18

Advancing the Science of Well-Being

A Dissenting View on Measurement Recommendations

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Abstract

We question use of the term "well-being" to encompass notably distinct phenomena (objective indicators of socioeconomic status and health, subjective indicators of psychological experience) and dispute characterization of the field of well-being as relatively new. We also call for greater interplay between government surveys and multi-use cohort studies, both of which increasingly focus on well-being. The Midlife in the United States (MIDUS) study is presented as an example of how to negotiate distinct disciplinary priorities in broad-based studies of well-being and health, including those that take context seriously. We conclude with explanations for why we do not endorse any of the measurement recommendations (single-item measures, 4-6 item measures, multi-item assessments) put forth in the preceding chapter, arguing that the ultra-short assessments ignore extensive prior science documenting the complex, multi-faceted nature of well-being, while the proposed longer assessment (Comprehensive Inventory of Thriving, CTI) suffers from multiple problems including a questionable conceptual foundation, inadequate evidence of validity and reliability, and highly redundant items.

We appreciate the opportunity to respond to the "Current Recommendations on the Selection of Measures for Well-Being" (Chapter 17) endorsed by many contributors to this volume. It is worthwhile to engage in scholarly debate and discussion about how to best advance growing interest in assessing human well-being. We have multiple concerns with the current recommendations and have organized our thoughts around four overarching issues. Building

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from these, a final section distils our specific responses to each of the targeted recommendations, none of which we endorse. We offer these objections not to be contentious or unappreciative of the work of others, but rather to provide honest assessments of why they seem seriously problematic. Ultimately, the arbiters of such matters will not be the authors of the current volume, including ourselves, but rather members of the scientific community and government officials who must make difficult decisions in how to assess well-being. We hope this exchange will inform their decisions.

The Downside of Calling Everything Well-Being

Nomenclature matters. It defines what we are interested in, specifies what it should be named, and, importantly for science, encompasses the operational procedures involved in obtaining its measurement. In our view, using "well-being" as an umbrella term that applies to notably distinct phenomena (e.g., Messer, 2013; VanderWeele, 2017) is problematic. That is, we question whether science is usefully advanced by calling a host of distinct phenomena, such as objective indicators of socioeconomic status (educational attainment, income, standard of living), diverse indicators of health (health conditions, functional capacities, life expectancy), and multiple subjective indicators (happiness, life satisfaction, purpose, self-realization) *all* "well-being." Such inclusiveness, in our view, muddles important scientific agendas regarding what it means to be well, for whom opportunities of wellness are or are not available, and what health consequences well-being may have.

We propose that a better approach distinguishes among these different factors to focus on critical questions, such as what key sociodemographic, experiential, and contextual factors influence *people's inner sense of how their lives are going* (i.e., *subjective well-being).* Thus, we favor calling objective measures what they are: indicators of position in the surrounding social structure (e.g., education, economic status), indicators of chronic and acute stress exposures (e.g., caregiving responsibilities, job change), and indicators of physical health (e.g., chronic conditions, health symptoms, functional capacities, biomarkers). So doing draws attention to important measurement issues in all of these domains but, more importantly, provides clear conceptual and empirical foundations for scientific investigation of *how, and for whom, these objective factors shape inner experiences of subjective well-being.*

We also challenge the characterization of the field of well-being as something relatively new that has emerged in recent decades. In fact, subjective well-being as a domain of scientific inquiry has been present in social scientific studies, including population-based endeavors, since the middle of the past century (Andrews, 1974; Bradburn & Noll, 1969; Gurin, Veroff, & Feld, 1960). Beyond that, scholarly interest in well-being has been part of the human journey since the ancient Greeks. Our Chapter 4 in this volume revisits parts of that distant literature to show how it has shaped numerous conceptual and empirical approaches to well-being in our era. Without attending to this past, science fails to be cumulative. This matters not only for conceptual reasons regarding how well-being should be formulated but, more importantly, for what decades of empirical science has revealed regarding the antecedents and consequents of diverse aspects of well-being. Too many of the key sources cited in the recommendations chapter, most of which are relatively recent, neglect this larger literature.

Ships Passing in the Night: Government Surveys and Multiuse Cohort Studies

A strength behind the proposed recommendations is that they jointly consider assessments of well-being in government surveys *and* in multiuse cohort studies. These two worlds, both typically supported by taxpayer resources, seem to rarely intersect. A compelling case can be made, however, that these large realms—one oriented toward informing government policies and practices and the other toward generating new findings on the science of health—need to more frequently engage one another. In our view, scientific evidence about well-being and health from multiuse cohort studies can and should inform what aspects of well-being are important to include in big government surveys such as the UK National Wellbeing Programme or the Organization for Economic Cooperation and Development (OECD).

We highlight evidence from the Midlife in the United States (MIDUS) Survey, the Health and Retirement Study (HRS), and the English Longitudinal Study of Ageing (ELSA) to underscore these points. A proliferation of recent findings have documented the protective influence of eudaimonic aspects of well-being, particularly purpose in life, in reducing risk for major depression (Keyes, 2002; Rottenberg, Devendorf, Panaite, Disabato, & Kashdan, 2019), multiple disease outcomes (Boyle, Buchman, & Bennett, 2010; Kim,

Sun, Park, Kubzansky, & Peterson, 2013; Kim, Sun, Park, & Peterson, 2013), and extending length of life (Hill & Turiano, 2014; Steptoe, Deaton, & Stone, 2015). Intervening biological and brain-based mechanisms have also been explicated (Hafez et al., 2018; Heller et al., 2013; Morozink, Friedman, Coe, & Ryff, 2010; Schaefer et al., 2013; Zilioli, Slatcher, Ong, & Gruenewald, 2015).

Such evidence from cohort studies suggests that those making choices about what to include in government surveys would be wise to include quality assessments of eudaimonic well-being. Unfortunately, the proposed items put forth in the recommendations bear little likeness to the actual assessment of diverse aspects of well-being in cohort studies that have generated scientific findings linking these aspects of well-being to health. What is thus perpetuated is a problematic disconnect between the emerging scientific findings and policy-oriented government surveys.

Relatedly, and in recognition that survey costs and efficiencies are paramount in adjudicating what to assess, it is important to consider whether good societies are well served by focusing on extremely limited questions, mostly about happiness and life satisfaction, at the expense of other critical aspects of well-being, such as citizens' perceptions of whether they are able to pursue meaningful and purposeful lives, whether they see themselves as able to make the most of their personal talents and capacities, or whether they have positive self-regard. Government surveys and cohort studies that neglect this wider scope of what well-being is, as distilled from decades of science and distant philosophy, are ultimately short-sighted. They are pursuits that effectively ensure that what is learned or gets translated to public practice will fall short of the subject matter they seek to advance.

In reflecting about these issues, we also note growing evidence that eudaimonic well-being is modifiable. Diverse interventions to improve well-being now demonstrate reduced rates of depression and anxiety as well as improved subjective health (Cantarella, Borella, Marigo, & De Beni, 2017; Fava, 2016; Friedman et al., 2019; Ruini, 2017). These psychotherapeutic and psychosocial practices have been carried out with healthy populations as well as among patients with mental illness (Weiss, Westerhof, & Bohlmeijer, 2016). Such interventions build on the multifaceted nature of eudaimonia, which likely contributes to why they are efficacious: that is, these initiatives address, at the individual level, unique strengths and weaknesses across multiple aspects of well-being.

Taken together, we view the highly streamlined measurement recommendations as conveying a comparative devaluing of the richness of

subjective well-being relevant to the space allotted in government and cohort surveys to other topics, such as socioeconomic status (education, income, wealth, financial stress, insurance), health behaviors and practices (diet, alcohol use, exercise, sleep), and healthcare utilization and diverse health outcomes (chronic conditions, symptoms, functional capacities, biomarkers). The implicit message is that how people think and feel about their well-being is simple, not complicated, and can be easily captured with a handful of items. This stance guarantees impoverished knowledge and thereby limits scientific and translational impact. Put succinctly, the proposed recommendations reveal a capitulation to the view that well-being is inherently less important, less multifaceted, and less consequential than extant science shows it to be.

Negotiating Distinct and Often Competing Disciplinary Priorities

Sitting in the background of the proposed measurement recommendations and our responses to them are differing disciplinary priorities. In our view, these point to contrasting strengths and weaknesses across scientific fields that need to be recognized and negotiated. Population sciences (demography, epidemiology, sociology) have the great strength of capturing sociodemographic diversity and sampling representativeness. Historically, however, these disciplines have fallen short when it comes to the comprehensive assessment of complex psychological and social constructs. Alternatively, small-sample disciplines, exemplified by numerous subfields of psychology (cognition, emotion, motivation, personality, well-being) have the strength of attending carefully to the conceptualization and operationalization of their key constructs, including a commitment to rigorous psychometric evaluations. However, they have traditionally shown little, if any, concern for sociodemographic diversity among those they study and even less commitment to sampling representativeness.

These contrasting strengths and weaknesses are insufficiently recognized in the proposed recommendations. Indeed, the "voice" behind the recommendations is population science and practice, exemplified by cohort studies and government surveys, but the subject matter under consideration comes from psychological science and human development. We see it as informative to note the history of the MIDUS Survey, which was an explicit

endeavor seeking to negotiate constructively these different disciplinary priorities (see Ryff & Krueger, 2018). Conceived by a multidisciplinary team of scientists representing most of the aforementioned fields (e.g., epidemiology, demography, economics, multiple subfields of psychology, sociology, human development), there was considerable tension at the outset regarding how limited resources should be best allocated. Two equally important objectives were center stage: (1) achieving high-quality samples defined in terms of population coverage and representativeness and (2) achieving high-quality assessment of key constructs, including psychosocial factors (personality, emotion, well-being, social relationships, diverse stress exposures) as well as numerous aspects of health. A key achievement of the MIDUS Survey was to demonstrate that the usual commitment to ultra-short-form assessments of these domains in a large cohort study was neither necessary nor wise.

Focusing only on assessments of well-being, MIDUS included comprehensive measures that covered multiple indicators of hedonic well-being (e.g., overall life satisfaction, domain-specific life satisfaction, positive and negative affect measured with multiple established scales) and eudaimonic well-being (autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, self-acceptance), along with scales of optimism, sense of control, and a host of social relational measures (social support given and received, quality of ties to spouse/partner, children, friends). Importantly, response rates for these lengthy assessments and many other measures across multiple waves of data collection, have been high (81–89%). Building on the MIDUS experience, we note that other large national studies, such as the Health and Retirement Study, have adopted many MIDUS measures. These developments challenge the view that big population studies or government surveys are inherently unsuited for using the well-validated, multi-item scales needed to adequately operationalize core psychosocial constructs.

What has been learned over the past three decades is that this commitment to quality measurement of key constructs has been greatly endorsed by the scientific community: MIDUS has more than 20,000 unique data users who have contributed more than 1,400 publications, many appearing in top-tier journals in diverse fields. Pertinent to the present focus, many of these publications concern assessments of psychological well-being, affect, and emotion—the findings from which have advanced knowledge of numerous sociodemographic factors that predict these outcomes (age, gender, socioeconomic status, race) and many more that link such outcomes to

diverse aspects of health, including biological risk factors and brain-based assessments. The key point here is to use the MIDUS study as a critical illustration that the push toward ultra-short-form assessments is not required in top-tier population studies. Beyond that, and of far greater importance, is that the scientific advances that follow from such a commitment to high-quality assessment of complex psychosocial constructs are deep and wide.

Taking Context Seriously

Emphasized in the abstract of the proposed recommendations was the need to carefully consider "what measures might be preferred in *which contexts*." We agree that context should be taken seriously but observe that so doing is at odds with recommendations for highly streamlined assessments of well-being. In our view, the evidence documenting the highly contextualized nature of well-being is too extensive to support advocacy for extremely limited measures. For example, a prior review of more than 200 studies of well-being (Ryff, 2014) revealed richly distinct patterns of findings depending on whether the context was examining the challenges of aging, experiences in family life (e.g., death of child, caregiving, non-normative parenting), work contexts (e.g., paid/unpaid work; career pursuits; work–family conflict; volunteering), or specific health conditions (e.g., fibromyalgia, cancer survivors, frailty).

More recently, socioeconomic equality has emerged as one of the most pressing issues of our time (Kirsch, Love, Radler, & Ryff, 2019), with extensive findings showing the lingering effects of the Great Recession (Burgard & Kalousova, 2015), particularly among those who were already disadvantaged. Such work includes evidence of compromised well-being and increased psychological distress, assessed comprehensively (Goldman, Glei, & Weinstein, 2018). Moreover, certain aspects of well-being previously found to be protective in the face of inequality (Morozink et al., 2010) have been shown to be disabled among those exposed to high Recession hardships (Kirsch & Ryff, 2016).

Racial disparities in well-being also call for wide-ranging, comprehensive assessments, particularly in light of prior findings documenting that blacks scored higher than whites on multiple aspects of flourishing (Keyes, 2009). These outcomes are evident despite sobering racial disparities in morbidity and mortality (Williams, 2012). Such paradoxes require thoughtful and

nuanced approaches that build from comprehensive and diverse measures of well-being.

Finally, at the level of broad comparisons across cultural contexts, the need for wide-ranging assessments of well-being is clearly evident. Cultural theories of individualism versus collectivism lead to distinct predictions, some of which have been examined in findings based on probability samples from Japan and the United States. Findings have underscored cultural differences in how well-being is linked with biological health: overall patterns underscore the reduced importance of hedonic well-being for Japanese compared to US adults (Kitayama & Park, 2017; Miyamoto et al., 2013; Yoo, Miyamoto, Rigotti, & Ryff, 2017). Happiness, inscribed in the US Declaration of Independence, in fact, emerges as more significant for the health (measured objectively) of adults in this country, and concomitantly, negative affect is not found to be linked with poor health in Japan. Without careful attention to guiding theoretical frameworks and quality assessment of multiple aspects of well-being, these differences could not have become known.

In short, we strongly endorse the need to study well-being in diverse life contexts defined by sociodemographic and cultural factors as well as by work and family life. Critically needed in such inquiries are high quality, comprehensive assessments of well-being because extant research has made clear that distinctions among varieties of well-being matter uniquely depending on the context. These diverse patterns of outcomes offer their own version of sensitivity analyses by clarifying which aspects of well-being are, and are not, tied to distinct life contexts and challenges.

How Science Best Proceeds

Drawing on preceding points, we close with targeted responses to the specific measurement recommendations put forth by VanderWeele et al. in Chapter 17. In brief, we do not endorse any of them.

The most extreme recommendation pertains to what should be used for a single-item assessment of well-being. Here they propose using a single question about life satisfaction. They also recommend including an additional item on worthwhile activities when two-item measures are used. These suggestions fail to recognize major advances in the scientific study of well-being over the past 30 years: the central message of such work is that well-being is complex and multidimensional in structure. Advocating for a

single item is the equivalent of recommending a single item to assess socioeconomic status, depression, anxiety, or intelligence, which no one would do. Through extensive scientific research, each of those domains is now recognized to be complex and multifaceted. Measures for them must therefore be commensurate with what they are known to encompass. The same perspective now applies to the domain of psychological well-being.

The next-level recommendation is that four questions from the UK National Survey, conducted annually since 2011, are proposed for obtaining brief assessment of psychological well-being via government surveys. Despite their repeated usage and contributions to useful knowledge, these questions are unacceptable standard bearers or exemplars for how to assess well-being in other endeavors. That is to say, we are not advocating that such items be abolished, but rather than we oppose their adoption in future studies. Why?

The answer has to do with item content. Two of the four items cover hedonic well-being: "Overall, how satisfied are you with life as a whole these days?" and "Overall, how happy did you feel yesterday?" A third item covers eudaimonic well-being: "Overall, to what extent do you feel that the things you do in your life are worthwhile?" The fourth item is the following: "Overall, how anxious did you feel yesterday?" That two items pertain to how one felt *yesterday* is notably problematic, given growing evidence documenting within-person variability in affect across days (Brose, Schmiedek, Gerstorf, & Voelkle, 2019). The most flawed item pertains to anxiety. Negative affect has been extensively measured in studies of well-being (see later comments on the Comprehensive Inventory of Thriving), but none of this prior work has included assessment of anxiety. Like depression, anxiety is known to be psychologically complex and requires multiple items to be credibly assessed.

The next recommendation is for six items that should be used in multicohort studies that have space constraints. The proposed items are described as covering evaluative, eudaimonic, hedonic well-being, and other domains. Justification is not provided for why optimism is privileged with two of the six items, whereas all other domains are represented with a single item. For all items, no sound conceptual or empirical rationales are offered as to why they represent the putative domains of interest. Most concerning is that all of the recommendations for short-form assessments constitute a capitulation to the view that well-being is simple and can be credibly assessed with a handful of items. Extensive science assembled over the past 30 years challenges this view and, along the way, points to many better measurement alternatives.

Our primary objection pertains to what is put forth for a longer multi-item comprehensive assessment of subjective flourishing, namely, the Comprehensive Inventory of Thriving (CIT; Su, Tay, & Diener, 2014). For multiple theoretical and empirical reasons, we do not believe the CIT warrants this endorsement. First, although the measure claims to be theory-driven, no theory supports the opening announcement that psychological well-being consists of seven core dimensions, none of which is defined. The core dimensions are arrayed in a table that cross-classifies them with the key instruments from which they were derived. Some are misclassified. For example, Judge's self-esteem scale is listed as a dimension of mastery, which it is not; Ryff's self-acceptance scale is listed as a dimension of subjective well-being, which it is not; Ryff's personal growth scale, key in operationalizing Aristotle's eudaimonia, is missing.

Second, without explanation, some of the proposed seven dimensions are then elaborated with underlying facets. For example, the relationship dimension is broadened to include six facets (support, community, trust, respect, loneliness, belonging), mastery is broadened to include five facets (skills, learning, accomplishment, self-efficacy, self-worth), and subjective well-being is broadened to include three facets (life satisfaction, positive feeling, negative feeling). The remaining dimensions (engagement, autonomy, meaning, optimism) have only one facet.

The resulting 18 facets, around which subsequent measurement work proceeds, thus come with no conceptual formulation. Instead, a series of seemingly arbitrary decisions determine what falls under the broad umbrella of thriving (e.g., if loneliness is part of the relationship domain, why is boredom not included in the engagement domain?). Given the lack of a sound conceptual foundation, a major concern regarding the CIT is that many of its proposed dimensions are already operationalized with widely used short scales (e.g., LOT for optimism, UCLA loneliness scale, Ryff scales for multiple dimensions of eudaimonic well-being).

Methodological concerns abound with the validity and reliability of the CIT. Regarding the samples utilized, none of the five samples was a probability sample, nor was any information provided on the recruitment approach or response rates. The first sample, which was crucial in testing and selecting three items for each of the 18 facets of well-being, was based exclusively on college undergraduates despite extensive evidence that well-being varies systematically by age and socioeconomic status (as reviewed in our Chapter 4). The second sample consisted of adults over the age of 60, and

the third sample consisted of individuals with annual incomes of less than $20,000. No rationale was provided for either recruitment strategy. The remaining two samples included "adults representing different age groups, diverse occupations, and a wide range of income and education levels" (p. 257). No detailed information on participant recruitment than what was just quoted was provided. Collectively, these samples do not constitute a sound basis from which to assess merits of the instrument for population-based samples.

Items included in the CIT are highly redundant. Positive feelings, a facet of subjective well-being, are assessed with these items: "I feel positive most of the time," "I feel happy most of the time," "I feel good most of the time." This content is at odds with emotions included in prominent, widely used measures of positive affect, such as the Positive and Negative Affect Schedule (PANAS; e.g., cheerful, in good spirits, happy, peaceful, satisfied, full of life; Watson, Clark, & Tellegen, 1988). Similarly, negative feelings, another facet of subjective well-being, are assessed with these items: "I feel negative most of the time," "I experience unhappy feelings most of the time," "I feel bad most of the time." Not only are these items mirror opposites of the positive items, they neglect the negative emotions included in well-used measures (e.g., sad, nervous, restless, hopeless, worthless, afraid, irritable, ashamed, upset). Redundancy in item content translates to problems in α coefficients, which are extremely high: all are greater than 0.71, with the majority (70%) ranging from 0.85 to 0.96. These coefficients document that the items within the 18 facets are fundamentally equivalent.

Critically missing are item-to-scale correlations, the starting point for discerning the putative distinctness of the 18 facets/7dimensions of thriving. Indices of model fit are provided, but factor loadings from the multigroup confirmatory factor analyses are only available on the website of the first author. These factor loadings demonstrate considerable variability across samples (range from 0.43–1.0), undermining the conclusion that the validation analysis replicated in unique samples.

Intercorrelations among the 18 facets are likewise very high (>0.60, with some >0.80), suggesting notable blurring among the 18 subscales. Tests of convergent validity with established measures are compromised by the fact that the items used to generate the CIT were taken from these instruments (Flourishing Scale [FS], Satisfaction with Life Scale [SWLS], Self-Mastery Scale [SMS], Life Orientation Test-Revised [LOT-R], Core Self-Evaluations Scale [CSES]) used to validate the new inventory. The obtained correlations

are thus inflated by overlapping content. Tests of predictive validity, using assessed self-reported health measured at the same time, are likewise of limited value, given known positivity/negativity biases that come from using the same source to measure both well-being and health (i.e., those who rate their well-being favorably tend to rate their health favorably [or the alternative]). Finally, evidence of incremental validity over prior measures is unsurprising given that the prior measures assessed only single or limited dimensions of thriving.

For the all of preceding reasons, we do not endorse the use of the CIT (or the shorter-form BIT) in future scientific research or government studies. Efforts to validate the instrument reveal multiple problems that are compounded by limited samples and the starting selection of highly redundant items. This overall profile does not add up to a compelling case for adopting the CIT. However, as stated at the beginning of this dissenting view, we acknowledge that those orchestrating the government surveys or the multiuse cohort studies will make the ultimate decisions about what instruments should be used in what contexts. What we have tried to do in this essay is articulate the reasoning behind our opposition to all of the proposed recommendations put forth by VanderWeele et al. (Chapter 17) in hopes of advancing scholarly exchange about how to best assess well-being going forward.

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