



Reflections on unspoken problems and potential solutions for the well-being juggernaut in positive psychology

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ABSTRACT

In an earlier paper (Goodman et al., 2018), we found that two models of subjective well-being demonstrated substantial overlap, with correlations between .85-.98. We concluded that these two models do not capture distinct types of well-being – a conclusion consistent with a growing list of studies that have found high correlations between various models of well-being. In response to our work, the developer of one well-being model wrote a commentary offering an alternative conclusion (Seligman, 2018). In this paper, we continue this important discussion by delineating areas of disagreement and common ground. We present our new hierarchical framework of well-being and illustrate how it can resolve long-standing points of contention in well-being measurement.

ARTICLE HISTORY

Received 14 August 2020
Accepted 14 August 2020

KEYWORDS

Well-being; positive psychology; subjective well-being; measurement

Understanding human well-being is one of the most important goals of psychological science. For good reason: most humans want to feel good, avoid feeling bad, and be free of maladies. Spiritual leaders like the Dalai Lama have argued that the very *purpose* of existence is seeking happiness. Since the inception of psychological science, researchers pursued this age-old inquiry of distilling the core components of well-being and how humans can obtain them. Scientific efforts to understand well-being have offered insights into the importance of money, healthy social relationships, personality, work organizations, and cultural influences (Diener et al., 2017, 1999).

With numerous frameworks of well-being proposed, our research team wondered if different models captured unique types of well-being. We first tested whether two prominent models – subjective well-being (SWB; Diener, 2009) and psychological well-being (Ryff, 1989) – represent one or two distinct types of well-being (Disabato et al., 2016). We conducted factor analyses in a sample of 7,617 participants from all six inhabited continents. We found a latent correlation of .96 between self-report measures of subjective and psychological well-being – as well as an average correlation difference of .08 between correlations with each well-being type and related constructs (e.g., gratitude, curiosity) – suggesting these two models (as measured with respective self-report questionnaires) capture the same type of well-being. To determine if self-report measures of a different, newer model of well-being ('PERMA'; Seligman, 2018) measured a unique type of

well-being, we conducted another study comparing SWB and PERMA (Goodman, Doorley et al., 2018). We conducted four types of statistical analyses to ensure results were not influenced by subjective statistical decisions. Across these analyses, latent correlations ranged from .85-.98 – and an average correlation difference of .02 between models and related constructs (e.g., spirituality, forgiveness) – again suggesting that these models (as measured with respective self-report questionnaires) capture the same type of well-being. Together, results from these two studies suggest that three models of well-being, each with unique combinations of components, do not capture distinct types of well-being. As detailed in this article, we propose that a person's subjective assessment of their well-being is best conceptualized as a single, overarching dimension that contains unique lower-level components. This hierarchical framework of well-being is analogous to the 'g' factor of intelligence with lower-level strata (Carroll, 1993) and the Big Five Traits of personality with lower-level facets (McCrae & Costa, 1987).

We are not the first nor only research team to draw this conclusion. This conclusion is also not specific to these three models of well-being. Different research teams found high correlations between subjective and psychological well-being (e.g., Keyes et al., 2002; Linley et al., 2009) as well as other well-being models, such as emotional, social, and existential well-being (e.g., MacDonald, 2018; Petrillo et al., 2015). Moreover, researchers have tested the psychometric properties of

hierarchical models of well-being with a general well-being factor and specific lower-level components, and multiple studies show support for a hierarchical model of well-being (Bohnke & Croudace, 2016; Chen et al., 2013, 2006; Jovanović, 2015; Kokko et al., 2013; Longo et al., 2016, 2017).

Despite this mounting evidence, our conclusion that SWB and PERMA are best captured in a hierarchical model of well-being drew scrutiny from Seligman, the creator of PERMA. In a commentary response published in the same issue, Seligman (2018) referred to our conclusions as ‘theoretically arbitrary’ and ‘incorrect.’ The only discernible difference beyond sample-specific nuances between our manuscript (Goodman, Disabato et al., 2018) and numerous others that found significant overlap between well-being models is our inclusion of the PERMA model. At the time of writing, we were able to locate only two papers that examined PERMA’s psychometric structure (Coffey et al., 2016; Khaw & Kern, 2014). In one of these studies, PERMA correlated .80 with Diener et al.’s (1985) life satisfaction measure and .92 with Ryan and Frederick’s (1997) subjective vitality scale (p. 204). Thus, we were surprised to see Seligman refer to our manuscript as an ‘indictment.’ It is unclear if he meant our empirical findings are an indictment on PERMA or him specifically. Nonetheless, we appreciate the opportunity to engage in productive discourse about measurement, the foundation of any scientific field. In positive psychology, debates about the structure of well-being are not new and have generated productive dialogue (e.g., see *Journal of Positive Psychology’s* special issue in 2008, target article by Kashdan et al., 2008).

In this article, we continue this important discussion about measuring well-being. We first provide a truncated historical overview of well-being measurement. We then review areas of disagreement in well-being measurement and present our hierarchical framework of well-being as one solution. We hope to invite constructive dialogue, spur collaborative research efforts, and encourage continued focus on data-driven conclusions.

An ultra-brief history of well-being measurement – and why it’s so hard

A comprehensive review of the longstanding debate on measuring well-being is beyond the scope of this commentary – and has been discussed at length elsewhere (e.g., Diener et al., 2009; Kahneman & Krueger, 2006) – but a brief stroll through history will orient readers to this conversation. Let’s begin with Greek philosophy. Aristotle tackled the daunting task of delineating ‘The Good Life.’ In his famed *Nicomachean Ethics*, he postulated that well-being could not be reduced to simple

short-lived positive feelings (given the name ‘hedonia’). Aristotle posited that well-being is not just about *feeling* good, but also about *doing* good. Happiness arises from good work. He outlined a new type of well-being characterized by wholesome, virtuous activity that contributed to sustainable well-being. ‘Eudaimonia’ was born.

The science of happiness and well-being can be traced back to at least the early 1900s (for an early review, see Wilson, 1967), with strong roots in clinical psychology. Clinical psychological science has predominantly focused on maladies, disorders, symptoms, and dysfunction. The absence of distress has traditionally been equated to well-being; a person without a mental health disorder is assumed to be high in well-being, and a person with one or more disorders is assumed to be low in well-being. Well-being and distress were pitted against each other as opposite ends of the same continuum. Recognizing the need to empirically distinguish subjective well-being from distress, Diener (1984) outlined a model of subjective well-being (SWB). Diener built off earlier happiness research (Bradburn, 1969; Bradburn & Caplovitz, 1965) in which Bradburn demonstrated that positive and negative affect operate relatively independently and offer unique contributions to the concept of happiness (Diener & Emmons, 1984). SWB included positive and negative affect, but Diener proposed that well-being extends beyond affective experiences – people also derive cognitive evaluations of the quality of their life, including within specific domains (e.g., satisfaction with work, family, friends, romantic life, leisure) and temporal frames (i.e., past, present, future) (Oishi et al., 2003; Pavot et al., 1998; Veenhoven, 2000). Together, these three components – positive affect, negative affect, and life satisfaction – form SWB. With a tractable model and corresponding self-report measures, well-being could be quantified consistently. What is measured matters, and the field now called positive psychology began to take form.

SWB, however, drew criticism from philosophers and psychological scientists. Drawing from Aristotle’s distinction between hedonia and eudaimonia, scholars posited that important components of well-being – namely from eudaimonia – were left out. Surely well-being could not be reduced to emotional experiences and a vague subjective judgment of how one’s life was going. A plethora of new models and constructs were proposed to fill this gap. As of 2016 (and more since then), researchers have published a staggering 99 published self-report measures of well-being with 196 different components.

With 99+ measures of well-being to choose from, studying well-being is an intimidating task. Which are the best measures, and which models best capture reality? To answer these questions, researchers must

carefully consider their measurement model. A model that *defines* well-being must be absent of the *causes and consequences* of well-being. Unfortunately, across subfields of psychology, the same measures are used to both measure and predict well-being. This has created a conflicting body of work on the components, causes, correlates, and consequences of well-being. To help address this issue, we propose a hierarchical framework of well-being that organizes existing models in a parsimonious manner. We illustrate how well-being can have a single, overarching well-being construct at the top of the hierarchy as well as distinctions between lower-level components, such as the Aristotelian distinction between ‘hedonic’ (e.g., positive affect) and ‘eudaimonic’ components (e.g., meaning in life). With a hierarchical framework of well-being, researchers and practitioners do not have to choose between higher and lower-order well-being. They can address (and measure) both general well-being and specific lower-order components that are relevant to a given situation, population, and/or research question.

A hierarchical framework of well-being

Our model proposes that well-being is hierarchical, with general well-being as a single factor at the top that subsumes lower levels of increasing specificity (Disabato et al., *under review*; preprint: <https://psyarxiv.com/5rhqj>). General well-being is defined as *perceived enjoyment and fulfillment with one’s life as a whole*. The structure of this definition implies that well-being is 1) subjective, 2) about oneself, 3) about a person’s life as a narrative or story, and 4) includes affective (*enjoyment*) and nonaffective (*fulfillment*) components. Of less importance than the structure are the particular words. It is unlikely that researchers will agree on a precise definition of well-being, but our hope is that there is broader agreement on its features. Underneath the general well-being factor are four levels: lenses (perspectives from which well-being is conceptualized), contents (homogeneous topic areas that make up each lens), characteristics (clearly defined components of well-being that offer practical value in dissecting human experiences), and contexts (characteristics that arise in particular situations or contexts and/or a narrow aspect of a particular characteristic). For example, psychological well-being might be a lens of well-being; meaning-making as a content area within it; purpose in life, significance, and coherence as characteristics of meaning-making; and work-related purpose, work-related significance, and work-related coherence as contexts in which work-related characteristics unfold.

This hierarchical structure is akin to common models of intelligence and personality, where different constructs arise at different levels of the hierarchy. The psychometric evidence on intelligence suggests that people’s general level of intelligence can be captured with a single overarching factor (*‘g’*), which explains considerable variance in outcomes. Still, that does not render the subsumed types of intelligence meaningless (Wee et al., 2016). To the contrary, examining individual intelligence types yields important information (e.g., verbal vs. quantitative; Schneider & Newman, 2015). Similarly, the Big Five model of personality suggests that human personality can be captured with five broad factors that organize considerable variance (i.e., OCEAN personality traits). Still, that does not render the subsumed facets of personality meaningless (McCrae et al., 2005). Gregariousness/sociability and assertiveness are both facets of extraversion, and yet they each predict various outcomes beyond extraversion alone (Paunonen & Ashton, 2001). Our hierarchical model of well-being follows this logic: a general factor of well-being captures shared variance among lower level components while also allowing for each component to predict (potentially) unique variance in relevant outcomes. A general well-being factor does not imply that lower levels are the same. As we described in our original article (see ‘Well-being Factors and Facets’ subsection of the discussion in Goodman et al., 2018), the presence of a general factor is independent of whether any two components of well-being are identical or redundant. SWB and PERMA are not the same models; they contain components that are distinct from each other (e.g., negative affect, accomplishment). Still, if models contain different components of well-being, this does not necessarily mean they measure unique types of well-being. Combinations of different components are often highly correlated and arguably tap into the same general well-being factor.

A question that naturally emerges from a hierarchical framework of well-being is what components fall under the well-being umbrella and what do not. As Seligman points out, a set of 196 different components of well-being is unwieldy and impractical. We agree. While we anticipate that researchers will probably never agree on what well-being is and what components it encompasses, we offer a solution to the problem: define and measure well-being with constructs that are free from specific contexts. Save content-laden constructs to understand what *causes* or *contributes* to well-being, not as measures of well-being itself (see also Schimmack, 2008). Seligman (2018) appears less insistent on drawing this distinction. He writes:

Let's say I am a pitching coach and I only take the overall rating of goodness of pitching seriously, disregarding the elements of pitching because they correlate perfectly with the overall rating. What do I tell my pitchers to do? 'Pitch well!' Not very useful. But taking the elements seriously, in contrast, tells me to work on the curve ball, and the fast ball, and the knuckle ball, and even which pitch to concentrate on improving. (p. 334)

To clarify, we are not advocating that researchers only study general well-being (i.e., 'Pitch well!'). Rather, we are suggesting that a *measure* of well-being should not also assess proposed *causes* of well-being. To extend Seligman's baseball analogy, a measure of pitching quality should not also assess the skills assumed to cause pitching quality.

Take Gerrit Cole. In 2019, he (and some video equipment) led the Houston Astros to the World Series. That year, he threw 3,911 pitches. More than half (54.1%) of his pitches were fastballs. He threw a slider about a quarter of the time (23.1%), occasionally threw a curveball (15.5%), rarely threw a changeup (7.0%), almost never threw a sinker (0.3%), and threw a grand total of 0 knuckleballs. Does a heavy reliance on one pitch (fastball) make him a bad pitcher? Probably not: Cole was runner up for the 2019 Cy Young Award (best pitcher) and subsequently signed a 324 USD million deal with the New York Yankees, the largest pitching contract in history. Washington Nationals' pitcher Stephen Strasburg, the MVP of that same World Series, had a more diverse pitching profile. He only threw fastballs about a quarter of the time (28.7%) and instead mixed in curveballs (31.0%), changeups (21.0%), and sinkers (19.0%). Only 0.3% of his pitches were sliders compared to Cole's 23.1%. Strasburg also threw 0 knuckleballs.

Great pitchers have different ways of reaching high pitching quality. When evaluating the quality of a pitcher, if we relied on the frequency or quality of a specific pitch, we might unintentionally favor one type of pitcher over another. Instead, pitching quality could be derived from performance indices related to winning: strikeouts, walks and hits per innings pitched (WHIP), and earned run average (ERA). Here, we see similarities in pitching quality between two very different pitchers (and see why Cole edged out Strasburg in Cy Young votes):

Cole had the most strikeouts in the MLB; Strasburg had the 6th most.

Cole had the 2nd lowest WHIP in the MLB; Strasburg had the 8th lowest.

Cole had the 3rd lowest ERA in the MLB; Strasburg had the 16th lowest.

Measures of pitcher quality should be agnostic to potential causes of pitcher quality. A pitcher's relative

number of fastballs, curveballs, sliders, and changeups (but probably not knuckleballs – only 3 pitchers in the entire league threw one in 2019) might predict how good they are (causes of quality), but pitch counts are not measures of pitching quality. The same idea holds for well-being – a measure of well-being should be agnostic to potential causes of well-being (e.g., Kashdan, 2004).

When helping a pitcher determine *how* to improve their performance, measures of pitcher quality score (e.g., strikeouts) is likely unhelpful in identifying specific strategies. The Yankees pitching coach is unlikely to suggest that Cole 'keep winning!' Instead, he will identify potential causes of Cole's pitching quality, such as the outcomes of different pitches (e.g., strikes vs. balls for curveballs) or how certain pitches interact with batter handedness (e.g., curveballs with left-handed batters).

In traditional psychotherapy, psychopathological symptoms do not tell clinicians *how* to help their clients; they tell the clinician *whether* their interventions are working. Symptoms are the outcome of interest, and psychotherapeutic interventions are the mechanisms purported to influence these symptoms. The hypothesized causes of these symptoms are measured to determine how to help the client. In psychodynamic therapy, a clinician may measure defense styles; in cognitive therapy, a clinician may measure dysfunctional attitudes; in behavioral therapy, a clinician may measure avoidance patterns. In each case, the hypothesized causes of symptoms differ, but the outcome remains the same: symptoms. We agree with Seligman that a clinician may want to measure potential causes of their client's well-being – a frankly neglected outcome in many clinical and research treatment settings – but that should not be conflated with measuring well-being itself as an outcome.

There is an important quality in our hierarchical model that is often neglected in discussions about well-being measurement. Our model is agnostic about what leads to or causes well-being. We refer to this as a content-free approach. Well-being is personal and, by definition, subjective. People differ in what they value, strive for, and draw meaning from. For a religious person, organized religion may increase their well-being; for an atheist, organized religion may decrease their well-being; for an agnostic person, organized religion may be unrelated to their well-being. Each of us holds a complex set of beliefs about well-being rooted in our personal experiences, values, and cultural context. A content-free approach to well-being does not wash away these individual differences; content-laden activities and values such as religion remain as person-specific *predictors* of one's overall, subjective assessment of how their life is

going. Our approach ensures that well-being is a similar construct across people and does not differ based on individual preferences.

This approach sidesteps the unachievable task of reaching consensus among scientists and practitioners, a task embroiled with personal biases. These biases become clear after dissecting a small batch of the 196 components used to operationalize well-being in existing self-report surveys (Linton et al., 2016): achievement, eco-awareness, family, faith/religion, financial well-being, friendships, parenting, peace of mind, purpose in life, motivation, pleasure, sex life, trust, vacations, and work. Scientific progress is contingent on candid dialogue and careful scrutiny of research ideas. It becomes increasingly difficult to be an objective critic when the object of critique is intertwined with deeply held values, beliefs, or personal investments – as is often the case with a content area as personal as well-being. If we were to intensively study a group of people and test which components predicted their well-being, we can anticipate considerable variability. A team of researchers who decide a priori which experiences or qualities lead to well-being for humans across the globe is almost assuredly biased.

There is danger in choosing a set of content-laden domains and calling them well-being – or claiming that there is one universal set of things that humans must have for well-being. If a model of well-being includes work, do we underestimate the well-being of stay-at-home parents? If it includes sex life, do we underestimate the well-being of celibate adults? If it includes vacations, do we underestimate the well-being of impoverished or homeless persons (e.g., Biswas-Diener & Diener, 2009)? If it includes religious service or affiliation with an organized religion, do we underestimate the well-being of people who find meaning from spiritual sources outside of a particular religious tradition? Rather than pick and choose the ingredients of well-being, a less arbitrary approach that prevents tautologies is to measure well-being with measures that are independent of presumed causes. In a model of well-being with content-free subjective measures, individual differences trump personal preferences – people derive well-being however they want. With our framework, we avoid the trap of choosing which components are better or more important than others.

Conclusion

Over the course of only a few decades since Diener's (1984) seminal article on subjective well-being, psychological science has offered tremendous insight into human functioning. One outgrowth of these efforts is a set of

conceptual models that define and organize components of well-being. These models offer roadmaps for studying what makes for a satisfying, fulfilling life in persons within and across cultures. In doing so, researchers identified overlap between models, leading to a new set of questions about our current theories, tools, and methods for measuring well-being. One question that we explored here and in our original paper (Goodman, Doorley et al., 2018) was whether self-report measures of different models capture different types of well-being. Such measurement questions may seem pedantic, perhaps even futile. Yet, we argue that clarifying well-being measurement is central to its scientific advancement. The goal is not to identify the gold standard measure or model; it is unlikely that any construct in psychological science is quantified with a single, universally agreed upon measure or model. Instead, 'clarifying well-being measurement' means ensuring that measurement models accurately reflect conceptual models, self-report measures capture the constructs that are supposedly being assessed, and tautologies are avoided (where measures of well-being include indicators that reflect causes, correlates, and/or consequences). Prioritizing measurement also prevents fallacies that plague psychological science: the jingle fallacy (assuming two measures with similar or identical names assess the same construct) and jangle fallacy (assuming two measures assess unique constructs because they have different names) (Flake & Fried, *in press*).

We echo recent calls-to-arms for scientists to engage in critical, productive dialogue that examines scientific evidence in a data-driven, objective, bias-free manner (Vazire, 2020). This will likely involve uncomfortable conversations that require scientists to reach across the proverbial aisle to acknowledge and understand opposing viewpoints, even if they contradict deeply held beliefs or personal research (Barret, 2019). The science of well-being will benefit from those who are courageous to put forth ideas, receptive to skepticism and responsive to criticism, and eager to humbly contribute to a rapidly evolving and fundamentally important field.

Disclosure statement

We have no conflicts of interest to disclose.

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