

Well-Being, Self-Actualization, and Fundamental Motives: An Evolutionary Perspective

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Abstract:

From an evolutionary perspective, feelings of subjective well-being signal progress toward adaptive goals. We discuss life history theory and fundamental motives—integrating ideas from social psychology and evolutionary biology that offer a potentially useful perspective on subjective well-being. We discuss some preliminary research from this perspective, and outline implications for future research. In doing so, we suggest that different people may have very different notions of which behavior evokes feelings of subjective well-being, linked to their particular life history features (e.g., age, sex, relationship status). This perspective also suggests predictable variations in what evokes subjective well-being across geography and cultures. We end by addressing avenues for future work taking an evolutionary perspective to understanding happiness and satisfaction—as well as the positive side of unhappiness and dissatisfaction.

Keywords: Fundamental motives, Evolutionary psychology, Well-being, Self-actualization, Life-history.

At first blush, the pursuit of happiness and well-being sounds like a good thing. Indeed it accounts, in good part, not only for the popular appeal of positive psychology, but also for a multi-million dollar industry of personal fulfillment workshops, books, and magazines. It could be argued that goods and experiences designed to enhance feelings of well-being account for the major portion of non-essential consumer goods, as well as a large part of how people spend their leisure time.

From an evolutionary perspective, though, natural selection has not shaped human beings to feel a blissful sense of well-being (Buss, 2000; Keltner, Haidt, & Shiota, 2006; Nesse, 2004; Nesse & Ellsworth, 2009). Although psychologists and laypeople may lament the hedonic treadmill (Brickman & Campbell, 1971; Diener, Lucas, & Scollon, 2006), which implies that achieving any form of emotional satisfaction is soon followed by boredom and dissatisfaction, this treadmill might not be such a bad thing on an ultimate, functional view. Once one of our ancestors had achieved an important goal, such as catching several fish, or building a hut, redirecting his or her attention to other unmet goals, such as the annoying leak in the hut's roof or a potential threat to a romantic relationship, would have made more sense than smugly resting content.

This is not to say that people are designed to *desire* unhappiness and agitated dissatisfaction rather than happiness and contentment (or vice versa). It is also not to say that people *consciously* wish to hop back on the hedonic treadmill as soon as they finish the next lap. However, we would argue that unhappiness and dissatisfaction serve purposes equally as important as those served by happiness and satisfaction. Without those negative affective states, our ancestors would not have survived, or, more importantly from the perspective of their descendants (i.e., us), reproduced.

In this chapter, we consider subjective well-being in light of two related sets of ideas at the interface of evolutionary biology and social psychology: Life history theory and fundamental motives. From an evolutionary life history perspective, what constitutes “subjective well-being” would be expected to vary in predictable ways across people and across contexts. Those variations would have made adaptive sense in ancestral environments (though not always in modern society). After laying out some of the

theoretical rationale for our particular evolutionary life-history approach to well-being, we describe our own previous work examining how evolved fundamental motives are connected in somewhat different ways to subjective well-being (versus eudaimonic and hedonic wellbeing, or self-actualization), and present some unanswered questions generated by an evolutionary approach to subjective well-being. We suggest that: (1) feelings of subjective well-being may signal progress toward adaptive goals; (2) there is no monolithic, one-size-fits-all path to achieving subjective well-being; rather, what evokes a sense of well-being may differ sensibly for different people, and for the same person at different times, such that (3) life history features (e.g., age, sex, relationship status, presence of children) may be able to predict what behavior people believe will give rise to their feelings of subjective well-being; (4) ecological and cultural factors might also affect what goal pursuits give rise to subjective well-being, such that there may be predictable and sensible variations in what causes subjective well-being across geographical and national boundaries; and, finally, (5) because unhappiness and dissatisfaction are also of adaptive importance for humans, it is important to understand the positive side of negative affect as well.

Fundamental Motives and Life-History Theory

A number of classical approaches to human motivation have attempted to explain human choices, goals, and motivations in “domain general” terms. One example of a domain-general theory is the idea that organisms are programmed to “seek reward,” another is that people are designed to “maximize benefits and minimize costs.” These approaches aggregate all positive outcomes into a single coin, as in economic approaches that ask how many dollars a given good or service is worth. Such domain-general approaches have the advantage of parsimony. A domain-specific approach, however, assumes that different rules apply to some categories of reward or benefit than to others (for example, that the cognitive and affective systems dealing with costs and benefits for friendship are different from those dealing with amorous affairs or relationships between parents and children; Kenrick & Griskevicius, 2013).

Domain-specific approaches have arisen partly because domain-general models have faced a number of problems in accounting for human behavior. Harlow’s (1953) classic work, for example, demonstrated that attachment in primates could not be explained through secondary association with food rewards, but seemed to be associated instead with physical contact, and that attachment might be linked to a separate desire for what he called “contact comfort.” In a related vein, Garcia and Koelling (1967) demonstrated that the simple rules of classical conditioning did not apply cleanly to learning to avoid nausea-inducing foods (which occurred after a single trial, and despite several hours passing between the presentation of the taste and the consequence of nausea). Wilcoxon, Dragoin, and Kral (1972) suggested that the mechanisms for conditioning nausea were even more complex, differing in species-specific ways that made evolutionary sense. They found that rats, which use taste and smell cues to find food in their natural environments, easily condition nausea to taste, whereas quail, which typically eat seeds that they locate by vision rather than smell or taste, more easily condition nausea to visual cues than to taste cues. Furthermore, neuroscientific findings, such as Sperry and Gazzaniga’s work with split brain patients (e.g., Gazzaniga, 2005), further suggested that the brain is not one monolithic processing unit, but consists of multiple systems processing different types of information in parallel. In a review of diverse bodies of evidence from comparative psychology, neuroscience, and learning, Sherry and Schacter (1987) built a strong case that animals, including humans, required multiple distinct memory systems for different, and sometimes incompatible types of learning (a bird learns its species single song at a critical early age, and then never modifies it, but it may learn hundreds of places where it has stored food, which need to be selectively remembered and forgotten depending on whether they have been used up, and it learns to avoid poisonous foods throughout life, without ever forgetting them). All of these lines of evidence have led many behavioral scientists to adopt a modular, or domain-specific, approach, which presumes that affective and cognitive processes are not monolithic, but composed of multiple parallel sub-systems that function in ways that are often specific to the particular types of threats and opportunities that each species confronts in its typical social and physical environment.

Abraham Maslow (1943), a student of Harry Harlow, suggested an influential early model of multiple human motivations. He postulated that motivations could be arranged into a “hierarchy of prepotency,” and the hierarchical pyramid of human motivations has remained a highly appealing and robust cultural meme (Ackerman, Nocera, & Bargh, 2010; Diener, 2000; Kenrick, Griskevicius, Neuberg, & Schaller, 2010; Krens, Kenrick, & Neel, 2017; Peterson, Park, & Seligman, 2005). Maslow postulated that distinct motivational systems unfold developmentally. Maslow also assumed that only once people had achieved lower-tier physiological and social goals, such as affiliation, and esteem, they could they move on to individual pursuits of self-actualization, or fully realizing one’s own unique potential. Maslow (1943) used the term “self-actualization” to refer to: “the desire to become more and more what one is, to become everything that one is capable of becoming” (p. 382). He wrote:

Even if all these [*physiological, safety, and social*] needs are satisfied, we may still often (if not

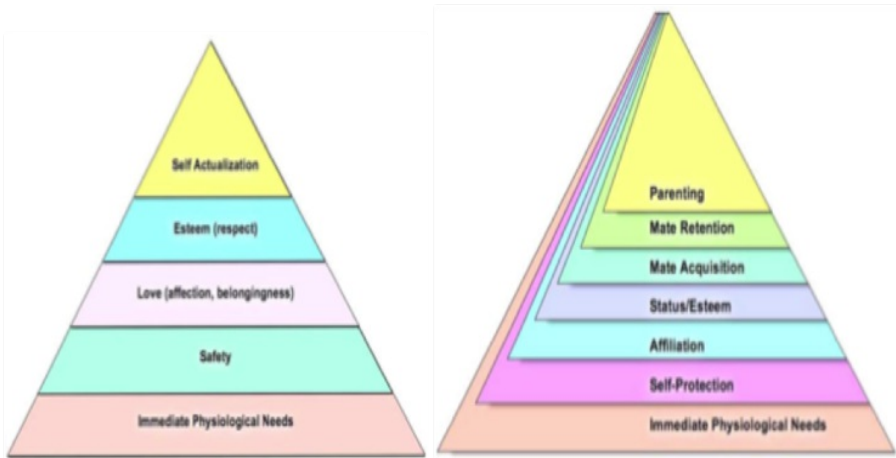
always) expect that a new discontent and restlessness will soon develop, unless the individual is doing what he is fitted for. A musician must make music, an artist must paint, a poet must write, if he is to be ultimately happy. What a man can be, he must be. This need we may call self-actualization. (1943, pp. 382-383).

Maslow’s (1943) model of motivation was a precursor of modern evolutionary perspectives on domain specificity. However, modern developments have suggested a number of renovations to his pyramid (Kenrick et al., 2010). For example, Maslow paid very little attention to reproductive motivations, sweeping sexual desire in with basic physiological needs such as hunger and thirst.

Figure 1 presents a graphic illustration of a “renovated” hierarchy of needs (Kenrick et al., 2010). Our model begins with the premise that, over the course of evolutionary time, humans have faced recurrent, distinct challenges. Successfully surviving, reproducing, and rearing reproductively viable offspring required humans to meet these wide-ranging problems. Furthermore, because humans are a highly social species, many of these challenges were social in nature, such as competing for and acquiring friends as well as mates. We thus suggested a hierarchy of “fundamental human motives” that distinguishes between basic physiological needs, self-protection, disease avoidance, affiliation, status, mate acquisition, mate retention, and parenting (Kenrick, et al., 2010). Each of these motivational systems evolved in response to distinct selection pressures. The particular decision-rules that would make adaptive sense when interacting with one’s offspring would not be the same as those that make adaptive sense when dealing with friends, and still different sets of decision-rules would be adaptive in dealing with romantic partners, strangers, and so on (Kenrick & Griskevicius, 2013). Once a given motivational system is activated, it would direct attention to different stimuli, weight those different stimuli in different ways, and produce distinct outputs, in ways that would be likely to best avoid particular threats and approach particular opportunities.

One notable feature of the revised pyramid is that, unlike Maslow’s model, self-actualization is not conceptualized as the pinnacle human motivation. From an evolutionary perspective, it is unlikely that our ancestors would have evolved to solve the problems of protecting themselves from harm, acquiring friends, and winning respect, only to go off on one’s own to play music and contemplate philosophical questions, *per se*. It makes sense that such noble pursuits are easier for those who do not have to grapple with hunger and physical danger, but from an evolutionary perspective, it seems likely that artistic and intellectual creativity are not end in themselves but actually ways of winning respect and acquiring mates (Griskevicius, Cialdini, & Kenrick, 2006; Miller, 2000; Krems et al., 2017). On this view, seeking a sense of self-actualization is not a separate adaptive pursuit in and of itself, then, but a means of achieving other adaptive goals. Likewise, subjective well-being would, on this view, be viewed not as a separate goal in itself, but as a signal of adaptive progress toward functional goals.

Figure 1. Maslow’s (1943) pyramid of human motivation (left) and Kenrick et al.’s (2010) revised pyramid of human motivation (right).



This renovation—and the general approach to thinking about happiness, self-actualization, and well-being—is based on ideas from evolutionary life history theory (e.g., Stearns, 1992). Life history theory is based on the general premise that all animals, including humans, must continually make decisions involving economic trade-offs (e.g., Stearns, 1992). All living organisms, even the healthiest, wealthiest, and most resourceful human beings, have limited resources of time and energy. At any moment, those

resources need to be allocated to one of several mutually exclusive tasks: developing and maintaining one's own body (including developing one's brain), attracting mates, or parenting. Biologists refer to these tasks as somatic effort, mating effort, and parenting effort. Whereas some animals invest very little effort in parenting (e.g., many amphibians and fish lay hundreds of eggs, and do not care for them afterwards), other species invest a great deal in parenting effort (e.g., elephants do not reach sexual maturity for well over a decade, and then produce a very small number of offspring in which they invest a great deal of energy for years). Compared to most other mammalian species -- and indeed most other living species -- humans are very slow-developing, not reaching sexual maturity for well over a decade after birth and investing heavily in very few offspring.

This typical human life history trajectory has implications for how and when we pursue the various fundamental motives over the lifespan. On this view, a calorie devoted to pursuing one of these goals (e.g., seeking mates) is a calorie that cannot be invested in pursuing another (e.g., caring for one's children). Moreover, we must invest in growing our bodies before we can invest in finding a mate, and we must, of course, successfully find a mate before we can invest in our own offspring. Allocating these finite resources over the life span—and doing so in ways that make sense given one's environmental surroundings—can enhance one's fitness. Whereas all humans are relatively slow developing—compared to many other mammals, which can become sexually mature in several months and begin having large litters of offspring early in life—there are individual differences within any species, humans included. We consider some of these differences below.

Sex differences. One important difference in life history is linked to biological sex. Humans are like other mammals in that females have a very high obligatory investment (gestation and lactation for several years; Trivers, 1972). This, in turn, leads to a sex difference in desires for number of mates (males benefit more from additional mates), as well as other myriad other features—not all of which are directly linked to mating. For example, men have relatively high standards for long-term relationships, as do women. However, when compared to women, men have relatively lower standards for short-term, low-commitment relationships (Kenrick, Sadalla, Groth, & Trost, 1990). Men and women also select mates using somewhat different criteria (Li & Kenrick, 2006). Females prefer high-status males, and often choose older males who have had a chance to gain social position, whereas males prefer women with features indicating high fertility (e.g., Kenrick & Keefe, 1992). Humans are also *unlike* most other mammals in that the male often does make a very high indirect investment (provision of resources for developing offspring; Geary, 2000; Trivers, 1972). As a consequence, men are, compared to other mammalian males, more selective in choosing longer-term mates.

Ecological influences. Different ecological factors—such as the availability and predictability of resources, the prevalence of external mortality threats (e.g., violence), pathogen prevalence, and sex ratios—are known to affect how an organism allocates its finite resources across the lifespan (Durante, Griskevicius, Simpson, Cantu, & Tybur, 2012; Ellis, Figueredo, Brumbach, & Schlomer, 2009; Griskevicius et al., 2011). For example, a number of researchers have found evidence that harsh and unpredictable environments are associated with relatively “fast” strategies in human beings: earlier puberty, earlier reproduction, emphasis on immediate rewards, more children, and less investment in any particular child (e.g., Griskevicius, Tybur, Delton, & Robertson, 2011; Pollet, Nelissen, & Nettle, 2007). Although people often moralize about such “fast” behavior, this calibration to the environment may have been adaptive, allowing humans to reap all-important fitness rewards in harsh and unpredictable environments (e.g., Ellis et al., 2009; Griskevicius et al., 2011; Williams, Sng, & Neuberg, 2016).

Implications of an Evolutionary Life History Perspective for the Subjective Well-being

Subjective well-being(s). Taking an evolutionary perspective means asking what functional, fitness-relevant outcomes feelings of subjective well-being might generate. On our view, feelings of subjective well-being might signal progress toward adaptive goals. Thus, from a general evolutionary perspective, feelings of subjective well-being ought to be systematically calibrated to one's fitness. That is, I should feel subjective well-being when I am generally experiencing success in enhancing my fitness, and not when I am experiencing failure.

However, humans are unlikely to have a general, all-purpose fitness calibration mechanism in our brains (e.g., Barrett & Kurzban, 2006). Instead, we are likely to have a number of separate “systems” that gauge success in particular domains that correspond to the recurrent challenges and opportunities our ancestors faced. Considering the set of fundamental motives we discussed earlier, this might mean that we gauge success separately for satisfying nonsocial physiological needs, protecting ourselves from physical attacks, making and keeping friends, winning respect in our social groups, acquiring mates, keeping mates, and successfully caring for our offspring and other relatives (Kenrick & Griskevicius, 2013; Kenrick, Sundie, & Kurzban, 2008).

One implication of this is that people might have domain-specific subjective well-being. For example, a hedge fund wunderkind who achieved riches by working day and night during his 20s might, once he reached his early thirties, lament not having a wife and kids. His financial successes might have garnered him status and esteem, which might have evoked feelings of subjective well-being at the time, but perhaps only in the status domain. By continuing to focus all of his finite time and energy on achieving financial success, he would be unable to spend the necessary time and energy to acquire a mate and start a family. Hence, his sense of subjective well-being regarding status achievements might be overshadowed by his deficits in the mating and kin care domains. Getting back on the hedonic treadmill to erase these deficits via pursuing a wife and having children would serve his reproductive fitness more than continuing to relish his wealth and status achievements.

Thus, the very same behavior (i.e., working overtime to achieve financial success) could constitute success in one fundamental motive domain, but failure in another. As a consequence, at any one time, a person might feel subjective well-being in one domain, but not in others. This notion of multiple, domain-specific subjective well-beings is somewhat consistent with Diener's (2000) assertion that subjective well-being is composed of several separable components, including satisfactions with various important domains (e.g., work, family life). This raises questions about how humans might aggregate across different types of well-being in various functional domains when reporting their general, global sense of subjective well-being. We return to this question later in the chapter.

Different outcomes evoke feelings of subjective well-being as a function of life history features. In a related vein, we would also expect well-being to be differently linked to each of the goal systems at different ages, and in different contexts, depending on which evolved fundamental motives are currently salient. That is, we would expect that there are important individual differences in which fundamental goals (e.g., seeking status, pursuing mates, caring for kin) are chronically active. Different goals are likely to be differentially weighted depending on one's gender and other life history features, such as age, relationship status, and whether or not a person has (young and dependent) children. Some preliminary support for that assumption comes from recent work by Neel, Kenrick, White, and Neuberg (2016), who found, for example, that a mate-seeking motivation decreased with age, whereas kin care increased among parents, especially those with younger children. This, too, is likely to have important implications for which behavior generates feelings of subjective well-being across individuals.

Thus, achieving success in the domain that is most salient for a person at a particular phase of life history should generate the greatest feelings of subjective well-being. For example, as in the example of the successful hedge fund investor, well-being for a young adult male might be primarily linked to achieving status and esteem. And at that point in his life, caring for a child might actually serve to decrease feelings of subjective well-being. This is consistent with research by Diener and Fujita (1995), who found that having resources in domains related to one's salient goals (e.g., having social skills for people who want to network, having physical attractiveness for people who want to find mates) is a better predictor of happiness than resources unrelated to one's salient goals. Similarly, people feel better on those days when they make progress toward goals they highly value (Oishi, Diener, Suh, & Lucas, 1999).

Further, we can use typical life history trajectories to make informed guesses about what outcomes might evoke feelings of subjective well-being in people, as a function of their ages and sex (and other life history features). For example, caring for a young child might be especially likely to evoke feelings of subjective well-being for somewhat older people who are in stable romantic relationships, whereas this same behavior might be less likely to evoke feelings of subjective well-being for younger people, or those lacking stable romantic partnerships. Similarly, we noted earlier that there tend to be differential levels of mating versus parental investment in males and females, such that men tend to be generally higher in mate-seeking motivation, women tend to be generally higher in kin care motivation. Successfully pursuing mates might be more likely to evoke feelings of subjective well-being among young men than among young women, and caring for a young child might be more likely to evoke feelings of subjective well-being among older women than among older men.

A recent series of studies provides preliminary support for the predictive value of life history features as determinants of psychological well-being (Krems et al., 2017). We assessed which fundamental motives were most strongly reflected in the behavior that people believed would garner them feelings of subjective well-being (as well as other types of well-being). We also linked such assessments to people's life history features (such as age, sex, and parental status). Participants first read descriptions of several different types of well-being, broadly defined: subjective well-being, eudaimonic well-being (meaning in life), hedonic well-being (attaining pleasure and avoiding pain), and self-actualization (realizing fully one's own, unique potential). After reading one of these descriptions, participants were asked what they would be doing if they were achieving each of these types of well-being (for subjective well-being, for example, what would you be doing if you were maximizing the extent to which your life, work, health, and social

relationships are desirable, enjoyable, and valuable). Later, they asked to view their answers (e.g., “You said that, if you were achieving subjective well-being at this point in your life, you would be doing...”); people then rated the extent to which each of the fundamental motives (self-protection, disease avoidance, affiliation, status-seeking, mate acquisition, mate retention, and kin care) was reflected in their responses, using a 7-point Likert-scale (1 = not at all, 7 = very much). These same people gave information about their life history features (age, sex, relationship status, presence of children, and children’s ages).

Table 1 provides illustrative examples of what people reported they would be doing if they were achieving subjective well-being.

Overall, affiliation was the fundamental motive most strongly reflected in the behavior people believed would garner them subjective well-being (see Figure 2). By contrast, status-seeking was the motive most strongly reflected for self-actualization. For hedonic well-being, on the other hand, self-protection and mate acquisition were relatively more strongly reflected. For eudaimonic well-being, affiliation and kin care were strongly reflected.

Thus, laypeople view well-being as primarily linked to spending time with friends, and also view the profile of motives associated with subjective wellbeing as somewhat distinct from other types of happiness-linked outcomes (e.g., self-actualization).

Table 1

Samples of Lay Perceptions of Behaviors that Would Achieve Subjective Well-Being

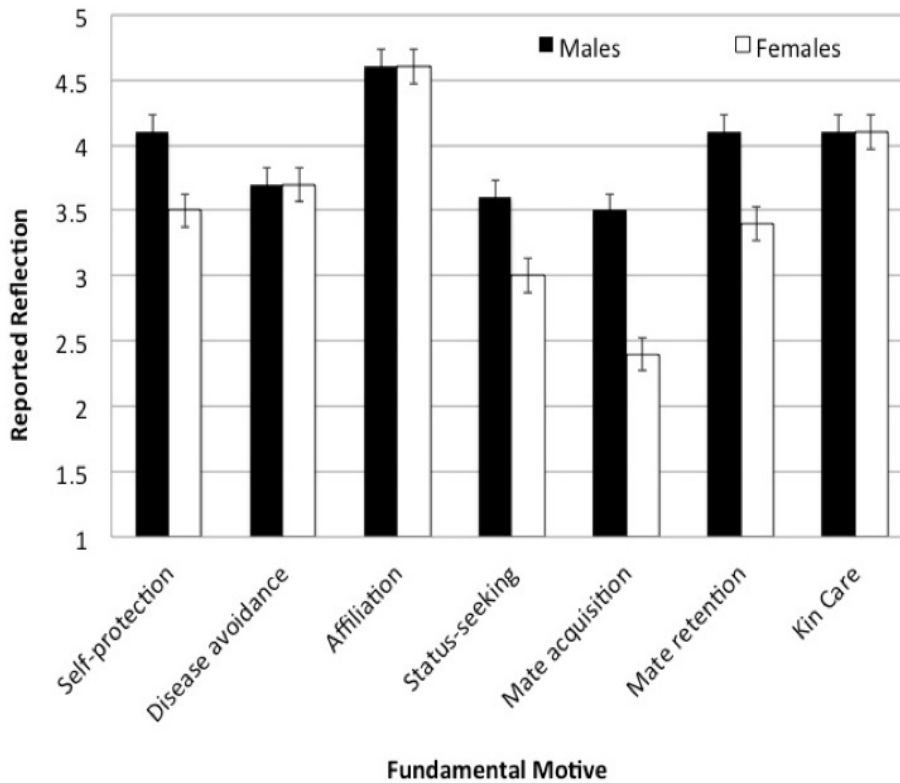
<u>Example</u>	<u>Sex</u>	<u>Age</u>
“Writing, I’d have a book or two published with a few short stories; I’m in shape now but want to be a bit more muscular; I’d be able to go out and socialize more, I love food and craft beer.”	Male	28
“Trying my best to have good hearted friends, spending time with close family, working out and dieting, trying to climb the financial, educational, and work related ladders to the top”	Female	25
“Spending more time with my kids”	Female	29
“Rescuing animals while taking care of my family”	Female	43
“Probably sitting in the backyard at a friend’s house around a fire”	Male	41
“Out to lunch with close friends.”	Female	44
“My life has a whole would include work to keep my brain working, my relationships to keep me grounded and to feel that I am wanted and needed and loved. And try to stay healthy and life a long and happy life.”	Male	69
“Meeting new people, finding a job that actually means something, creating something”	Male	56

These findings also supported the prediction that there would be systematic linkages between people’s fundamental motives, their life history features (age, sex, relationship status, presence of children), and their expectations of what pursuits would lead to subjective well-being. For example, people’s emphasis on affiliation changed across the lifespan; both younger and older people reported that affiliation

was linked more to their anticipated subjective well-being than did middle-aged people. This is consistent with what we know about socialization across the lifespan; whereas friends are highly important in youth and young adulthood, romantic partners and one’s own children take up more time and energy later on. When children are no longer highly-dependent, however, affiliative relationships again become prioritized (e.g., Neel et al., 2016). Thus, age is one life history feature that affects what motives people believe they are pursuing when they pursue subjective well-being.

Second, men reported that both status-seeking and mate acquisition were more strongly linked to their anticipated subjective well-being than did women. This demonstrates that gender also affects what motives people believe will maximize subjective well-being, and that these pursuits might truly reflect progress towards those different goals that are adaptive for different people, again as based on their particular combination of life history features (e.g., Kenrick et al., 2010; Krems et al., 2017; Miller, 2000).

Figure 2. The extent to which men and women report each motive as being reflected in their pursuit of subjective well-being. Error bars represent 95% standard errors. Data taken from Krems et al. (2017).



Third, people’s relationship status (i.e., whether they were single or partnered) affected the extent to which various fundamental motives were reflected in their anticipated subjective well-being, again in ways consistent with predictions made from an evolutionary life history perspective. For example, single men (but not women) linked seeking status and acquiring mates more strongly to their anticipated subjective well-being than partnered men did, whereas partnered women (but not men) linked mate retention and kin care more strongly to their anticipated subjective well-being than single women did. Fourth, whether or not people had children also affected the extent to which various fundamental motives were reflected in anticipated subjective well-being, again in ways consistent with an evolutionary life history perspective. For example, both fathers and mothers linked kin care more strongly to their anticipated subjective well-being than did men and women without children, respectively.

Taken together, these findings suggest that subjective well-being does not mean the same thing to different people. What is required to achieve well-being varies for individuals in systematical predictable ways. That is, subjective well-being looks somewhat different for people as a function of their ages, sexes, and other life history features. This has implications for how people go about pursuing subjective well-being, as well as for how health professionals and others instruct people to go about achieving this flavor

of happiness. Although it may seem obvious that giving a grandfather and a young single woman the same advice about how to achieve subjective well-being is likely to make neither happy, it is worth exploring further how this might be useful for mental health interventions. There may be no one-size-fits-all advice for achieving this outcome. Our framework suggests that some features might help determine what subjective well-being might look like for different folks.

Different outcomes evoke feelings of subjective well-being as a function of ecology and culture. This perspective also leads to the expectation that behaviors evoking subjective well-being might be systematically different in different environments, as a function of the ecological features of those environments (e.g., resource availability, pathogen prevalence, sex ratio, local levels of violence).

Consider a resource-scarce environment characterized by high levels of violence. In this environment, self-protection is likely to be a chronic priority. Likewise, in an environment characterized by high pathogen loads (e.g., high infectious disease), disease avoidance is likely to be a chronic priority. Self-protection might be more strongly linked to subjective well-being for people living in the violent environment, whereas disease avoidance might be more strongly linked to subjective well-being for people living in the high-pathogen environment. Thus, ecological conditions are likely to drive the functional prioritization of the fundamental motives, meaning that people living in different ecologies might have different conceptualizations of what constitutes their own subjective well-being.

Because these different motives direct attention, perception, cognition, and behavior in specific, potentially functional ways, an ecologically-influenced prioritization of some motives over others could have major implications for predicting what behavior would contribute to feelings of subjective well-being in different environments. This might help explain why, for example, although people living in ecologically-developed and relatively wealthy nations are among the happiest (e.g., Diener, Kahneman, Tov, & Arora, 2010)—likely because their basic needs are met (Tay & Diener, 2011)—there is not a monotonic relationship between income and reported subjective well-being across cultures (e.g., Diener & Oishi, 2000) and why, within countries, rich people are only slightly happier than poor people (Diener, Horwitz, & Emmons, 1985).

Environments characterized by high income inequality are also characterized by higher levels of violence (e.g., Daly, Wilson, & Vasdev, 2001; Kreams & Varnum, 2017; Varnum & Grossmann, 2017; see also Helliwell et al.'s *World Happiness Report*, 2016, 2017). Thus, people living in environments with high income inequality might also relatively prioritize self-protection on average. Likewise, some research has also asserted that environments with female-biased sex ratios might have more male-male violence, but that environments with male-biased sex ratios might have more male-female violence (e.g., Kreams & Varnum, 2017), implying that men in the male-biased environments and women in the female-biased environments might also relatively prioritize self-protection. An implication of this is that some environments might cause (certain) people to spend their finite time and energy on more “basic” fundamental motives, meaning that these people cannot spend that time and energy on “higher” motives such as seeking status, finding mates, and caring for kin. This is consistent with both Inglehart's (1990) and Maslow's (1943) propositions that individuals only pursue self-fulfillment after they have met their basic material needs.

In environments where meeting these needs requires constant vigilance, then, perhaps self-fulfillment seems like an impossible pursuit. Graham (2017) proposes that income inequality can lead to inequality in people's hopes, dreams, and happiness. In essence, she argues that the experience of daily stresses can inhibit an individual's ability to plan for the future (because he/she must instead be focused on getting by day-to-day). This ecologically-necessitated present-focus prevents people from planning for the future, and, therefore, from pursuing lives filled with pleasure and meaning.

Whereas these and other ecologically-evoked aspects of culture can affect the prioritization of fundamental motives, there are also aspects of transmitted culture that are likely to do the same. That is, the value system of any one culture (e.g., which achievements are prioritized) tells its people what is important (and unimportant); achieving outcomes one's own culture prioritizes might be especially likely to lead to feelings of subjective well-being. Because cultures can differ in what they prioritize, this implies that what gives rise to subjective well-being might also differ across cultures. In more individualistic and capitalistic cultures, for example, people might link subjective well-being more strongly to achieving status, whereas in more collectivistic and equalitarian societies, people might link subjective well-being more strongly to affiliation. This prediction seems consistent with work by Diener and Diener (1995), which showed that self-esteem was more strongly correlated with life satisfaction in individualistic than collectivistic societies. Similarly, in more highly religious nations, higher religiosity was more strongly linked to happiness (Diener, Tay, & Myers, 2011); and in richer countries, which presumably prioritize earning money, those with higher incomes reported more life satisfaction (Tay, Morrison, & Diener, 2014).

Other Evolutionary Approaches to Well-Being

Several other social scientists have made interesting bridges between evolutionary psychology and happiness, well-being, and self-actualization (e.g., Buss, 2000; Diener, Kanazawa, Suh & Oishi, 2015; Grinde, 2002, 2005; Nesse, 2004). These authors have generally shared an assumption that positive affect /feelings of well-being would be expected to occur when an individual is engaging in behaviors or facing situations that would likely have enhanced fitness in the ancestral past. Since some situations pose more threats than opportunities, negative emotions also have a positive side, in motivating avoidance of situations that would have typically lowered fitness in ancestral fitness (e.g. Nesse, 2004). Diener, Oishi, and Lucas (2015) go a step further, arguing that a chronically mild positive affect state might itself be adaptive, in that people in a good mood are likely to engage in social and exploratory behaviors that increase the odds of enhancing fitness. Several authors have also pointed out that an evolutionary approach leads to a focus on situations as well (certain situations are more likely to pose opportunities, others to pose threats). Buss (2000) points out, for example, that well-being is likely to be associated with being near kinship support groups. Humans evolved in small, kin-based groups of about 50 to 150 individuals (Dunbar, 1993), but live today in massive groups (e.g., the population of New York City is around 8.5 million individuals). Exposure to so many people might not only be daunting, in general, but it might also affect us in unexpected and negative ways; for example, seeing many physically attractive women can lower men's commitments to their existing mateships (Kenrick, Gutierrez, & Goldberg, 1989; Kenrick, Neuberg, Zierk, & Krones, 1994), and can also affect women's self-concepts, making them feel less attractive and less happy (Gutierrez, Kenrick, & Partch, 1999). Moreover, others have similarly linked living in modern, anonymous cities can increase depression by removing the social supports associated with ancestral living conditions (Nesse & Williams, 1994). The life history approach we have presented here is largely compatible with these other evolutionary approaches, differing mainly in specifying the different ways in which adaptive threats and opportunities would vary systematically with different life history phases.

Some Unanswered Questions

As we noted, there is preliminary support for the heuristic value of thinking about psychological well-being in an evolutionary life history perspective. Nevertheless, most of the research on this topic remains to be done. We present some findings above, for example, that show U.S. adults perceive a primary link between the fundamental motive of affiliation and feelings of subjective well-being, and also that what these adults believe generates feelings of subjective well-being differs in ways, as systematically predicted by their life history features (Krems et al., 2017). It would be interesting to extend this work to compare perceptions of subjective well-being across cultures. For instance, future work may wish to explore how fundamental motives interact with ecological and other cultural predictors of country-level scores on the national index of subjective well-being (Diener, 2000).

Similarly, the empirical work we discussed presented findings on what people thought they would be doing if they were achieving self-actualization, or various other types of well-being (Krems et al., 2017). However, we do not yet know whether there is actually a relationship between anticipated well-being and one's success at satisfying different fundamental motivations. Perhaps achieving status would actually lead to a higher sense of subjective well-being than engaging in affiliative behavior would. Further, perhaps achieving success in parental goals does not actually lead to a sense of eudaimonic well-being. Indeed, there is a controversy about how parenting is linked to happiness, with some authors suggesting that parenting is actually linked to unhappiness while others suggest it is linked to meaning in life (e.g., Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004; Nelson, Kushlev, English, Dunn, & Lyubomirsky, 2012). Perhaps using behavior-sampling methods might be useful for answering these questions.

Another avenue of work suggested by an evolutionary life-history approach would be to explore the extent to which there are in fact multiple, domain-specific subjective well-beings linked to different fundamental goals. Above, we suggested not only that different behavior might evoke feelings of subjective well-being for different people (e.g., with some prioritizing mate acquisition and others kin care), but also that a person might have multiple subjective well-beings simultaneously—one for each fundamental motive. Perhaps it is only when the self-protection and disease avoidance subjective well-being meters are at adequate levels can one pursue “higher” motives, for example. Moreover, this notion raises the question of how people might aggregate across domain-specific subjective well-beings when answering typical assessments of their global subjective well-being.

Some existing work might speak to this, suggesting that subjective well-being in some fundamental motive domains might be of especially high importance. For example, whereas Suh, Diener, and Fujita (1996) found that the effects of many major life events (e.g., being fired or promoted) on well-being had waned almost entirely after three months, Winter, Lawton, Casten, & Sando (1999) found that romance-

linked life events (i.e., marriage and widowhood) were still effecting subjective well-being six to eight months later. Similarly, other work suggests that, whereas people can rapidly adapt to some seemingly crippling life events rather quickly, other events have potentially longer-lasting effects—and again, these other events were linked to romance (Frederick & Loewenstein, 1999). This convergence might begin to suggest that mating motives are highly important for subjective well-being, or at least that events affecting mating motive-linked outcomes have particularly high and long-lasting impact on subjective well-being. Or those findings may be linked to the age and parental status of the research participants in the different studies.

Beyond replicating and extending work taking an evolutionary approach to understanding subjective well-being, future work may also wish to take advantage of the unique, generative power of this approach to understanding subjective well-being (see, e.g., Buss, 2000; Nesse & Ellsworth, 2009). That is, one of the interesting suggestions of an evolutionary perspective is that negative affect is as adaptive as positive affect; a person's *unhappiness* (or dissatisfaction, etc.) with his station in life can lead him or her to pursue achievements that garner status and esteem, which can facilitate the acquisition of a desirable mate, having children, and so on.

One implication of this perspective is that it might reframe the happiness gap discussed by Graham (2017); she argues that perhaps poor Americans feel less subjective well-being because they are necessarily more concerned with the day-to-day business of survival rather than making meaning, planning for the future, and other activities that might typically lead to feelings of subjective well-being. On an evolutionary view, whereas poor Americans might lack subjective well-being, they are nevertheless engaging in behavior that, for their environment, may be adaptive. People for whom getting by day-to-day might would be expected to have different conceptualizations of what behaviors give rise subjective well-being, as compared to people from more privileged environments. Perhaps feelings of personal safety, for example, generate phenomenologically similar feelings of subjective well-being for poor people as does pursuing what might be considered by some to be “higher” motivations does for wealthier people. Ellis and colleagues (2009) have made similar arguments about the “fast” life history strategies pursued by people from ecologies characterized by harshness and unpredictability. Whereas middle-class people, such as most highly educated researchers, frequently make moral judgments about fast strategists' levels of risk-taking, earlier sexual debuts, and lesser investment across more children, this suite of behavior may be adaptively calibrated to the environment which evokes it. Pathologizing the lack of subjective well-being among the American poor may be akin to moralizing how they (ought to) spend their time.

A second implication of pointing out the possible functionality of unhappiness serves to underscore the fact that the possible upsides of nonclinical levels of dissatisfaction, too, are worthy of study (e.g., Buss, 2000). For example, Buss (2000) cites how the negative emotion of jealousy, whereas it might feel unpleasant, motivates adaptive behavior designed to counter threats to valued mateships (Daly, Wilson, & Weghorst, 1982). Thus, negative feelings can generate functional outcomes. Nesse (2004), too, argues that focus on reliving negative status and achieving positive states has left ‘diagonal psychology’ ignored; but an evolutionary approach would emphasize the adaptive benefits of negative emotions. Further, just as we argue above that progress toward adaptive goals makes people happy, thwarted progress toward those same goals makes people unhappy. And just as the prioritization of goals is affected by one's life history features (e.g., age, sex, relationship status) and perhaps ecology/culture, what makes people unhappy in functional ways may similarly vary across cultures in important ways. Identifying what behavior makes different people happy—or functionally unhappy—and why, on an ultimate level, is an area ripe for future empirical work. Indeed, what makes someone less happy is not necessarily the same thing that makes that person unhappy; studying unhappiness and dissatisfaction merely as low scores on happiness and satisfaction scales might obscure the distinct, important features of negative affect (especially if such scales have no possible negative scale points for reporting unhappiness but rather start at 0 or 1 to indicate “no” or “low happiness”). From an evolutionary point of view, just because unhappiness is less pleasant than happiness, this does not make it any less adaptive or any less worthy of study.

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