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## **KNOW THYSELF AND BECOME WHAT YOU ARE: A EUDAIMONIC APPROACH TO PSYCHOLOGICAL WELL-BEING**

**ABSTRACT.** In an effort to strengthen conceptual foundations of eudaimonic well-being, key messages from Aristotle's *Nicomachean Ethics* are revisited. Also examined are ideas about positive human functioning from existential and utilitarian philosophy as well as clinical, developmental, and humanistic psychology. How these perspectives were integrated to create a multidimensional model of psychological well-being [Ryff, C.D.: 1989a, *Journal of Personality and Social Psychology* 57(6), pp. 1069–1081] is described, and empirical evidence supporting the factorial validity of the model is briefly noted. Life course and socioeconomic correlates of well-being are examined to underscore the point that opportunities for eudaimonic well-being are not equally distributed. Biological correlates (cardiovascular, neuroendocrine, immune) of psychological well-being are also briefly noted as they suggest possible health benefits associated with living a life rich in purpose and meaning, continued growth, and quality ties to others. We conclude with future challenges in carrying the eudaimonic vision forward.

**KEY WORDS:** autonomy, environmental mastery, eudaimonia, personal growth, positive relations with others, purpose in life, self-acceptance

### **INTRODUCTION**

Eudaimonia, a term that is simultaneously difficult to spell, pronounce, and understand, is the new buzzword in studies of happiness and well-being. I (C. Ryff) encountered eudaimonia nearly two decades ago and first used the term to challenge prevailing conceptions of subjective well-being focused on assessments of feeling good, contentment, and life satisfaction (Andrews and Withey, 1976; Bradburn, 1969; Bryant and Veroff, 1982; Diener, 1984). Drawing on the work of Waterman (1984), I argued that Bradburn's (1969) seminal research on *The Structure of Psychological Well-Being* rested on a mistaken

translation of ancient texts, specifically Aristotle's *Nicomachean Ethics*, written in 350 B.C. In these essays, Aristotle stated that the highest of all goods achievable by human action was "eudaimonia." Bradburn, along with others (e.g., utilitarian philosophers from the 19th century) translated the term to mean happiness. Accompanying empirical assessments, as noted above, measured the extent to which people feel good, contented, or satisfied with their lives. The problem with this formulation, however, was that it suggested equivalence between hedonia and eudaimonia, something that was deeply contrary to Aristotle's distinction between the satisfaction of right and wrong desires. Even more troubling was that the essence of eudaimonia – the idea of striving toward excellence based on one's unique potential – was left out. This observation was central to my efforts to articulate a conception of psychological well-being (PWB) that was explicitly concerned with the development and self-realization of the individual (Ryff, 1989a).

Given current interest in the juxtaposition of hedonism and eudaimonism (e.g., Ryan and Deci, 2001), it seems wise to revisit the ancients and their descendants in hopes of bringing core meanings of eudaimonia into sharper focus. Thus, in the first section below, we re-examine the writings of Aristotle on the topic of what constitutes the highest of all human goods, and also draw on the work of others who have tried to distill his key messages. In the second section, we discuss "theoretical intermediaries" – namely, other philosophers (existential, utilitarian) or psychologists (developmental, clinical, humanistic) whose work helps to elaborate meanings of positive human functioning. The objective in so doing is to show the various forms that well-being can take, while simultaneously to make clear the full scope of prior thinking that informed the Ryff (1989a) model of PWB.

Following the conceptual recapitulation, we briefly highlight select empirical findings that have emerged from this model of psychological of well-being, with emphasis given to two primary points. The first is that well-being, construed as growth and human fulfillment, is profoundly influenced by the surrounding contexts of people's lives, and as such, that the opportunities for self-realization are not equally distributed. The second point

is that eudaimonic well-being may be consequential for health by promoting effective regulation of multiple physiological systems. Finally, we conclude with observations about intellectual tensions in the study of eudaimonic well-being and suggest that finding that which is “intermediate,” as advised by Aristotle, may offer a constructive way forward.

### ARISTOTLE AND EUDAIMONIA: WHATEVER WAS HE SAYING?

The *Nicomachean Ethics* (translated by Ross, 1925) are replete with strange terms (e.g., “moral incontinence”), grammatical obscurities, digressions and winding argumentative sequences, all of which led Johnston (1997) to wonder whether we are dealing with notes retrieved from the waste basket. Nonetheless, sprinkled along the way sparkling insights and exquisitely distilled thoughts. Many readers may also be sustained by a deep appreciation for how hard Aristotle was thinking in his effort to answer the fundamental question of human existence: how should we live? He refused to rely on cant or religious dogma, and instead, sought to build a reasoned argument with well-articulated propositions and carefully defined terms. This was demanding work, such that even Aristotle occasionally ran out of steam, ending some chapters with phrases like “so much for these questions.”

In evaluating the substance of Aristotle’s text, it is important to remember that his objective was not to discern the nature of human well-being; rather, it was to formulate an ethical doctrine that would provide guidelines for how to live. As such, some observations are pertinent to the task at hand, while others are not. Clearly, his opening question: “What is the highest of all goods achievable by human action?” is spot-on for any examination of what constitutes a well-lived life. And, his opening answer, issued over 2000 years ago, is remarkably cogent for current inquiries about human well-being:

“Both the general run of men and people of superior refinement say that it [the highest of all goods achievable by action] is happiness, and identify living well and faring well with being happy; *but with regard to what happiness is they differ*, and the many do not give the same account as the

wise. For the former think it is some plain and obvious thing, like pleasure, wealth, or honor” (Aristotle/Ross, 1925, p. 5).

Much of the *Ethics* is then devoted to disabusing the reader of the idea that happiness consists of satisfying appetites, something he likened to a “life suitable to beasts” (p. 6), or of money-making, or political power, or even amusement and relaxation, reminding us that “serious things are better than laughable things” (p. 263). In challenging the mass of mankind which is “quite slavish in their tastes” (p. 6), he spoke of a dramatically different alternative in which the highest human good was “*activity of the soul in accordance with virtue*, and if there be more than one virtue, in accordance with the best and most complete.” (p. 11).

This assertion then brought Aristotle to the next point in the argument: what is the nature of virtue? It is here that his answers are particularly trenchant for contemporary scholars of well-being. A first key meaning of virtue in his view is that it is a kind of mean, aiming at what is *intermediate*:

“Both fear and confidence and appetite and anger and pity and in general pleasure and pain may be felt both too much and too little, and in both cases not well; but to feel them at the right times, with reference to the right objects, towards the right people, with the right motive, and in the right way, is what is both intermediate and best, and this is characteristic of virtue.” (p. 38).

He then elaborates many other examples of the appropriate middle ground in Book II, Chapter 7 – with regard to money, we are to avoid excess and tasteless vulgarity at one extreme, but also deficiency and niggardliness at the other; with regard to honor, too much leads to vanity, while too little results in undue humility; with regard to “giving amusement,” excess is buffoonery, and the man who falls short is a boor; and with regard to pleasantness toward others, the obsequious flatterer is at one extreme and the quarrelsome, surly person at the other. Thus, virtue for Aristotle was a state of character concerned with choice in which deliberate actions are taken to avoid excess or deficiency.

However, the good life for him was not just about achieving the mean in all modes of conduct. It clearly involved more, and

this is where his writings convey the essential message of eudaimonia: “If happiness is activity in accordance with virtue, it is reasonable that it should be in accordance with the *highest virtue; and this will be that of the best thing in us.*” (p. 263). These words bring into high relief Aristotle’s strongly teleological perspective – namely, the highest human good involves activities that are goal-directed and have purpose. Most importantly, the essential end point (telos) is *to achieve the best that is within us.* As paraphrased by Johnston (1997): “The excellence of the human being is thus going to be associated with growth towards some final realization of his or her true and best nature.” (p. 6).

To summarize, Aristotle was clearly not concerned with the subjective states of feeling happy. Rather, his conception of the highest good towards which we all should be reaching was the task of self-realization, played out individually, each according to his or her own disposition and talent. He was also explicitly concerned with action, not just abstract ideas: “we must become just by doing just acts, and temperate by doing temperate acts” (p. 34). A further point is that Aristotle recognized that other needs must be met as well if we are to achieve the best that is within us: “one will also need external prosperity; for our nature is not self-sufficient for the purpose of contemplation, but our body also must be healthy and must have food and other attention” (p. 268). At the same time, he reminded that “we can do noble acts without ruling earth and sea; for even with moderate advantages one can act virtuously” (p. 268). Finally, it should be noted that Aristotle’s essays covered many more topics (e.g., justice, intellectual virtues, friendship) than are summarized here.

The most thoroughgoing distillation of Hellenic eudaimonism in contemporary scholarship is David Norton’s *Personal Destinies: A Philosophy of Ethical Individualism* (1976). Norton begins by paying tribute to the Athenians, specifically the “coherent sensibility of that astonishing culture” (p. 31), and then describes eudaimonism as an ethical doctrine wherein each person is obliged to know and live in truth to his *daimon* (a kind of spirit given to all persons at birth), thereby progressively actualizing an excellence (from the Greek word “arête”)

consistent with innate potentialities. In his words, eudaimonia translates to “meaningful living conditioned upon self-truth and self-responsibility” (p. xi). It is thus the essence of the two great Greek imperatives: first, to “know thyself” (a phrase inscribed on the temple of Apollo at Delphi), and second, to “choose yourself” or “become what you are” (p. 16).

Adopting a critical perspective, Norton also reminds us that the Hellenic scholars did not believe all human beings were invested with potential excellences in the form of daimons. Instead, they exempted several major classes such as slaves, possible women [he notes Aristotle’s approving citation of the line by Sophocles “A modest silence is a woman’s crown” (p. 32)], and perhaps artisans and tradesmen. Further, the Hellenic conception did not give all daimons equivalent worth; rather, they were arranged hierarchically, such that in their final perfection, some individuals would be superior to others. Norton’s thoughtful book also provides links between eudaimonism, “from its wellspring in ancient Greece” (p. 42) and other philosophical views (Kierkegaard, Nietzsche, Sartre) as well as psychological accounts of self-actualization (Maslow), some of which are elaborated below.

#### **THEORETICAL INTERMEDIARIES: ELABORATING MEANINGS OF HUMAN FULFILLMENT**

Aristotle’s central point, namely that the ultimate aim in life is to strive to realize one’s true potential, was accompanied by considerably more detail about virtue, defined as finding the middle ground between excess and deficiency, than about virtue, defined as making the most of one’s talents and capacities. For the task of articulating substantive specifics of self-realization, I (C. Ryff) thus drew on my training as a life-span developmental psychologist, wherein numerous accounts of human growth and development were available (Bühler, 1935; Bühler and Massarik, 1968; Erikson, 1959; Neugarten, 1968, 1973). These were valuable for describing the developmental tasks and challenges that confront individuals at different life stages. Ideas from existential and humanistic psychology (Allport, 1961; Frankl and Lasch, 1959/1992; Maslow, 1968; Rogers, 1962) were also useful

for their reminders that finding meaning and purpose in life is sometimes difficult in a world that is seems meaningless, or horrific (e.g., times of war, Nazi concentration camps). Stated otherwise, existential views brought eudaimonia face-to-face with adversity, something on which the *Nichomacean Ethics* was surprisingly silent. Finally, formulations from clinical psychology were incorporated, particularly those few accounts that attempted to define mental health in positive terms rather than focus on dysfunction (Jahoda, 1958; Jung, 1933).

Other input came from the writings of two utilitarian philosophers, namely, John Stuart Mill and Bertrand Russell, both of whom agreed wholeheartedly with Aristotle that subjective feelings of happiness are not the ultimate target. Mill's (1893/1989, p. 117) message, in fact, was that happiness would never be achieved if made an end in itself:

“Those only are happy, I thought, who have their minds fixed on some object other than their own happiness, on the happiness of others, on the improvement of mankind, even on some art or pursuit, followed not as a means, but as itself and ideal end. Aiming thus at something else, they find happiness by the way.”

Russell (1930/1958), in turn, emphasized that happiness is not something that just happens to us, like having ripened fruit fall effortlessly into the mouth, but rather is something for which we must strive and work hard, hence his title *The Conquest of Happiness*. For Russell, happiness depended most importantly on “zest,” by which he meant having active interest and engagement in life, and by “affection,” by which he meant having meaningful bonds of love with significant others.

The central challenge in working with all of the above perspectives was the task of integrating them into some coherent whole. This was a progressive process (see Ryff, 1982, 1985, 1989b), wherein the objective was to identify recurrent themes or points of convergence in these many formulations of positive functioning. Figure 1 offers a visualization of what resulted from this distillation. In the center of the figure are the six key dimensions of PWB, each of which represent frequently endorsed aspects of what it means to be healthy, well, and fully functioning. Surrounding the six dimensions are their



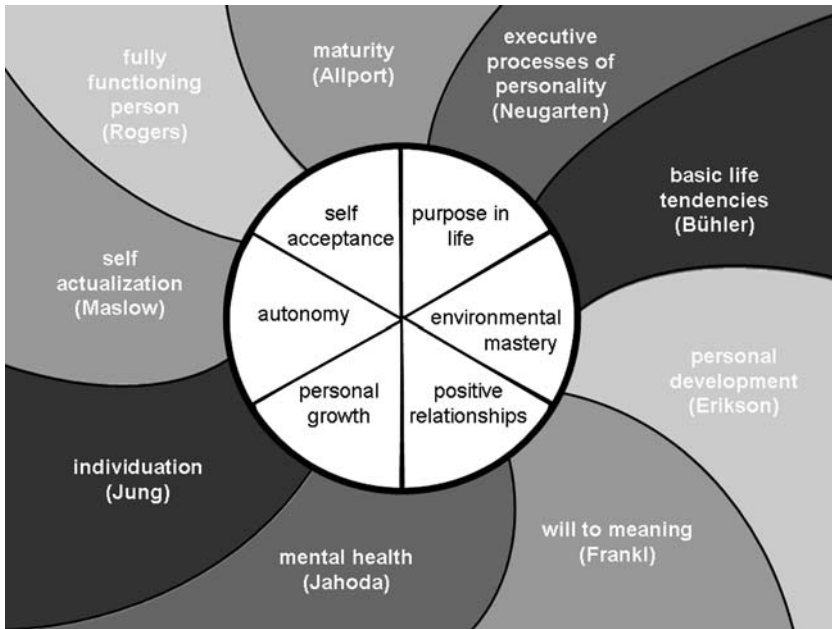


Figure 1. Core dimensions of pwb and their theoretical foundations.

conceptual underpinnings, noted briefly above. How each of the six dimensions grew out of the integration of these prior perspectives is detailed below.

### Self-Acceptance

The Greeks admonished that we should know ourselves; that is, strive to accurately perceive our own actions, motivations, and feelings. But many of the above formulations emphasized something more, namely, the need to have positive self-regard. This is defined as a central feature of mental health (Jahoda) as well as a characteristic of self-actualization (Maslow), optimal functioning (Rogers), and maturity (Allport). Life-span theories also emphasized the importance of acceptance of self, including one's past life (Erikson, Neugarten). The process of individuation (Jung) further underscored the need to come to terms with the dark side of one's self (the shadow). Thus, both Erikson's formulation of ego integrity and the Jungian individuation emphasized a kind of self-acceptance that is notably richer than standard views of self-esteem. It is a kind of self-evaluation that



is long-term and involves awareness, and acceptance of, both personal strengths and weaknesses.

### **Positive Relations with Others**

*All* of the above perspectives describe the interpersonal realm as a central feature of a positive, well-lived life. Aristotle's *Ethics*, for example, included lengthy sections on friendship and love, Mill's autobiography offered much detail about the great love of his life, and Russell saw affection as one of the two great sources of happiness. Jahoda, in turn, considered the ability to love to be a central component of mental health, while Maslow described self-actualizers as having strong feelings of empathy and affection for all human beings and the capacity for great love, deep friendship, and close identification with others. Warm relating to others was also posed as a criterion of maturity (Allport). Adult developmental stage theories (Erikson) emphasized the achievement of close unions with others (intimacy) as well as the guidance and direction of others (generativity). Beyond all of these perspectives, philosophical accounts of the "criterial goods" of a well-lived life (Becker, 1992) underscored the primacy of love, empathy, and affection. From a cultural perspective, there is near universal endorsement of the relational realm as a key feature of how to live (see Ryff and Singer, 1998).

### **Personal Growth**

Of all the aspects of well-being, it is personal growth that comes closest in meaning to Aristotle's eudaimonia, as it is explicitly concerned with the self-realization of the individual. This part of positive functioning is thus dynamic, involving a continual process of developing one's potential. Self-actualization, as formulated by Maslow, and elaborated by Norton, is centrally concerned with realization of personal potential, as is Jahoda's positive conception of mental health. Rogers also described the fully functioning person as having openness to experience in which s/he is continually developing and becoming, rather than achieving a fixed state wherein all problems are solved. Life-span theories (Buhler, Erikson, Neugarten, Jung) also give

explicit emphasis to continued growth and the confronting of new challenges at different periods of life.

### **Purpose in Life**

This dimension of well-being draws heavily on existential perspectives, especially Frankl's *search for meaning* vis-à-vis adversity. His logotherapy concerned itself directly with helping people find meaning and purpose in their life travails and suffering. Creating meaning and direction in life is also the fundamental challenge of living authentically according to Sartre. While these views tend to emphasize the will to meaning in the face of what is awful, or absurd in life, themes of purpose are also evident in other literatures less focused on darkness. Russell's emphasis on zest, for example, is fundamentally about actively engaging in and having a reflective stance toward life. Jahoda's definition of mental health gave explicit emphasis to the importance of beliefs that give one a sense of purpose and meaning in life. Allport's definition of maturity included having a clear comprehension of life's purpose, which included a sense of directedness and intentionality. Finally, life-span developmental theories refer to the changing purposes or goals that characterize different life stages, such as being creative or productive in midlife, and turning toward emotional integration in later life.

### **Environmental Mastery**

Jahoda defined the individual's ability to choose or create environments suitable to his/her psychic conditions as a key characteristic of mental health. Life-span developmental theories also emphasize the importance of being able to manipulate and control complex environments, particularly in midlife, as well as the capacity to act on and change surrounding world through mental and physical activities. Allport's criteria of maturity included the capacity to "extend the self," by which he meant being able to participate in significant spheres of endeavor that go beyond the self. Together, these perspectives suggest that active participation in and mastery of the environment are important ingredients of an integrated framework on positive

psychological functioning. Although this area of well-being appears to have parallels with other psychological constructs, such as sense of control and self-efficacy, the emphasis on finding or creating a surrounding context that suits one's personal needs and capacities is unique to environmental mastery.

### **Autonomy**

Many of the conceptual frameworks underlying this multidimensional model of well-being emphasize qualities such as self-determination, independence, and the regulation of behavior from within. Self-actualizers, for example, are described as showing autonomous functioning and a "resistance to enculturation" (Maslow). The fully functioning person described by Rogers has an internal locus of evaluation, whereby one does not look to others for approval, but evaluates oneself by personal standards. Individuation is also described as involving a "deliverance from convention" (Jung), in which one no longer belongs to the collective beliefs, fears, and laws of the masses. The existential idea of living in "bad faith" (Sartre, 1956) similarly conveys the importance of self-determination and living authentically, rather than following the dogma or dictates of others. Finally, life-span developmentalists (Erikson, Neugarten, Jung) wrote about the importance of turning inward in the later years of life, and relatedly, gaining a sense of freedom of the norms governing everyday life. This aspect of well-being is undoubtedly the most western of all of the above dimensions.

The preceding conceptual distillation required the development of empirical tools to operationalize the aspects of PWB described above. The process therein is briefly described below, followed by a select summary of research findings using the PWB assessment scales.

## **EMPIRICAL TRANSLATION: ASSESSMENT TOOLS AND SELECT FINDINGS**

### **Measuring PWB and Evaluating its Validity**

The development and evaluation of self-report scales to measure the above six dimensions of well-being was guided by the

construct-oriented approach to personality assessment (Wiggins, 1980). Of key importance in the empirical translation is the presence of psychological theory that specifies the constructs of interest. Based on such theory, as summarized in the previous section, the first step in the scale construction process is to define high and low scorers on each of the six dimensions. Such definitions are provided in Table I. Multiple independent writers then composed self-descriptive items that fit with these definitions and that could be applicable to both sexes as well as adults of any age. Initial item pools were large (e.g., approximately 80 items for each scale). These were then culled using criteria of face validity (i.e., ambiguity or redundancy of item, lack of fit with scale definition, lack of distinctiveness with items from other scales, inability to produce a variable response, and whether all aspects of the guiding definitions had been covered).

The reduced item pools (32 items per scale, divided between 16 positively and negatively scored items) were then administered to the initial research sample of young, middle, and old-aged adults (Ryff, 1989a). Item-to-scale correlations were then computed to refine the item pools. The construct-oriented approach requires that each item correlate more highly with its own scale than another scale. Items failing to meet this criterion, or that had low correlations with their own scale, were deleted. This evaluation process was iterative – i.e., items from each scale were eliminated one at a time and then the entire process was repeated, given that each item deletion meant the overall scale had been empirically reconfigured. The process was terminated, when each scale had been reduced to 20 items, divided equally between positively and negatively scored items. Additional psychometric evaluations (e.g., test–retest reliability, internal consistency) were also provided for scales of this length.

Since that original publication, multiple investigations have examined the factorial validity of the theory-based model of PWB. Five such studies (Cheng and Chan, 2005; Clarke et al., 2001; Ryff and Keyes, 1995; Springer and Hauser, in press; van Dierendonck, 2004), all using confirmatory factor analyses, have

TABLE I  
Definitions of theory-guided dimensions of well-being

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*Self-acceptance*

*High scorer:* Possesses a positive attitude toward the self; acknowledges and accepts multiple aspects of self including good and bad qualities; feels positive about past life

*Low Scorer:* Feels dissatisfied with self; is disappointed with what has occurred in past life; is troubled about certain personal qualities; wishes to be different than what he or she is

*Positive relations with others*

*High scorer:* Has warm, satisfying, trusting relationships with others; is concerned about the welfare of other others; capable of strong empathy, affection, and intimacy; understands give and take of human relationships

*Low scorer:* Has few close, trusting relationships with others; finds it difficult to be warm, open, and concerned about others; is isolated and frustrated in interpersonal relationships; not willing to make compromises to sustain important ties with others

*Personal growth*

*High scorer:* Has a feeling of continued development; sees self as growing and expending; is open to new experiences; has sense of realizing his or her potential; sees improvement in self and behavior over time; is changing in ways that reflect more self-knowledge and effectiveness

*Low scorer:* Has a sense of personal stagnation; lacks sense of improvement or expansion overtime; feels bored and uninterested with life; feels unable to develop new attitudes or behaviors

*Purpose in life*

*High scorer:* Has goals in life and a sense of directedness; feels there is meaning to present and past life; holds beliefs that give life purpose; has aims and objectives for living

*Low scorer:* Lacks a sense of meaning in life; has few goals or aims; lacks sense of direction; does not see purpose of past life; has no outlook or beliefs that give life meaning

*Environmental mastery*

*High scorer:* Has a sense of mastery and competence in managing the environment; controls complex array of external activities; makes effective use of surrounding opportunities; able to choose or create contexts suitable to personal needs and values

*Low scorer:* Has difficulty managing everyday affairs; feels unable to change or improve surrounding context; is unaware of surrounding opportunities; lacks sense of control over external world

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TABLE I  
(Continued)

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*Autonomy*

*High scorer:* Is self-determining and independent; able to resist social pressures to think and act in certain ways; regulates social pressures to think and act in certain ways; regulates behavior from within; evaluates self by personal standards

*Low scorer:* Is concerned about the expectations and evaluations of others; relies on judgments of others to make important decisions; conforms to social pressures to think and act in certain ways

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shown that the best-fitting model is, in fact, the theory-guided six factor model. Included in this mix are three nationally representative samples, two from the U.S. (MIDUS, Midlife in the U.S.; NSFH, National Survey of Families and Households), and one from Canada (CSHA, Canadian Study of Health and Aging). Other sources of evidence are also relevant for evaluating the validity of the well-being scales, such as how they correlate with other psychological constructs as well as sociodemographic and biological factors, and how they vary over time (longitudinal analyses). Summaries of these findings are available elsewhere (Ryff and Singer, in press). Select findings from this research are briefly discussed below.

### **Psychosocial and Sociodemographic Correlates of PWB**

Social scientists have linked the above aspects of well-being to many psychological constructs, such as identity status (Helson and Srivastava, 2001), self-enhancing cognitions (Taylor et al., 2003a, b), emotion regulation (Gross and John, 2003), personality traits (Lopes et al., 2003; Schmutte and Ryff, 1997), personal goals (Carr, 1997; Riediger and Freund, 2004), values (Sheldon, 2005), coping strategies (Kling et al., 1997), social comparison processes (Heidrich and Ryff, 1993; Kwan et al., 2003), and spirituality (Kirby et al., 2004; Wink and Dillon, 2003). Others have examined associations between well-being and life experiences, such as early parental loss or parental divorce (Maier and Lachman, 2000), growing up with an alcoholic parent (Tweed and Ryff, 1991), trauma disclosure (Hemenover, 2003), community relocation (Smider et al., 1996), caregiving (Marks,

1998), and change in marital status (Marks and Lambert, 1998). Collectively, these investigations speak to the diverse interests researchers bring to the topic of well-being, and thereby, to the many factors that may influence positive functioning conceptualized under the eudaimonic umbrella, broadly defined.

We will focus on sociodemographic correlates of well-being, namely, how PWB varies by age and socioeconomic status of respondents. The reasons are to underscore the life course dynamics of well-being as well as the opportunity structures, or lack thereof, surrounding the challenge of “becoming what you are.” Both receive insufficient attention in current psychological inquiries. With regard to age, Figure 2 shows cross-sectional age differences in well-being among young, middle, and older aged adults from the MIDUS (Midlife in the U.S.) national survey. The age diversity of well-being for both men and women is immediately apparent. Some aspects show incremental profiles with age (e.g., autonomy, environmental mastery), while others show sharply decremental profiles from young adulthood to old age (e.g., purpose in life, personal growth), and still others show little age variation (e.g., positive relations with others, self-acceptance – only for women). These patterns have been replicated across multiple studies, including those with community samples and nationally representative samples (Ryff, 1989a, 1991; Ryff and Keyes, 1995) as well as with instruments of dramatically different length (e.g., 3-item scales, 20-item scales).

What is as yet unknown is whether the patterns represent aging changes, or cohort differences, although other longitudinal analyses (over shorter age periods) have documented that PWB does, indeed, change with aging, particularly as individuals negotiate life challenges and life transitions, such as caregiving or community relocation (Kling et al., 1997a, b; Kwan et al., 2003). With regard to the sharply downward trajectories for purpose in life and personal growth, the two most eudaimonic aspects of well-being, we have emphasized current societal challenges in providing older persons with meaningful roles and opportunities for continued growth. Sociologists have termed this the “structural lag” problem, in which contemporary social institutions lag behind the added years of life that



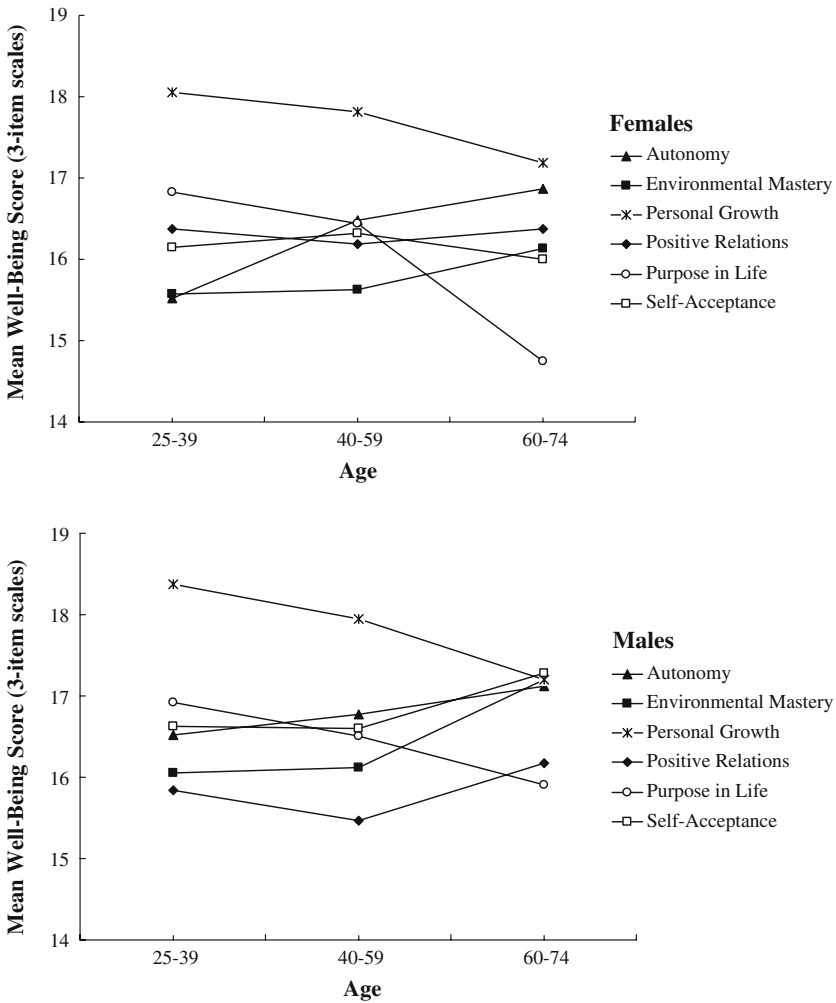


Figure 2. Age differences in PWB. (Source: MIDUS National Survey).

many now experience (Riley et al., 1994). Related to such ideas, Greenfield and Marks (2004), using MIDUS data, focused on older persons who occupied few major roles and found that those who engaged in formal volunteering had higher levels of purpose in life than those lacking both major roles and volunteer experiences.

Whether or not the surrounding context nurtures self-realization is partly illuminated by examining how reported well-being varies depending on individuals' socioeconomic status, such as their

levels of education, income, or occupational status. Figure 3 arrays scores on the six dimensions of well-being among females and males in MIDUS as a function of their educational attainment. The story is clear: PWB and educational standing are strongly positively linked, with the association being especially pronounced for personal growth and purpose in life, the two pillars of eudaimonia. These findings bring into high relief Dowd’s (1990) observation that the opportunities for self-realization are

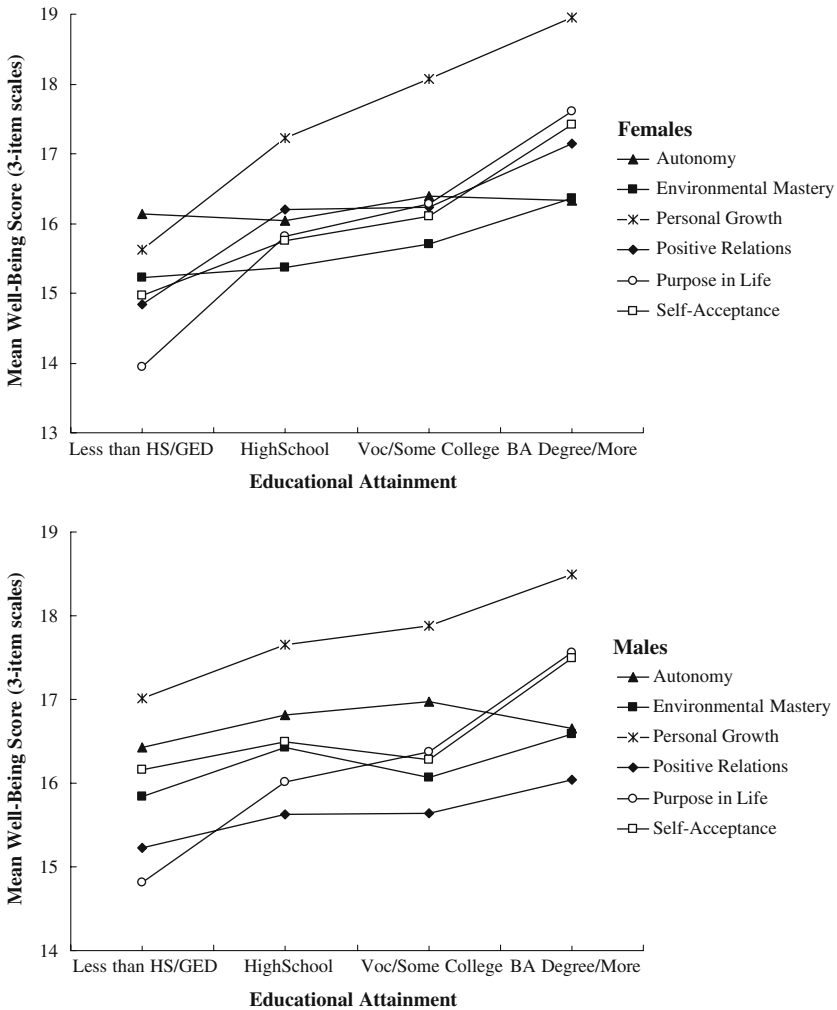


Figure 3. Educational differences in PWB. (Source: MIDUS National Survey).

not equally distributed, but occur via the allocation of resources, which enable only some to make the most of their talents and capacities.

Aristotle missed this point, although the Greeks did differentiate society into subgroups of people, some of whom were thought to possess the essential daimon, and others not. In the present era, there is greater awareness of problems of social inequality and their implications for health (Adler et al., 1999). Our research on educational disparities in PWB (Marmot et al., 1997, 1998) adds to this literature, by showing that those at the low end of the SES hierarchy are not only more likely to succumb to disease and disability, they also suffer from diminished opportunities to make the most of their lives. As detailed in the biological section below, we see the two as linked – i.e., thwarted self-realization may be a critical part of the complex biopsychosocial processes that contribute to early morbidity and mortality.

Nonetheless, it is important to note deviations from these patterns, which *on average*, link higher PWB to higher standing in the social hierarchy. Our work has shown remarkable resilience among some who lack socioeconomic advantage and/or have been confronted with significant life challenges (Markus et al., 2004; Ryff et al., 2004b; Singer and Ryff, 1997, 1999; Singer et al., 1998). We have also found such resilience among racial/ethnic minorities (Ryff et al., 2003). These studies are valuable for documenting the meaning-making and growth-producing effects of adversity, thus bringing empirical substance to Frankl's (1959/1992) vision. Regarding Hellenic eudaimonia, such findings challenge the view that realizing the highest human good is the exclusive terrain of privileged segments of society.

### **Biological Correlates of PWB: The Positive Health Agenda**

Within moral philosophy, deontological theories rest on principles of obligation (from the Greek word *deon*, meaning duty). Consequentialist theories, in contrast, focus on the outcome or consequences to define right moral action. Aristotle's formulation of the highest human good as eudaimonia may well be primarily deontological; that is, it is a purely conceptual

argument.<sup>1</sup> We are, however, intrigued with the idea of bringing empirical defense to the argument that some kinds of human goods are perhaps better than others. One such realm of consequentialist evidence pertains to biology and human health (Singer and Ryff, 2001). That is, if eudaimonic well-being truly is the to right way to live, presumably it will benefit their health, both in terms of health behaviors (e.g., those experiencing self-realization may take better care of themselves), but also with regard to neurobiological processes that underlie their phenomenological experiences of growth and development. This perspective also provides a useful antidote to medical models of health, focused exclusively on illness and disease (Ryff and Singer, 1998). Our alternative approach suggests that progress toward understanding *positive* human health follows from first assessing human flourishing (i.e., PWB, as formulated within the eudaimonic tradition) and then probing its neurobiological substrates. The key hypothesis in such inquiry is that having high levels of purpose, growth, and quality ties to others, etc. is part of what keeps people healthy, even in the face of challenge. A first step in testing the hypothesized protective features of PWB is thus to examine its neurobiological correlates.

Our work therein has just begun, but preliminary findings are promising. In a sample of aging women (Ryff et al., 2004a) we correlated the six dimensions of PWB with diverse biomarkers (cardiovascular, neuroendocrine, immune) and found evidence of numerous links supporting our guiding predictions. Older women with higher levels of personal growth and purpose in life had, for example, better neuroendocrine regulation – i.e., they started the day with lower levels of salivary cortisol and stayed lower throughout the day, compared to older women with lower levels of growth and purpose. We found that those with higher levels of life purpose had lower inflammatory markers (i.e., sIL-6r, the soluble receptor for interleukin-6). Those with higher levels of environmental mastery, positive relations with others, and self-acceptance, in turn, showed lower levels of glycosylated hemoglobin (a marker for insulin resistance). Personal growth and purpose in life were also significantly positively correlated with HDL cholesterol, the “good “ cholesterol.

Finally, we included objectively measured sleep assessments and found that those with higher levels of environmental mastery experienced longer periods of REM sleep and faster entry into REM sleep. Longer periods of REM sleep were also evident for those with higher levels of positive relations with others, which along with high purpose in life was also significantly correlated with less body movement during sleep.

Extending these findings, Friedman et al. (2005) has documented the interplay between well-being and sleep in predicting inflammatory factors in older women. Those with both low levels of interpersonal well-being and poor sleep efficiency had the highest levels of interleukin-6, in contrast to those with positive profiles on one or both of these factors. In a sample of midlife adults, Urry et al. (2004) examined the neural correlates of well-being, and found that those with higher levels of PWB (all scales except autonomy) had greater left than right superior frontal activation (referred to EEG asymmetry), compared to those with lower well-being. This pattern of cerebral activation asymmetry has been previously linked to more positive dispositional styles and reduced likelihood of depression. Thus, eudaimonic well-being appears to be tied to more adaptive patterns of brain circuitry. Although limited by small samples and cross-sectional data, the above findings offer promising evidence that eudaimonic well-being is linked with better neuroendocrine regulation, better immune function, lower cardiovascular risk, better sleep, and more adaptive neural circuitry.

#### **SUMMARY: CONSTRUCTIVE TENSIONS AND FINDING THAT WHICH IS INTERMEDIATE**

Our primary objective in this paper has been to revisit the philosophical and theoretical roots of eudaimonia so as to clarify how its central ideas infuse the study of human well-being. Whether we have done justice to these ideas, or fully utilized them to advance theoretical and empirical understanding of self-realization and human fulfillment is for others to evaluate. Also needed is thoughtful evaluation of how our perspective overlaps with, or is distinctive from, other flowers blooming in

psychology's eudaimonic garden (see Ryan and Deci, 2001 and other contributors to this special issue).

We conclude with observations about "constructive tensions" that come with the territory of studying human well-being. A central one pertains to the competing pulls of self versus other in formulating what it means to function optimally. In some circles, the human potential movement itself was seen as little more than an arena of narcissistic self-spelunking and ego-diving (see Ryff, 1985). Preoccupations with personal growth were depicted as crippling basic social institutions (e.g., the family), and thus ensued countervailing calls to elevate social responsibility and concern for others as the highest good. A further tension inherent in any effort to formulate ultimate ideals for human conduct is the pull between universalism versus relativism (see Ryff and Singer, 1998). Are there multiple forms of eudaimonic well-being – distinct varieties of self-realization nurtured by different societal contexts and culturally distinct ways of being (Diener and Suh, 2000; Kitayama and Markus, 2000). Or, is there a single formulation that applies to our species as a whole?

These challenging questions draw on the values and moral philosophies (implicit or explicit) of those who choose to study, if not, promote, human well-being. In reflecting on these tensions, we were struck anew by Aristotle's admonishment to seek "that which is intermediate." Following such guidance, we should avoid excess and extremes, whether it be a kind of well-being that is so solipsistic and individualist as to leave no room for human connection and the social good, or a version that is so focused on responsibilities and duties outside the self that inherent talents and capacities are neither recognized nor developed. Similarly, we are not well-served by rigid, tightly constrained formulations of how selves are realized any more than we benefit from a relativistic buffet in which any type of well-being goes. Moreover, even with regard to the dimensions of eudaimonic well-being we put forth (e.g., personal growth, self-knowledge, purposeful living), there are possible extremes in which self-realization spins out of control at great cost to others, or where responding to the expectations of others eliminates the capacity for autonomy.

Thus, we close with renewed appreciation for the idea of *balance*, both as a conceptual guide and as an empirical reality that scholars of well-being need to better understand. This will require that we peer deeply into what levels of well-being contribute to flourishing individual lives as well as optimally functioning social institutions. We will thus be required to address issues, such as what constitutes too little, or too much, life purpose? Or, what is too little, or not enough, self-knowledge? Questions such as these could not be more timely for the scientific study of human well-being where current inquiry is now poised to predict important empirical outcomes (e.g., the health of individuals, their families, and their communities) based on reported levels of eudaimonic well-being.

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#### NOTE

<sup>1</sup> We are grateful to Alan Waterman for pointing out this distinction.

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