#### **COMMENTARY / OPINIONS**



## **Emotional Well-Being: What It Is and Why It Matters**

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#### **Abstract**

Psychological aspects of well-being are increasingly recognized and studied as fundamental components of healthy human functioning. However, this body of work is fragmented, with many different conceptualizations and terms being used (e.g., subjective well-being, psychological well-being). We describe the development of a provisional conceptualization of this form of well-being, here termed emotional well-being (EWB), leveraging prior conceptual and theoretical approaches. Our developmental process included review of related concepts and definitions from multiple disciplines, engagement with subject matter experts, consideration of essential properties across definitions, and concept mapping. Our conceptualization provides insight into key strengths and gaps in existing perspectives on this form of well-being, setting a foundation for evaluating assessment approaches, enhancing our understanding of the causes and consequences of EWB, and, ultimately, developing effective intervention strategies that promote EWB. We argue that this foundation is essential for developing a more cohesive and informative body of work on EWB.

**Keywords** Eudamonia · Hedonia · Meaning in life · Positive emotions

National public health objectives as described in Healthy People 2030 include identifying and developing strategies to promote robustness and well-being (Koh et al., 2021). Voluminous research speaks to the importance of mental health for overall well-being; it is not only desirable in its own right but may causally contribute to healthy aging and longevity (Cross et al., 2018; Kushlev et al., 2020; Ngamaba

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et al., 2017). Moreover, evidence strongly suggests that factors reflecting healthy psychological functioning like having high levels of life satisfaction or sense of purpose predict physical health independent of mental health problems such as depression (Chida & Steptoe, 2008; Pressman et al., 2019; Zaninotto & Steptoe, 2019).

Multiple disciplines have recognized that studying states of positive well-being can also provide important insights, not only into how to reduce suffering but also how to improve population health and even civil society (Frijters et al., 2020). Numerous strategies for improving psychological health beyond reducing suffering have been identified, but less clear is whether such interventions have effects

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of sufficient magnitude to drive changes that subsequently impact subsequent physical health and are scalable for implementing at the population level.

Research to advance this understanding is constrained, at least in part, by lack of conceptual clarity or consensus on how to understand mental health across the spectrum from despair and depression to states of well-being and fully realized psychological health. Research on and understanding of states of poor mental health are well-developed, yet scholarship capturing healthy functioning and positive well-being is still wrestling with identifying clear conceptual definitions, valid measures, and appropriate causal models. Numerous terms serve as referents to this form of health (e.g., psychological well-being, mental well-being, subjective wellbeing), and within them, scholars have distinguished specific aspects of well-being such as positive affect, life satisfaction, and sense of purpose. Definitions of and metrics for measuring psychological aspects of well-being have proliferated over recent decades, and numerous articles and monographs have reviewed these terms and provided guidance on their measurement (e.g., National Research Council, 2014; OECD, 2013). Despite these comprehensive resources, researchers and practitioners continue to express uncertainty regarding selecting measures to use or psychological aspects of well-being to target in their research, interventions, or policy work (VanderWeele et al., 2020).

In 2018, Feller and colleagues proposed a national public health initiative focusing on emotional WB (EWB). They defined EWB as "...an umbrella term for psychological concepts such as life satisfaction, life purpose, and positive emotions..." Recognizing that many related terms are already in use, they suggested realizing this initiative would require developing a more unified definition of key concepts and approach to measurement (Feller et al., 2018). The work described here represents an answer to this call for action. We propose that establishing agreement regarding definitions and terminology related to psychological aspects of well-being and gaining greater clarity regarding how various terms are interrelated is needed to facilitate communication across researchers and disciplines.

We adopted Feller and colleagues' suggested term, *EWB*, and concur with their assertion that an agreed-upon framework can organize existing work and serve as a unifying foundation for future research in measurement and methodology (e.g., defining what is/is not EWB) and subsequent mechanistic and intervention research. Here, we describe the process through which we identified key issues that emerged in developing this framework and the ways the framework can advance future research. Ultimately, we believe developing a clear and explicit ontology of EWB that accommodates existing research and directs future research will be an important advance, whereby scholars collaborate to establish shared terms for the concepts and phenomena of

interest within this domain and classify the relevant entities (National Academies of Sciences, 2022).

# Characterizing Psychological Aspects of Well-Being: a Landscape of Confusion

Recent recognition of the importance of psychological aspects of well-being has brought increased empirical attention. For example, one review identified 49 systematic reviews focused solely on subjective measurement of psychological aspects of well-being published since 2000, 35% of which were published since 2017 (Koslouski et al., 2022). The hedonic perspective on psychological aspects of well-being is anchored in work using the term subjective well-being (SWB) following the definition of Diener and colleagues (1985). This form of well-being emphasizes feelings, especially the pursuit of pleasure and happiness, and is characterized by evaluations of one's life in the form of life satisfaction (also referred to as evaluative well-being) and positive and negative affect (also referred to as experiential well-being). The eudaimonic perspective has been anchored in work using the term psychological well-being. Much of this work follows the definition proffered by Ryff (1989) that extends far beyond purpose to include elements like sense of individuality, self-acceptance, and social relationships. Other investigators sought to synthesize these traditions by expanding the set of constructs referred to as SWB. For example, the National Academies Subjective Well-being Panel (2013) defined SWB as comprising three components: experienced, evaluative, and eudaimonic (National Research Council, 2014).

Other broad conceptualizations of psychological aspects of well-being have introduced additional terms such as *flourishing* (Seligman, 2012) and *thriving* (e.g., Su et al., 2014). Some of the varied constructs included within these terms are shown in Table 1. Although this work has generated a rich literature yielding important insights, it also generates conceptual confusion because the relevance of findings relating to one term to findings related to others is unclear, especially given that various approaches to understanding psychological aspects of well-being have different philosophical underpinnings (Hernandez et al., 2018).

In their proposed national public health initiative, Feller and colleagues used the term *EWB* to refer to concepts that encompass psychological aspects of well-being at the broadest level. They may have selected this term in part because it has relatively little previous history or connotation compared with the much more variously elaborated term *SWB*. Similar to the National Academy report, they proposed broadening the conventional focus of the concept from emotion and life satisfaction to include aspects of meaning and purpose along with elements of *flourishing* and *thriving*. Feller and



Table 1 Commonly used definitions associated with emotional well-being of emotional well-being and related constructs reviewed in group discussions

Term	Definition	Source
Well-being (WB)	A top-down perspective on well-being, in which happy individuals are predicted to have more positive and adaptive responses to life events. Lyubomirsky has found that individuals that display positive well-being interpret situations and life events in ways that maintain (or promote) their general self-perception and sense of contentment	Lyubomirsky (2001)
WB	no consensusbut general agreement that at minimum, (emotional) well-being includes the presence of positive emotions and moods (e.g., contentment, happiness), the absence of negative emotions (e.g., depression, anxiety), satisfaction with life, fulfillment and positive functioning. In simple terms, well-being can be described as judging life positively and feeling good	Centers for Disease Control and Prevention (2018)
SWB	People's overall evaluations of their lives and their emotional experiences. SWB thus includes broad appraisals, such as life satisfaction and health satisfaction judgments, and specific feelings that reflect how people are reacting to the events and circumstances in their lives	Diener et al., (2018)
SWB	a cognition process of satisfaction or happiness, which is derived from optimal functioning. Can be classified into subjective vs. objective elements; subjective components involve personal and psychological factors such as belief system and contentment, and objective components involve external factors such as income, neighborhood safety, and community support	(Lindert et al., 2015)
SWB	made up of somewhat independent elements, including positive and negative affect, and life satisfaction; these aspects should all be studied individually. It is defined as the evaluation one has on their life, therefore focuses on many variables such as self-perception, life experience, emotional reactions (Diener et al., 2003)	(Diener et al., 2018)
Subjective well-being (SWB)/ EWB (used interchangeably)	refers to how people experience the quality of their lives and includes both emotional reactions and cognitive judgments. It has three components: (1) eudaimonia ((2) life satisfaction or evaluative well-being; and (3) hedonic or affectual or experiential well-being. SWB here is defined as synonymous with EWB	National Institutes of Health, (2018a)
EWB	Not synonymous with the absence of illness, nor synonymous with mental health. EWB is an umbrella label for several related psychometrically defined concepts, including psychological well-being, positive mental health, health-related quality of life, thriving, and subjective well-being. These concepts encompass several psychological dimensions, including positive emotions and moods (e.g., happiness); the relative absence of negative emotions, moods, and states (e.g., stress, sadness, loneliness); life satisfaction; sense of meaning and purpose; quality of life; and satisfaction with other life domains (e.g., work satisfaction, satisfaction with relation-ships)	(Feller et al. and University of California Los Angeles Community Translational Science Team, 2018)
Flourishing	has five components: positive emotions, a general feeling of contentment; engagement, a state of flow in activities; relationships, a supportive and valuable support network; meaning, a sense of purpose; and accomplishment, a feeling of achievement	(Seligman, 2011)



(continued)
Table 1

Term	Definition	Source
Psychological well-being (PWB)	Six elements:  • Autonomy—sense of individuality; self-evaluation based on personal standards rather than others  • Personal growth—continuously developing and seeing potential in oneself  • Self-acceptance—holding positive attitudes of oneself; a positive self-perception  • Purpose in life—sense of direction and purpose within one's life  • Positive relations with others—having good relationships with others; feeling capable of love and empathy  • Environmental mastery—ability to choose environments that make one the most comfortable and secure	Ryff (1989)
EWB	Umbrella label for several related psychometrically defined concepts, including psychological well-being, positive mental health, health-related quality of life, thriving, and subjective well-being. The definition of EWB encompasses satisfaction with relationships, the subjective perception of social support. Also closely entwined are the structural aspects of social relationships (e.g., extent of social integration, size of social networks)	(Feller et al. and University of California Los Angeles Community Translational Science Team, 2018)
EWB	consists of three components: positive affect and negative affect (i.e., affective evaluations), and life satisfaction (i.e., cognitive evaluation)	Lyubomirsky and Lepper (1999)
EWB	an overall positive state of one's emotions, life satisfaction, sense of meaning and purpose, and ability to pursue self-defined goals (Feller et al, 2018). Elementsinclude a sense of balance in emotion, thoughts, social relationships, and pursuits, or lack thereof. The relative importance of each construct will vary across subpopulations and developmental stages. Currently, fundamental consensus concerning the definition and components of emotional well-being, as well as what interventions promote emotional well-being, either as a mediator of health outcomes or as an end in itself, is lacking	National Institutes of Health, (2018b)
EWB	feeling more of a pleasant effect (positive affect) than unpleasant effect (negative affect) in one's life overall, including past, present, and future perceptions (Reh et al., 2021)	(Reh et al., 2021)
EWB	People's positive moods and emotions and low levels of negative moods and emotions, and reflects not only momentary enjoyment, but also movement toward goals that are congruent with a person's motives	Fredrickson and Joiner (2002)



colleagues proposed the term EWB not as a new concept per se, but as an "umbrella label" to capture multiple previously-defined psychological concepts including psychological well-being, health-related quality of life, thriving, and subjective well-being.

An umbrella term provides a useful start in moving toward ontological work that facilities integrative theory development and testing necessary to advance science (Eisenberg et al., 2019). The umbrella term itself, however, is useful only to the extent that individual studies clearly state which aspects of EWB they are considering, and even then, it may be hard to compare research on related but distinct concepts. Thus, a shared understanding of the underlying concept that EWB seeks to capture as well as a framework for studying it is needed. We acknowledge that the term EWB has not been widely used to date, yet propose that it may be expedient to use this less-encumbered term, providing a working definition that goes beyond providing an umbrella for other concepts to reflect a deeper understanding derived from bringing these concepts together. We appreciate that adding yet another term to the research landscape will require careful mapping of how prior terms may relate in order to make clear how earlier research may inform subsequent work using the proposed framework.

Our framework is influenced by a 2018 National Institutes of Health (NIH) Roundtable on EWB. In the report following that meeting, the terms SWB and EWB were used interchangeably to define how individuals experience their lives emotionally as well as their perceptions of life satisfaction and quality of life. The discussions therefore emphasized both emotional and cognitive judgments and perceptions. EWB was described as comprising three components: (1) eudaimonia, characterized by having a sense of meaning and purpose in life; (2) evaluative well-being (or life satisfaction), involving reflective, general judgments (or perceptions) of life satisfaction; and (3) hedonic (or experiential) well-being, referring to momentary emotional states (National Institutes of Health, 2018a). Following the roundtable, the NIH requested applications to advance the science of EWB, describing it as "... an overall positive state of one's emotions, life satisfaction, sense of meaning and purpose, and ability to pursue self-defined goals" (National Institutes and of Health Emotional well-being: High priority research networks (U24, clinical trial optional), 2018b).

This conceptualization of EWB, which builds on and draws from prior conceptualizations of the psychological aspects of well-being, is multi-faceted, yet a clear delineation of which facets should be included and whether they collectively and exclusively constitute EWB is lacking. Some investigators have likened psychological elements of well-being to the larger concept of flourishing (Keyes, 2002), characterized not only by the presence of positive emotions and life satisfaction, the absence of chronic

negative emotions, and eudaimonic components, but also by the presence of physical and social well-being. However, others have argued that psychological aspects of well-being should be considered separately from aspects of physical and social well-being to better understand their associations. Moreover, whether related constructs (e.g., social connectedness, resilience, mindfulness) are constituents of versus predictors or outcomes of EWB is a topic of ongoing debate. Careful consideration of these constructs as separate sets of elements will add clarity to conceptualizations. We suggest that anything not explicitly in the definition be investigated as a potential predictor or consequence, based on theory and temporal ordering.

Separate from concerns about which existing aspects of psychological well-being may be included in the conceptual definition of EWB is the concern that key elements beyond those already identified may be missing. For example, some investigators (e.g., Feller et al., 2018) have suggested the role of emotion in conceptualizations of psychological aspects of well-being is inadequately considered. Thus, conceptual work may be needed to add important additional dimensions to the concept of EWB as described here, which draws primarily on existing conceptualizations and research on psychological aspects of well-being (Keyes, 2002, 2015; Reh et al., 2021; VanderWeele, 2017).

## Developing a Working Definition and Framework of EWB

In early 2021, the NIH announced funding to advance research on psychological aspects of well-being (using the terminology of EWB) through networks designed to provide infrastructure for research and information dissemination. Six networks were funded by NIH as cooperative agreements (U24 grants) in partnership with the institutes/centers involved. Each funded network proposed a unique set of aims across diverse topics. Once the individual networks were formed and "network of networks" meetings commenced, it became apparent that having a mutual working definition of EWB would be advantageous not only in facilitating communication and collaboration across the networks but also in advancing research, policy, and practice related to psychological aspects of well-being. Thus, a working group with representatives from all six networks was established to develop a mutual understanding of psychological aspects of WB and advanced a working definition of EWB. As part of this effort, the working group sought to delineate boundary conditions of EWB, identify aspects of the concept that are currently under-developed, and avoid confounds with other constructs that might be important correlates, causes, or consequences of EWB.



Key stages of the process used by the group to develop a working definition of EWB included review of relevant concepts and their extant definitions, mapping of these concepts to one another, and discussion of opportunities and challenges in establishing consensus on terminology. Throughout each stage, the working definition was iterated through input from subject matter experts consisting of network members, NIH program staff, and external advisory board members of individual networks. The group engaged in a year-long process that included meeting weekly from April to October of 2021; we describe that process next.

We began by compiling multiple definitions of psychological aspects of well-being and related constructs that have been put forth in the literature, including those supplied by NIH for this network funding initiative (National Institutes and of Health Emotional well-being: High priority research networks (U24, clinical trial optional) 2018b). See Table 1. We collectively reviewed and discussed terms and definitions to identify common themes and core elements. We then began to delineate boundaries between the construct of interest representing psychological aspects of well-being

and other constructs that might be better conceptualized as antecedents of EWB (e.g., caregiver warmth, mindfulness) or consequences of EWB (e.g., anxiety, performance). Each network independently proposed key elements of EWB to be included in a working definition, and we then mapped common elements across each network's definition. As shown in Table 2, there was a fair degree of consensus across initial network perspectives.

We gathered potential concepts—common and unique—from this activity and identified other key terms in the literature (see Table 3 for listing of terms considered) to engage in an initial concept mapping exercise in which we modeled relationships among them (Markham et al., 1994). Results revealed that a definition of psychological aspects of well-being should encompass distinct hedonic/affective and eudaimonic/cognitive aspects. Throughout this process, members recognized and actively discussed problems with existing terminology and the limits of extant work given lifespan, culture, and context considerations. Subsequently, network members deliberated and formulated a working definition of EWB derived from current theory and empirical

Table 2 Initial proposed essential elements of a definition of EWB across by individual networks and in comparison with NIH's Funding Opportunity Announcement (FOA) definition

NIH FOA	Network 1	Network 2	Network 3	Network 4	Network 5	Network 6
Overall positive state of emotions	Positive emotional balance	Mood	Positive emotions (lack of fear, anger, sadness, happiness		Adequacy frequency of positive & prosocial emotions; high levels of emodiversity	Well-being global affect, positive and negative emotions, sen- sory delights
Sense of meaning and purpose	Sense of meaning (purpose, mattering, comprehensibility)		Meaning/ purposeful life	purpose	Meaning: purpose/ mattering	Meaning/purpose
Life satisfaction	Life satisfaction	Life satisfaction	Life satisfaction		Life satisfaction	
Ability to pursue self-defined goals			Ability to pursue self-defined goals			
Additional terms not explicitly noted in the NIH FOA			Secure Sense of agency Autonomy Feeling cared for		Optimism	Optimism
		Certain types of personality	_			
				Insight		
	Transcendence: connected to something beyond oneself	Interpersonal/ social well-being		Connection	Connection to something beyond self-interest	
				Awareness		
						Acceptance

For this exercise, each network was invited to identify terms that define the key elements of EWB. Reflected in the table is that each network proposed a somewhat different set of essential elements. Those with the same/similar elements are organized to be in the same rows. Additional elements that did not match are shown in rows below those explicitly listed in the NIH FOA definition



**Table 3** Terms discussed by the group as related to emotional well-being with initial characterization on level of centrality of each term

Discussed as more central	Discussed as more peripheral
Affect balance	Ability to pursue goals
Affective well-being	Acceptance
Cognitive well-being	Achievement
Emodiversity	Autonomy
Emotional balance	Connection
Eudaimonic well-being	Emotion regulation
Evaluative well-being	Feeling cared for
Experiential well-being	Flourishing
Happiness	Overall well-being
Hedonic well-being	Relationships
Insight	Sense of agency
Life satisfaction	
Life well-lived	
Meaning	
Mental well-being	
Optimism	
Sensory delights	
Sensory pleasure	
Sentiment	
Subjective well-being	
Transcendence, connected to something beyond oneself	

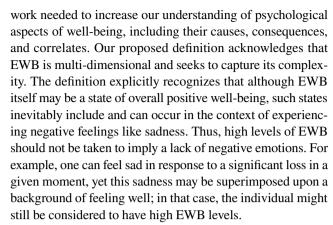
Terms are listed alphabetically

work on psychological aspects of well-being. Ultimately, a working definition emerged, which underwent multiple iterations as divergent perspectives were evaluated and points of agreement were voiced (See Supplemental Appendix A), was proposed as follows:

EWB is a multi-dimensional composite that encompasses how positive an individual feels generally and about life overall. It includes both experiential features (emotional quality of momentary and everyday experiences) and reflective features (judgments about life satisfaction, sense of meaning, and ability to pursue goals that can include and extend beyond the self). These features occur in the context of culture, life circumstances, resources, and life course.

### **Future Directions**

The process taken to establish a working definition and related conceptual framework for understanding EWB will help synthesize prior relevant research. In addition, this framework provides a strong starting point from which to continue the



We consider this work a beginning rather than an end to the discussion of what the concept of EWB should and should not include. We note that ways of thinking about all such concepts are provisional, open to new theory or empirical findings. However, we assert that progress can be greatly enhanced with a clear conceptualization that leverages what we know now to enable movement to the integrated theory and testing that can truly advance science. Over time, the definition may change and we encourage scholars to remain open to change when warranted. Also important to recognize is that any definition, including this one, may or may not be appropriate for use when communicating about real-world applications, such as policy or practice or communicating with lay audiences. For these purposes, the definition may need further modification. Despite these cautions, we believe that our process for developing this definition has identified critical issues that should inform future research seeking to advance the science of EWB. We briefly highlight these issues next.

Bringing Greater Attention to Measurement and Corresponding Constructs Researchers should be explicit about which aspects of EWB they are studying and ensure that the measures they choose correspond closely with those constructs. When reporting results, precision in language will help readers understand how the included constructs relate to the broader concept of EWB and prior research on it and related constructs. For example, findings from a study using a measure of life satisfaction may not necessarily overlap with findings from a study using a measure of meaning in life or positive emotion even though all have been considered as tapping into aspects of psychological well-being. Care in measurement and description will also enable scholars to consider what aspects of psychological WB may not be included in their study and how that might affect their findings.

**Connecting to Research on Emotion, Affect, and Cognition** Among the critical constituents of EWB identified from prior work, we note that emotion-related experience, expression, and physiology, and how they characterize or contribute to wellbeing, have received the relatively little attention. Indeed, in the



course of our work, several network members noted the striking lack of studies documenting relations between specific emotions and well-being, given the broad focus on positive affect more generally in the field. Because of this lack of empirical study of emotional factors involved in EWB, several issues warrant conceptual and empirical attention. A first issue is how specific emotions contribute to EWB. Currently, convergent lines of research employing different measurement approaches and treating emotions at the state and trait level have determined that the positive emotion space is highly dimensional, and includes numerous distinct emotions, such as amusement, awe, contentment, desire, joy, love, gratitude, and pride (Cowen & Keltner, 2021; Kiefer & Barclay, 2012; Shiota et al., 2006; Weidman & Tracy, 2020). This scholarship raises important questions for future study. For example, does measuring a richer array of distinct positive emotions explain variance above and beyond that captured by positive affect, the predominant focus in the field? Do specific positive emotions predict previously described aspects of wellbeing (e.g., environmental mastery or positive relations)? Could measurement of more specific positive emotions enable more precise claims about cultural variations and individual differences in EWB? Emotional valence is the sole emotion feature included in the EWB framework, yet advances in emotion theory and research point to these other areas of inquiry to provide a richer understanding of how emotions contribute to WB.

Another issue is that of dynamic and temporal patterning of different emotional components. Recent empirical studies have found that profiles of emotion vary in ways that are consequential for overall WB. Above and beyond mean levels of positive and negative emotion, diversity and range of emotional response, context-appropriateness (e.g., feeling anger in the face of unfairness), and rapidity with which negative emotions return to a more neutral baseline all predict other metrics of WB (Davidson, 2015). Thus, future research with EWB must address the role of dynamics and patterns within an individuals' emotion profiles. In addition, the possibility that emotion-specific constituents of EWB shape its more reflective features is an intriguing question for future study.

Another broad issue is differentiating EWB from social and cognitive constructs in the broader landscape of the concept of WB, such as optimism, social connectivity, and trust. Empirical studies have found that distinct emotions increase levels of the more cognitive and social dimensions of WB; however, the reverse is also true. These findings suggest that a deeper understanding of potential bi-directionality between components of EWB and other cognitive or social dimensions is needed (DeSteno et al., 2013).

**Studying Expression Across the Lifespan** Conceptual definitions of EWB should be applicable and relevant regardless of developmental periods. Yet challenges remain, as features that comprise EWB may differ and be differentially weighted or measured across developmental stages and populations.

Evident and measurable reflective features may be influenced by a person's level of cognitive functioning and developmental stage. Differential performance may be more pronounced in populations such as infants and older adults for whom typical psychological and neural development may change emotional experience and appraisal, and in people with cognitive, intellectual, or developmental disorders. For example, older adults ordinarily experience fewer negative emotions than younger age groups, a "positivity effect" associated with age-related changes in brain function resulting in improved emotion regulation (Suri & Gross, 2012). Furthermore, the ability to report *judgments* of life satisfaction, sense of meaning, and ability to pursue goals may rely on executive functioning and memory skills that are still developing (e.g., infants, people with developmental delays) or declining (e.g., people living with dementia, intellectual disabilities, or other conditions that impair cognition).

Importantly, impaired or developing cognitive skills do not preclude individuals in these groups from having meaningful experiences, the ability to pursue goals, or satisfaction with their lives; rather, individuals may not be able to effectively reflect and report upon these experiences. Certain populations may be systematically excluded from EWB research due to limitations in the extent to which they can self-report through traditional verbal assessments. Depending on the research question, different approaches, such as in-the-moment assessments of EWB across settings, time, and contexts, may better reflect EWB broadly and help capture these reflective components of EWB for those with limited capacity to report reflections and judgments.

This challenge underscores the importance of developing more robust measures of EWB that do not depend solely upon self-report. The field must grapple with how to assess: (1) reflective features in populations where reflective capacities may be developing or declining; (2) EWB in populations with limited capacity to report on their experiences and self-reflections; and (3) EWB in ways extending beyond self-report and that are multi-faceted (e.g., incorporating other-reports, physiological assessments, behavioral measures).

Expanding Integration of Culture and Context Our definition focuses on individual EWB and does not explicitly consider how this form of EWB fits within broader contexts at different levels of analysis, such as family, neighborhood, school, social class, and culture. For example, a family's well-being is critical to the individuals within it and to the family itself as a unit. Children's development of EWB and capacity to regulate emotions occur within a family that has its own EWB climate, which is not simply the aggregate of members' well-being. Thus, different tools may be needed to assess individual- versus family-level EWB. We propose that a child's EWB and a family's EWB are interdependent. Moreover, individual or family EWB may vary in both the salient elements and the



relative importance of these elements across different cultures. A broader understanding of the units at which EWB occurs and potential reciprocity of influence across units will inform our ability to enhance both individual- and family-level functioning. These principles also apply beyond the family unit. Efforts are needed to understand how EWB is defined and experienced for groups historically underrepresented in research (e.g., racial and ethnic minorities, rural residents), and the tools used to measure EWB should be validated for diverse populations to ensure their perspectives are adequately represented. Developing appropriate cultural and contextual lenses will be necessary.

Extension to Non-human Species The current working definition of EWB focuses on human experience and reflection. In many areas, mechanistic studies from non-human species have provided valuable insights for improving human health (Bale et al., 2019). How would the definition of EWB extend to non-human species as a basis for research on the biological mechanisms that may underlie it? Admittedly, many aspects of the current EWB definition refer to high-level concepts based on human self-report, which is not attainable in non-human species. However, as described above, self-report is also not attainable in certain human populations, yet EWB remains a relevant construct. Therefore, considering the definition of EWB in the absence of self-reported subjective feelings in cross-species studies may be worthwhile (e.g., Weiss et al., 2002).

Conversely, the study of biological mechanisms for EWB in non-human animals may in turn inform empirical study of EWB and its mechanisms in human samples and contribute to further refinement of the definition on that basis. Emotional primitives have been defined across species, often from a dimensional view using several axes such as valence, intensity, persistence, and generalization (Zych & Gogolla, 2021). Recent neuroscientific research in non-human animals has examined emotions as measurable states of central brain networks that respond to affective stimuli and cause multiple cognitive, somatic, and behavioral changes (Anderson & Adolphs, 2014; Salzman & Fusi, 2010). Differentiating brain networks more involved in the experienced aspect of emotion from those in the evaluative component of emotional processing is increasingly feasible (Etkin et al., 2015). In addition, investigators are developing sophisticated physiological and behavioral measurements via machine learning techniques to examine emotional expression in non-human animals and identify its relations with brain network activities (Zych & Gogolla, 2021). Looking forward, although animal models would not capture the full spectrum of EWB as defined for humans, important elements or fundamental processes may be translatable across species for brain mechanistic studies.

### **Closing Comments**

We have proposed that having a clearly defined term and a conceptual framework will refresh the research discourse and facilitate continued advances in the science seeking to understand psychological aspects of well-being and their role in physical health. With increased appreciation of the importance of studying health assets and a broader range of health-related states, knowing more about how to assess and promote EWB is a significant public health priority. Researchers will be better positioned to develop and test theoretical tenets with clearly stated hypotheses and communicate their findings to the research community. Although no single measure of EWB as yet exists, it may be that, for now, scholars will need to employ multiple measures to capture the components sufficiently. A strong suite of measures tapping these important components of EWB and spanning age, context, and method is needed to facilitate future advances. For some guidance on currently available selfreport measures, see Supplemental Appendix B. The proposed approach will stimulate development of more formal ontology reflecting deep theoretical understanding of how different components of EWB interrelate. Ontological efforts can provide a strong foundation for integrated theory-based recommendations on which current measures best capture the key elements of EWB. Ultimately, our work highlights the need to discover what gives rise to these EWB components and how they differentially relate to important aspects of mental and physical health.

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### References

- Academies, N., & of Sciences, Engineering, and Medicine, (2022). Ontologies in the behavioral sciences: Accelerating research and the spread of knowledge. The National Academies Press.
- Anderson, D. J., & Adolphs, R. (2014). A framework for studying emotions across species. *Cell*, *157*(1), 187–200.
- Bale, T. L., Abel, T., Akil, H., Carlezon Jr, W. A., Moghaddam, B., Nestler, E. J., ... & Thompson, S. M. (2019). The critical importance of basic animal research for neuropsychiatric disorders. *Neuropsychopharmacology*, 44(8), 1349-1353
- Chida, Y., & Steptoe, A. (2008). Positive psychological well-being and mortality: A quantitative review of prospective observational studies. *Psychosomatic Medicine*, 70(7), 741–756.
- Centers for Disease Control and Prevention. (2018) Well-being concepts. https://www.cdc.gov/hrqol/wellbeing.htm
- Cross, M. P., Hofschneider, L., Grimm, M., & Pressman, S. D. (2018). Subjective well-being and physical health. In E. Diener, S. Oishi, & L. Tay (Eds.), *Handbook of well-being*. Salt Lake City: DEF Publishers.
- Cowen, A., & Keltner, D. (2021). Emotional experience, expression, and brain activity are high-dimensional, categorical, and blended. *Trends in Cognitive Science*, 25(2), 124–136.
- Davidson, R. J. (2015). Comment: Affective chronometry has come of age. *Emotion Review*, 7(4), 368–370.
- DeSteno, D., Gross, J. J., & Kubzansky, L. (2013). Affective science and health: The importance of emotion and emotion regulation. *Health Psychology*, 32(5), 474–486. https://doi.org/10. 1037/a0030259
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71–75.
- Diener, E., Oishi, S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual review of psychology*, *54*(1), 403–425.
- Diener, E., Lucas, R. E., & Oishi, S. (2018). Advances and open questions in the science of subjective well-being. *Collabra: Psychology*, 4(1).
- Eisenberg, I. W., Bissett, P. G., Zeynep Enkavi, A., et al. (2019). Uncovering the structure of self-regulation through data-driven ontology discovery. *Nature Communications*, 10, 2319. https://doi.org/10.1038/s41467-019-10301-1
- Etkin, A., Büchel, C., & Gross, J. J. (2015). The neural bases of emotion regulation. *Nature Reviews Neuroscience*, 16(11), 693–700.
- Feller, S. C., Castillo, E. G., Greenberg, J. M., Abascal, P., Van Horn, R., Wells, K. B., & University of California, Los Angeles Community Translational Science Team. (2018). Emotional wellbeing and public health: Proposal for a model national initiative. Public Health Reports, 133(2), 136–141.
- Fredrickson, B. L., & Joiner, T. (2002). Positive emotions trigger upward spirals toward emotional well-being. *Psychological sci*ence, 13(2), 172–175.
- Frijters, P., Clark, A. E., Krekel, C., & Layard, R. (2020). A happy choice: Wellbeing as the goal of government. *Behavioural Public Policy*, 4(2), 126–165.
- Gärling, T., Gamble, A., Fors, F., & Hjerm, M. (2016). Emotional well-being related to time pressure, impediment to goal progress, and stress-related symptoms. *Journal of Happiness Studies*, 17(5), 1789–1799.
- Hernandez, R., Bassett, S. M., Boughton, S. W., Schuette, S. A., Shiu, E. W., & Moskowitz, J. T. (2018). Psychological well-being and physical health: Associations, mechanisms, and future directions. *Emotion Review*, 10(1), 18–29.

Keyes, C. L. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior*, 207–222

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- Keyes, C. L. (2015). Human flourishing and salutogenetics. In M. Pleuss (Ed.), Genetics of psychological well-being: The role of heritability and genetics in positive psychology (pp. 3–15). Oxford
- Kiefer, T., & Barclay, L. J. (2012). Understanding the mediating role of toxic emotional experiences in the relationship between negative emotions and adverse outcomes. *Journal of Occupational* and Organizational Psychology, 85(4), 600–625. https://doi.org/ 10.1111/j.2044-8325.2012.02055.x
- Koh, H. K., Blakey, C., & Ochiai, E. (2021). Flourishing after a pandemic: Healthy People 2030. *Journal of Public Health Man*agement and Practice, 27(6), S215.
- Koslouski, J. B., Wilson-Mendenhall, C. D., Parsafar, P., Goldberg, S. B., Martin, M. Y., & Chafouleas, S. M. (2022). (Minor revision under review) Measuring emotional well-being through subjective report: A review of reviews. BMJ Open.
- Kushlev, K., Drummond, D. M., & Diener, E. (2020). Subjective well-being and health behaviors in 2.5 million Americans. Appl Psych Health Well-Being, 12(1), 166–187.
- Lindert, J., Bain, P. A., Kubzansky, L. D., & Stein, C. (2015). Well-being measurement and the WHO health policy Health 2010: systematic review of measurement scales. *The European Journal of Public Health*, 25(4), 731–740.
- Lyubomirsky, S. (2001). Why are some people happier than others? The role of cognitive and motivational processes in well-being. *American Psychologist*, 56(3), 239–249.
- Lyubomirsky, S., & Lepper, H. S. (1999). A measure of subjective happiness: preliminary reliability and construct validation. *Social Indicators Research*, 46(2), 137–155.
- Markham, K. M., Mintzes, J. J., & Jones, M. G. (1994). The concept map as a research and evaluation tool: Further evidence of validity. *Journal of Research in Science Teaching*, 31(1), 91–101.
- National Research Council. (2014). Subjective well-being: Measuring happiness, suffering, and other dimensions of experience. The National Academies Press.
- Ngamaba, K. H., Panagioti, M., & Armitage, C. J. (2017). How strongly related are health status and subjective well-being? Systematic review and meta-analysis. *The European Journal of Public Health*, 27(5), 879–885.
- National Academies of Sciences, Engineering, and Medicine. (2022).

  Ontologies in the behavioral sciences: Accelerating research and the spread of knowledge. Washington, DC: The National Academies Press. https://doi.org/10.17226/26464
- National Institutes of Health. (2018a). Emotional well-being: Emerging insights and questions for future research. https://www.nccih.nih.gov/research/emotional-well-being-emerging-insights-and-questions-for-future-research. Accessed 7/10/22.
- National Institutes of Health. Emotional well-being: High priority research networks (U24, clinical trial optional) (2018b). https://grants.nih.gov/grants/guide/rfa-files/rfa-at-20-003.html. Accessed 7/10/2022.
- National Research Council. (2013). Subjective well-being: Measuring happiness, suffering, and other dimensions of experience. Washington, DC: The National Academies Press. https://doi.org/10.17226/18548
- OECD. (2013). OECD guidelines on measuring subjective wellbeing. OECD Publishing.
- Pressman, S. D., Jenkins, B. N., & Moskowitz, J. T. (2019). Positive affect and health: What do we know and where next should we go? *Annual Review of Psychology*, 70, 627–650.
- Reh, S., Wieck, C., & Scheibe, S. (2021). Experience, vulnerability, or overload? Emotional job demands as moderator in



trajectories of emotional well-being and job satisfaction across the working lifespan. *Journal of Applied Psychology, 106*(11), 1734–1749.

- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, *57*(6), 1069–1081. https://doi.org/10.1037/0022-3514.57.6.1069
- Salzman, C. D., & Fusi, S. (2010). Emotion, cognition, and mental state representation in amygdala and prefrontal cortex. *Annual Review of Neuroscience*, 33, 173–202.
- Seligman, M. E. P. (2011). Flourish: A visionary new understanding of happiness and well-being. Simon & Schuster.
- Seligman, M. E. (2012). Flourish: A visionary new understanding of happiness and well-being. Simon and Schuster.
- Shiota, M. N., Keltner, D., & John, O. P. (2006). Positive emotion dispositions differentially associated with Big Five personality and attachment style. *The Journal of Positive Psychology*, 1(2), 61–71.
- Su, R., Tay, L., & Diener, E. (2014). The development and validation of the comprehensive inventory of thriving (CIT) and the brief inventory of thriving (BIT). *Applied Psychology: Health and Well-Being*, 6(3), 251–279.
- Suri, G., & Gross, J. J. (2012). Emotion regulation and successful aging. *Trends in Cognitive Science*, 16(8), 409–410.
- VanderWeele, T. J. (2017). On the promotion of human flourishing. *Proceedings of the National Academy of Sciences*, 114(31), 8148–8156.

- VanderWeele, T. J., Trudel-Fitzgerald, C., Allin, P., Farrelly, C., Fletcher, G., Frederick, D. E., Hall, J., Helliwell, J. F., Kim, E. S., & Lauinger, W. A. (2020). Current recommendations on the selection of measures for well-being. *Preventive Medicine*, 133, 106004.
- Weidman, A. C., & Tracy, J. L. (2020). A provisional taxonomy of subjectively experienced positive emotions. *Affective Science*, 1(2), 57–86.
- Weiss, A., King, J. E., & Enns, R. M. (2002). Subjective well-being is heritable and genetically correlated with dominance in chimpanzees (Pan troglodytes). *Journal of Personality and Social Psychol*ogy, 83(5), 1141.
- Zaninotto, P., & Steptoe, A. (2019). Association between subjective well-being and living longer without disability or illness. *JAMA Network Open*, 2(7), e196870–e196870.
- Zych, A. D., & Gogolla, N. (2021). Expressions of emotions across species. *Current Opinion in Neurobiology*, 68, 57–66.

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