meaning in life.

6.3. Perceptions and experiences of meaning in life across targets, time, and countries

These studies provide several additional insights regarding perceptions and experiences of meaning in life across targets, time, and countries which can advance a shared understanding of meaning in life in important ways. First, consistent with better-than-average effects found for other self vs. other evaluations (Alicke & Govorun, 2005), we found evidence of self-serving biases in meaning in life judgments as a majority of participants reported that their own lives were more meaningful compared to the average person's life. Previous research has only highlighted that participant perceptions of their own lives as falling short of their ideal conceptualization of this experience (Wong, 1998). Our finding provides an additional parameter within which to understand participants' assessments of personal meaning; while people may not believe they have actualized an ideal state of meaning, most still seem to believe they are doing fairly well in this regard, perhaps another enhancement illusion with important personal benefits (Taylor & Brown, 1988) which could be examined in future research.

We also found that the average person's life in modern times was seen as more meaningful than in the previous century. Participants viewed contemporary advances as simultaneously creating challenges to meaning and providing supports for meaning, and, in general, were fairly neutral regarding the overall influence of technological advances on meaning in life. Thus, the lay understanding of the different ways that personal use technology can both complement and interfere with well-being (Kushlev, 2018; Kushlev & Leita, 2020) extends to perceptions of personal meaningfulness, aligning with the current scientific understanding of the role of technology in experiences of meaning (Kushlev & Dunn, 2019; Mekler & Hornbæk, 2019). Future research might examine how beliefs about technology's role in meaning influences technology use and how these beliefs interact with use to predict meaning in life.

In Study 2, we also found cross-country variation in mean levels of meaning in life with our sample from Portugal reporting the highest levels of meaning in life, and Japan the lowest levels, on average. Our simultaneous examination of samples from eight countries using a validated meaning in life measure advances beyond existing cross-country comparisons of meaning in life which have been limited by the inclusion of only two countries (e.g., Steger et al., 2008), or the use of dichotomous single-items to assess meaning (Oishi & Diener, 2014). Additionally, we identified a presence of high levels of meaning in life alongside low levels of life satisfaction within the Angola sample, which replicates general patterns found across many African countries, including

Angola, in Gallup World Poll data (Oishi & Diener, 2014), offering further evidence for cross-cultural differences in the relationship between meaning in life and subjective well-being. These findings emphasize the importance of collecting cross-country samples in studies of meaning in life to forge a representative understanding of this experience.

Lastly, we replicated previous work regarding the sources of meaning in life, which has been based in North America (e.g., Lambert et al., 2010; Wong, 1998) across an eight-country sample. This analyses showed that the sources of meaning in life were fairly similar across the sampled countries with social relationship and happiness emerging consistently at the top. These results suggest that people throughout the world share similar beliefs regarding those aspects of life that most contribute to personal meaning, providing a foundation upon which to continue to build a more multi-culturally inclusive science of meaning in life.

6.4. Limitations and future research on lay beliefs about meaning

There are notable constraints on the generalizability of our findings. First, unique features of our samples could impact the detected relationships. Particularly, because we relied on mostly college samples for Study 2, results may not encompass the beliefs and experiences of each country's populations, especially in countries for which college attendance is not normative. Therefore, we encourage the inclusion of items regarding beliefs about meaning in life in future work in more broadly representative samples within and across cultures to build a better understanding of these beliefs and their links to the experience of personal meaning. Furthermore, the beliefs about meaning surveyed in these studies is a non-exhaustive selection of beliefs represented in the academic study of meaning in life. We hope that future work will examine an expanded selection of potential beliefs about this experience. Finally, our findings regarding beliefs about the role of technological advances in the experience of meaning are likely temporally situated and may shift over time as human-computer interactions transform. We have no reason to believe that the results depend on other characteristics of the participants, materials, or context (Simons et al., 2017).

The current findings motivate many areas for further research in addition to those already noted. We assessed relationships between existing beliefs about meaning in life and the experience of personal meaning. Our understanding of this connection will benefit from the future work aiming to understand whether and how beliefs about meaning causally affect feelings of meaning in life and whether and how feelings of meaning in life contribute to one's beliefs about this experience. Experimental manipulations of lay beliefs about meaning in life would permit conclusions about the causal effect of these beliefs on the experience of personal meaning. Furthermore, a developmental perspective examining beliefs about meaning in life across the lifespan through a combination of longitudinal and cohort designs could illuminate how these beliefs are shaped (including how they are shaped by previous experiences of meaning in life), how beliefs about meaning change across the life course and in response to various life circumstances, and how these beliefs shape later experiences of personal meaning. As scholars pursuant of a broad understanding of the human experience of meaning in life carry out their work, we encourage them to consider the average person's experiences with and beliefs about these consequential feelings, given the current findings regarding the importance of these beliefs for the lived experience of meaning.

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Author Contributions: SJH and LAK conceptualized and designed Study 1; SJH conceptualized and designed Study 2; SO coordinated data collection for Study 2; SJH conducted data analyses and prepared the report; FM drafted key sections of the report; All authors contributed to paper revisions and approved the final version.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jrp.2020.104003>.

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