

# Response to “Advancing the Science of Well-Being: A Dissenting View on Measurement Recommendations”

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## Abstract

This chapter responds to the criticisms offered in Chapter 18 of the recommendations made in Chapter 17. We respond to concerns about the use of the term “well-being” and the use of single-item measures, as well as about the Comprehensive Inventory of Thriving, while offering further justification of the original recommendations. Our view is that it is better to include one, or a small number, of well-being items, rather than none at all, and that it is likewise preferable to offer some guidance, rather than none, for those new to research on well-being.

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We appreciate the comments offered by Ryff et al. (Chapter 18, in this volume) on the importance of nomenclature and the related history of disciplines, the multidimensional nature of subjective well-being, and the context in which measurement occurs. These are indeed critical aspects of the complexity inherent to the topic of well-being measurement. Much of the discussion of Ryff et al. (Chapter 18) we agree with, and much of it is not at odds with what was recommended in our chapter (Chapter 17, in this volume).

In particular, Ryff et al. recommended that investigators avoid using “well-being” as an umbrella term when referring to distinct constructs. We appreciate the more detailed discussion of this issue and, in fact, entirely agree that the indicators like socioeconomic status and educational attainment

(often used to characterize “objective well-being”) are different from those capturing physical health, which are also different from those representing subjective psychological well-being (e.g., happiness, life satisfaction, purpose in life). Objective well-being indicators are not only distinct from subjective well-being indicators, but the former are often drivers of the latter (Kubzansky et al., 2018; Patel et al., 2018). Confusion can indeed arise when having these multiple referents for “well-being.” However, a number of overall well-being indices created for the purposes of tracking country-level (or other administrative units) performance concerning growth and development (e.g., Stiglitz, 2016) actually include both subjective and objective indicators. It is difficult to insist on terminology when it is used by others in a variety of ways. Nevertheless, distinguishing these constructs and terms will foster careful consideration about the various contexts in which measures of subjective well-being are needed, as well as facilitate further research about relationships between the social context, social inequality, and subjective well-being—as discussed further later.

We also completely agree that interest in, and the study, of well-being is not in its infancy. Ryff et al. referred to interest in the topic since the ancient Greeks. While reflection upon human well-being is indeed millennia old, the measurement and empirical study of subjective well-being is comparatively recent. Although the empirical study of subjective well-being has been ongoing in important ways for decades, there can be no doubt that interest in and attention to this area of research has expanded dramatically in recent years, along with accompanying knowledge.

We endorse Ryff et al.’s insistence that well-being is multidimensional and complex. We also understand their concern about reducing well-being measurement to a single item, which was central in their objection to the recommendations for government surveys and multiuse cohort studies. We agree that, whenever it is possible to advocate for longer well-being assessments, it would be beneficial for the field to do so. However, we have been in situations in which investigators are willing to include one, and only one, subjective well-being item in their survey. Our view is that it is better to include one than none at all. Moreover, it is worth noting that other researchers have previously demonstrated that single life satisfaction measures can in some contexts perform similarly to multi-item ones (Cheung & Lucas, 2014). In our own work, when developing a 40-item well-being index covering numerous domains of flourishing (Lee et al., 2020; VanderWeele,

2017), we found correlations of the single life satisfaction item “Overall, how satisfied are you with life as a whole these days?” of magnitude 0.70 to 0.75 with the entire 40-item index. Similarly strong correlations with the full index held for “Overall, to what extent do you feel the things you do in your life are worthwhile?” and with “All is well with my life.” In parallel, a recent narrative review found that both single- and multi-item measures of life satisfaction are reliably associated with mortality risk (Trudel-Fitzgerald et al., 2019a). Although the review found happiness captured by a single item was not as reliably associated with mortality across a handful of studies (Trudel-Fitzgerald et al., 2019a), one-item measures of happiness have been associated with other health-related outcomes, such as lifestyle behaviors over time (e.g., smoking, physical activity, diet quality; Trudel-Fitzgerald et al., 2019b). The Japanese term *Ikigai* is another construct that has mostly been assessed using a single item, which has shown fairly consistent associations with subsequent health outcomes and mortality risk (Boehm & Kubzansky, 2012; Trudel-Fitzgerald et al., 2019a). Thus, while we completely agree that most constructs are more accurately captured with multiple items (e.g., personal growth, positive affect, meaning in life), we also believe there is sometimes valuable insight to be gained even with a single item, when it is a good one. Moreover, for researchers who are skeptical about the empirical assessment of well-being and may not want to attempt its assessment or devote a great deal of time or questionnaire “real estate” to the endeavor, it is arguably best to start somewhere using either a single or just a few items, rather than to abandon the undertaking altogether. As was noted in our chapter, if, in government or multipurpose cohort studies, it is possible to have longer assessments, we would absolutely be in favor of using more comprehensive, multi-item measures, and we would not then recommend these very brief assessments.

With regard to our measurement recommendations for specific items, we suggested the life satisfaction question because it has already been used so widely, both in scientific research and government surveys, and is recommended by the Organisation for Economic Co-operation and Development (OECD, 2013). The question on worthwhile activities (which we suggested as a complement to the life satisfaction item, if it is possible to include only two items) is likewise widely employed, including in the UK national program of personal well-being since 2011 (Office for National Statistics, 2018); a similar item is also recommended in the OECD guidelines (2013). Worthwhile activities tap into eudaimonic well-being

which, as underscored by Ryff et al., is an important aspect of well-being that has been related to a wide variety of outcomes, including physical health (Boehm & Kubzansky, 2012; Chapter 5, in this volume). To maximize comparability with past research we suggested the life satisfaction question if only one item is possible; however, it is indeed plausible that it would be of greater benefit to society to replace that life satisfaction question with one on worthwhile activities or with some other item. Indeed, this was explicitly raised in the discussion section of our chapter as an important area for future research. While Ryff et al. expressed concerns about empirical evidence to support the value of the worthwhile activities question, this eudaimonic well-being item has been used in etiologic long-term research and predicts numerous health and other outcomes over time (Steptoe & Fancourt, 2019). This work is relatively recent, but, as noted earlier, the field is developing rapidly. The happiness and anxiety items were the third and fourth items we recommended for use in government surveys if space allowed. Ryff et al. criticized these items with respect to their reference to “yesterday” given the intraperson variability. We are sympathetic to this issue. However, as we noted, while we agree that these items would be less suitable in etiologic longitudinal research on a cohort of individuals, when they are sampled over many persons on different days, they provide a representative aggregate of individuals’ self-assessed happiness and anxiety, respectively, over time for a nation. In the section on multiuse cohort studies, when the same group of individuals is followed over time, one would desire a measure with less day-to-day variability and thus we modified our recommendations accordingly (i.e., by selecting items that do not refer to “yesterday” as the time frame). In most government surveys, it is not possible to use the data for individual-level longitudinal panel research.

Regarding items recommended for multiuse cohort studies, counter to Ryff et al.’s claim, we did provide a rationale for our choices. For example, we suggested the use of items related to purpose and optimism based in part on their predictive validity for outcomes most people care about; for instance, numerous studies have demonstrated that these represent key psychological constructs that predict mortality (Cohen, Bavishi, & Rozanski, 2016; Rozanski, Bavishi, Kubzansky, & Cohen, 2019; Trudel-Fitzgerald et al., 2019a) as well as health-related behaviors and biomarkers (e.g., allostatic load, antioxidants; Chapter 5, in this volume). Furthermore, we did not recommend optimism as the only facet of well-being to receive two items in multiuse cohort studies, but also suggested

that investigators measure purpose with two items. Many existing multiuse cohort studies arise out of biomedical research contexts and have the study of health as one of their central motivations. Focusing on health in cohort studies is, of course, not a necessity, and interest seems to be increasing in the social sciences for collaborating on the development of very large multiuse cohort studies for a range of purposes. However, many cohort studies in biomedicine have not included measures of well-being as it has not been a central focus of their investigations. For investigators interested in evaluating relationships between subjective well-being and a range of other health outcomes by using these cohort studies, capacity to predict physical health and mortality can be used as a persuasive argument for convincing skeptics about the utility of including items on well-being. Moreover, such arguments may be more effective if it is possible to recommend a limited set of items rather than taking an all-or-nothing stance. Thus, rather than implying that measurement of well-being is “less important, less multifaceted, and less consequential,” as suggested by Ryff et al., we hope that our recommendations of both shorter and longer measures of well-being will result in a wider and more comprehensive use and study of these constructs.

In addition, we respectfully disagree with Ryff et al.’s claim that our entire recommendations document was shaped solely around a population or demographic perspective. That perspective was certainly dominant in the recommendations for government surveys and multiuse cohorts because a population perspective is often the motivation for such studies. However, after reviewing issues related to those types of studies, we went on to discuss recommendations for studies focused principally on well-being, wherein theoretically rich perspectives, such as from the psychological sciences and human development, are more dominant. Regarding the recommendations given in that section, Ryff et al. expressed skepticism regarding the use of the Comprehensive Inventory of Thriving (CIT; Su, Tay, & Diener, 2014) because of concerns about the psychometric quality of the measure. We would like to point out that in our recommendations the CIT was suggested not for use principally as an aggregate measure of well-being, but rather as a way to obtain an inventory of numerous different facets of well-being. One may use each of the facets without aggregating or without endorsing the conceptual grouping in domains of the different facets. As noted in our chapter, this scale was recommended on the grounds of its breadth of coverage. Moreover,

the original authors reported that the CIT subscales are correlated but distinguishable from each other, a factor structure that was found in all five of their original validation samples (Su et al., 2014). There has also been further cross-cultural psychometric evaluation (Wiese, Tay, Su, & Diener, 2018). Following predictions one would make based on prior work (Boehm & Kubzansky, 2012; Pressman, Jenkins, & Moskowitz, 2019; Chapter 5, in this volume), validation studies demonstrated that higher scores on several CIT subdomains—particularly Life Satisfaction, Positive Emotions, Optimism, and Accomplishment—separately correlated with fewer medical problems, higher levels of physical functioning, and more frequent engagement in healthy behaviors (Su et al., 2014).

Ryff et al. also criticized the fact that many of the CIT items were overlapping or very closely related to prior scales on the basis that this compromised “tests of convergent validity with established measures.” However, in our view, the overlap with prior well-validated items is in fact a strength. Again, our recommendations regarding this measure did not pertain to its conceptual underpinnings *per se*, but rather to the inventory of different aspects of well-being, as providing a number of well-studied items derived from prior work that covers very many facets of subjective well-being. Moreover, we did recommend that, whenever possible, each construct should be measured by more than one scale to help facilitate new insights and possible conceptual distinctions that may be obscured by a single scale and set of items. Notably, we suggested drawing on Ryff’s Psychological Well-Being scales (Ryff, 1989) for this, among others. This would arguably help facilitate the rich theorization that Ryff et al. desire and have contributed to. Unfortunately, Ryff et al. did not seem to acknowledge this important aspect of the recommendations.

In their section about the importance of context, Ryff et al. also pointed to the need for acknowledging factors related to subjective well-being, including life events, socioeconomic inequalities, cultural differences, and racial disparities. We concur that these are key social determinants of subjective well-being that should be considered in both scientific research and government surveys. To date, most scientific research on subjective well-being has relied on samples from high-income countries, circumscribed to certain races and cultures, which may not be generalizable to other populations. Yet, as underlined by Ryff et al. and elsewhere in this book (Chapter 5), it remains unclear as of now whether constructs of subjective well-being are conceived

similarly across race, cultures, and countries worldwide given documented differences in the experience, value, and understanding of well-being (Choi & Chentsova-Dutton, 2017; Diener, Lucas, & Oishi, 2018; Ma, Tamir, & Miyamoto, 2018; Ryff, 2017). Thus, we fully endorse the perspective that careful assessment of subjective well-being in different populations is critically warranted.

Any set of concrete recommendations will have limitations. However, for those relatively new to the field who may be interested in measuring subjective well-being, we do believe that some guidance is of help. Very little has been offered beyond a description of the array of options (e.g., Lindert, Bain, Kubzansky, & Stein, 2015; Linton, Dieppe, & Medina-Lara, 2016; Salsman et al., 2014), perhaps except from the OECD Guidelines on measuring subjective well-being (OECD, 2013), which are intended for national statistical offices primarily. Ryff et al. proposed a number of criticisms with respect to the concrete recommendations that we put forward. We believe some of these are inaccurate and have tried to address the inaccuracies in our discussion here, some criticisms are reasonable but arguably inescapable, some dismissed a context we think is important (i.e., single-item measures), and some do indeed point to limitations in current recommendations and in our current knowledge. As stated explicitly in our chapter, the recommendations are meant to be provisional and to prompt debate and, hopefully, over time, refinement. For example, we believe the question as to which single-item measure should be used to assess subjective well-being if only one is possible is an important and open topic for further research. Unfortunately, Ryff et al. did not explicitly offer their own alternative recommendations. We again believe some guidance is better than none for those new to work on well-being. An alternative possibility might be to suggest that the first author of the dissent's own Psychological Well-Being Scale (Ryff, 1989) be put forward. Indeed, in our section on using at least two scales, when possible, for each well-being construct, we suggested drawing on Ryff's Psychological Well-Being scales, among others. However, whether it would be possible to get governments around the world to administer a multiple-item multidomain well-being assessment is open to question. If this were to occur, we would be delighted, as it would enrich our knowledge of global subjective well-being considerably. However, we suspect that, at least initially, encouraging the use of a handful of items may well be a more successful approach in broadening the assessment and the study of well-being.

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## References

- Boehm, J. K., & Kubzansky, L. D. (2012). The heart's content: The association between positive psychological well-being and cardiovascular health. *Psychological Bulletin*, 138(4), 655–691.

- Cheung, F., & Lucas, R. E. (2014). Assessing the validity of single-item life satisfaction measures: Results from three large samples. *Quality of Life Research*, 23(10), 2809–2818.
- Choi, E., & Chentsova-Dutton, Y. E. (2017). The relationship between momentary emotions and well-being across European Americans, Hispanic Americans, and Asian Americans. *Cognition & Emotion*, 31(6), 1277–1285.
- Cohen, R., Bavishi, C., & Rozanski, A. (2016). Purpose in life and its relationship to all-cause mortality and cardiovascular events: A meta-analysis. *Psychosomatic Medicine*, 78(2), 122–133.
- Diener, E., Lucas, R. E., & Oishi, S. (2018). Advances and open questions in the science of subjective well-being. *Collabra: Psychology*, 4(1), 15.
- Kubzansky, L. D., Huffman, J. C., Boehm, J. K., Hernandez, R., Kim, E. S., Koga, H. K., . . . Labarthe, D. R. (2018). Positive psychological well-being and cardiovascular disease: JACC Health Promotion Series. *Journal of the American College of Cardiology*, 72(12), 1382–1396.
- Lee, M. T., Weziak-Bialowska, D., Mooney, K. D., Lerner, P. J., McNeely, E., & VanderWeele, T. J. (2020). Self-assessed importance of domains of flourishing: Demographics and correlations with well-being. *Journal of Positive Psychology*, <https://doi.org/10.1080/17439760.2020.1716050>.
- 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. *European Journal of Public Health*, 25(4), 731–740.
- Linton, M. J., Dieppe, P., & Medina-Lara, A. (2016). Review of 99 self-report measures for assessing well-being in adults: Exploring dimensions of well-being and developments over time. *BMJ Open*, 6(7), e010641.
- Ma, X., Tamir, M., & Miyamoto, Y. (2018). A socio-cultural instrumental approach to emotion regulation: Culture and the regulation of positive emotions. *Emotion*, 18(1), 138–152.
- OECD. (2013). *Guidelines on measuring subjective well-being*. Paris: OECD.
- Office for National Statistics. (2018). Well-being. <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing>.
- Patel, V., Saxena, S., Lund, C., Thornicroft, G., Baingana, F., Bolton, P., . . . Herrman, H. (2018). The Lancet Commission on global mental health and sustainable development. *Lancet*, 392(10157), 1553–1598.
- 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*. DOI:10.1146/annurev-psych-010418-102955
- Rozanski, A., Bavishi, C., Kubzansky, L. D., & Cohen, R. (2019). Association of optimism with cardiovascular events and all-cause mortality: A systematic review and meta-analysis. *JAMA Network Open*, 2(9), e1912200.
- 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, 1069–1081.
- Ryff, C. D. (2017). Eudaimonic well-being, inequality, and health: Recent findings and future directions. *International Review of Economics*, 64(2), 159–178.
- Salsman, J. M., Lai, J. S., Hendrie, H. C., Butt, Z., Zill, N., Pilkonis, P. A., . . . Cella, D. (2014). Assessing psychological well-being: Self-report instruments for the NIH Toolbox. *Quality of Life Research*, 23(1), 205–215.

- Stephoe, A., & Fancourt, D. (2019). Leading a meaningful life at older ages and its relationship with social engagement, prosperity, health, biology, and time use. *Proceedings of the National Academy of Sciences of the United States of America*, *116*(4), 1207–1212.
- Stiglitz, J., Sen, A., & Fitoussi. (2016). *Report by the Commission on the Measurement of Economic Performance and Social Progress*. Paris: Commission on the Measurement of Economic Performance and Social Progress.
- 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*, 251–279.
- Trudel-Fitzgerald, C., Millstein, R. A., von Hippel, C., Howe, C. J., Tomasso, L. P., Wagner, G. R., & VanderWeele, T. J. (2019a). Psychological well-being as part of the public health debate? Insight into dimensions, interventions, and policy. *BMC Public Health*, *19*(1), 1–11.
- Trudel-Fitzgerald, C., James, P., Kim, E. S., Zevon, E. S., Grodstein, F., & Kubzansky, L. D. (2019b). Prospective associations of happiness and optimism with lifestyle over up to two decades. *Preventive Medicine*, *126*, 105754.
- VanderWeele, T. J. (2017). On the promotion of human flourishing. *Proceedings of the National Academy of Sciences of the United States of America*, *31*, 8148–8156.
- Wiese, C. W., Tay, L., Su, R., & Diener, E. (2018). Measuring thriving across nations: Examining the measurement equivalence of the Comprehensive Inventory of Thriving (CIT) and the Brief Inventory of Thriving (BIT). *Applied Psychology: Health and Well-Being*, *10*(1), 127–148.