

# Culture and Subjective Well-Being: Conceptual and Measurement Issues

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**Abstract:**

The present chapter reviews conceptual and measurement issues related to culture and subjective well-being (SWB). Historically, the concepts of happiness gradually shifted from good luck and fortune to the satisfaction of desires and goals. There are still large cultural variations in the concepts of happiness (e.g., fragility). The majority of the popular scales (e.g., the Satisfaction with Life Scale, the Subjective Happiness Scale) have been successfully translated into various languages. However, most scales have not been subjected to sophisticated psychometric analyses (e.g., Item Response Theory). Cross-cultural mean comparisons require some caution due to cultural differences in response style, self-presentational concerns, and memory and judgmental biases. In addition to the use of advanced statistical techniques, the use of qualitative and non-invasive measures is recommended.

**Key Words:** Culture, Subjective Well-Being, Measurement, Concepts of Happiness

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Happiness is used to describe at least two distinct psychological states. The first common use is to describe an individual's momentary affective state (e.g., feeling happy at this very moment, which is typically accompanied by a smile on the face). The second common use is to depict an individual's relatively permanent state of being well (e.g., feeling happy about one's life in general or how one's life is going). Subjective well-being (SWB) researchers are typically interested in the latter happiness, as it reflects one's entire life more closely than the momentary affective state of happiness. Among researchers, the term SWB has been used since Diener (1984) to refer to an individual's relatively longstanding state of being well. Since some researchers think that a relatively permanent state of well-being should include other dimensions of human excellence, other terms such as psychological well-being (PWB) and eudaimonic well-being have been used (Ryan & Deci, 2001; Ryff, 1989). Yet, other researchers have advocated that meaning in life is another aspect of being well (Heintzelman & King, 2014; Steger, Frazier, Oishi, & Kaler, 2006).

Among psychologists, the main debate concerning the concepts of well-being has centered on hedonic versus eudaimonic well-being (Kashdan, Biswas-Diener, & King, 2008; Ryan & Deci, 2001; Ryff, 1989). Among philosophers, the main debate has centered on the meaning of eudaimonia, the term ancient Greeks used to describe a good life or living well. For some, eudaimonia means living a virtuous life, while for others it is living a complete life with a sense that nothing is missing (Nussbaum, 1986/2001). Yet, other philosophers attach non-moral excellence to the notion of eudaimonia. For instance, Haybron (2016) argues that eudaimonia could be best described as nature-fulfillment in terms of capacity-fulfillment and goal-fulfillment. Thus, there is not yet a consensus on the notion of eudaimonia among philosophers (see 41 definitions of eudaimonia in Vittersø, 2016). However, it is clear that most philosophers view eudaimonia to capture living well in terms of virtues, excellence, and fulfillment of human potentials that go beyond a much narrower notion of meaning or purpose in life.

In the current chapter, we will focus on cultural and historical variations in the concepts and measurements of happiness and life satisfaction, as empirical research on SWB has focused on happiness and life satisfaction (Diener, Oishi, & Lucas, 2015; see Oishi & Gilbert, 2016; Uchida & Oishi, 2016 for a

general review on culture and SWB). Then, we will discuss substantial measurement-related issues on cross-cultural comparisons of SWB.

### **Historical and Cultural Variations in Concepts of Happiness**

The historian Darrin McMahon (2006) provides a comprehensive review on historical changes in the concept of happiness. The ancient Greek term *eudaimon* consists of *eu* (good) and *daimon* (god, spirit, demon). Thus, the concept of *eudaimonia* “contains within it a notion of fortune-for to have a good daimon on your side, a guiding spirit, is to be lucky” (McMahon, 2006, p. 3-4). He went on to state that “happiness is what happens to us, and over that we have no control” (p. 19). Similarly, the philosopher Martha Nussbaum (1986/2001) argues that “events beyond our control may affect, for good or ill, not only our happiness or success or satisfaction but also central ethical elements of our lives; whether we manage to act justly in public life, whether we are able to love and care for another person, whether we get a chance to act courageously” (p. xiv). Whereas ancient Greek philosophers such as Socrates and Plato (but not Aristotle) denied the role of luck in ethical understanding, Nussbaum observes that ancient Greek poets recognized the central role of luck in human happiness. Nussbaum goes on to argue that “by ascribing value to *philia* in a concept of the good life, we make ourselves more vulnerable to loss” (p. 361, *philia* = love). Overall, the ancient Greek concepts of happiness centered on fortune and good luck, which are external and fragile.

According to McMahon (2006), the concept of happiness became less fragile and more controllable in the 13<sup>th</sup> century. Specifically, McMahon describes that St. Thomas Aquinas proposed a new view on happiness, namely that happiness was attainable via achieving theological virtues of charity, hope, and faith. The result was a divine gift of being blessed. In the 16<sup>th</sup> century, with the rise of Lutheranism and Calvinism, the concept of happiness became even more agentic in that not just the achievement of the theological virtues but also calling to engage in some economic activities would bring happiness. Over time, the ancient concept of happiness that centers on being “beyond one’s control” has gradually transformed to the agentic concept of happiness that is within one’s reach.

Although there is a historical change in the concept of happiness described by McMahon (2006), it is also true that the luck and fortune notion of happiness has not completely disappeared. For instance, dictionary definitions of happiness in 30 nations (Oishi, Graham, Kesebir, & Galinha, 2013) revealed that 24 of the 30 nations studied (Australia, Brazil, China, Estonia, France, Germany, Guatemala, Indonesia, Iran, Israel, Italy, Japan, Kenya, Korea, Malaysia, Mozambique, Norway, Pakistan, Portugal, Romania, Russia, Senegal, Singapore, and Turkey) had good luck and fortune as definitions of happiness.

Related to the cultural differences in the dictionary definitions of happiness, the linguist Anna Wierzbicka (2004) observed that the English terms ‘happy’ and ‘happiness’ are broad and could describe a minor positive event, whereas the French, Polish, German, and Russian terms are more specific and describe only a rare positive event. Wierzbicka states, “Happy-unlike *heureux*, *scastlivyyj*, and *glücklich*-is not restricted to exceptional states (like *bliss*), but rather is seen as referring to states within everyone’s reach. There is nothing exceptional about being *happy*” (p. 38). It is possible that the good luck and fortune definition of happiness connotes a relatively rare state of bliss, whereas other definitions (e.g., satisfaction of desires) imply that happiness is common.

Interestingly, earlier definitions of happiness in Webster’s Unabridged English Dictionary (e.g., 1850, 1853, 1861, 1888, 1895, 1910) had good luck and fortune as the primary definition (Oishi et al., 2013). However, in the 1961 edition, the definition of “good luck and good fortune” was denoted as “archaic.” Oishi et al. (2013, Study 2) then analyzed the use of the terms happy and happiness in the State of the Union addresses from 1790 to 2010 and found that the good luck and fortune use disappeared around 1920. In addition, the Google Ngram Viewer search of “happy nation” and “happy person” showed that “happy nation” appeared more frequently than “happy person” in published books in the U.S. from 1800 until around 1920. However, since then, “happy person” has appeared more frequently in American books (Oishi et al., 2013, Study 3). These analyses show that until around 1920, the terms “happy” and “happiness” in American English might have been referring to lucky external conditions.

Several programs of empirical research have also revealed cultural variations in the connotation of happiness. For instance, Lu and Gilmour (2004) found that Americans tend to associate excitement and success with happiness, whereas the Chinese tend to associate peace and calm with happiness. Similarly, Jeanne Tsai and her colleagues found that Taiwanese and Hong Kong Chinese value low-arousal positive affect such as calmness, whereas Americans typically value high-arousal positive affect such as excitement (Tsai, Knutson, & Fung, 2006). Interestingly, Taiwanese children’s books depicted a mild smile more often than a wide smile, whereas American children’s books depicted a wide smile more often than a mild smile (Tsai, Louie, Chen, & Uchida, 2007). Similarly, Christian texts often use high arousal positive emotions, whereas Buddhist texts often use low arousal positive emotions (Tsai, Miao, & Seppala, 2007). Given that

American concepts of happiness center on achieving of one's goals, it makes sense that the resulting emotions are excitement and pride. In contrast, given that Chinese conceptions of happiness center on luck, the resulting emotional state might not be excitement but rather akin to gratitude and satisfaction.

Uchida and Kitayama (2009) also explored Japanese concepts of happiness using free associations. They found that Japanese spontaneously mentioned that happiness could disrupt interpersonal relationships via evoking envy and jealousy in others. In contrast, Americans' descriptions were concerned mostly with personal achievement and positive hedonic experiences (e.g., joy, smiling). Whereas happiness is construed among Americans as a bond between people (e.g., smile is a gateway to a new friendship), happiness in Japan is a potentially dangerous emotion that could disrupt important social relationships.

Interestingly, several studies showed that Chinese expect a bad thing after a series of good things, whereas Americans tend to expect a good thing after a series of good things (Ji, Nisbett, & Su, 2001). This particular Chinese thinking style, dialecticism, has an important implication for the concepts of happiness. Namely, those who believe in dialecticism should be worried about their current happiness, as happiness is likely to be followed by unhappiness. Indeed, when Joshanloo and colleagues (2014) explored the potential pitfalls of happiness using the fear of happiness scale (sample items include "I believe the more cheerful and happy I am, the more I should expect bad things to occur in my life," "disasters often follow good fortune" and "excessive joy has some bad consequences"), Hong Kong Chinese endorsed the fear of happiness items far more than Brazilians and New Zealanders. Similarly, Koreans tend to hold the belief that there is a fixed amount of happiness one can experience akin to a fixed amount of luck (Koo & Suh, 2007). Thus, if a Korean person feels happy (lucky) today, she is likely to say she might not be happy (lucky) tomorrow because she is using up all her happiness (luck) today. Just like ancient Greek poets (Nussbaum, 1986/2001), many East Asians today hold the fragile view of happiness (see also Miyamoto & Ma, 2011).

Related to the fragility of happiness, the Hindu notion of happiness is dramatically different from the American notion of happiness today. Srivastava and Misra (2003) argue that Hindu Indians view happiness and sorrow as the results of past lives and not just the present ones. To the extent that one has no control over past lives, Hindu concepts of happiness appear to be consistent with the ancient Greek view. Furthermore, Srivastava and Misra observe that Hindu Indians tend to feel happiness when they sacrifice their material possessions and/or respond to others' needs. Like Buddhist traditions, Hindus see attachment to objects as a cause of suffering. Thus, Hindu happiness is concerned with the attainment of *ananda*, or "a transcendental journey from a lesser self fraught with hedonistic concerns to a greater self that involves realization of connectedness or oneness" (Nagar, in press).

Islamic conceptions of happiness are also quite different from the American notion of happiness. Joshanloo (2013) argues that Islamic conceptions of happiness are fundamentally anti-hedonic. He cites Shiite writer Musawi Lari: "One who seeks happiness through the pursuit of pleasures will find nothing except anxiety and bafflement...The more that we succeed in subduing our lusts and desires, the closer shall we move to happiness" (p. 1862). In addition to stoicism, the Islamic view of happiness is squarely centered on the fear of, total submission to, and worship of God. It also includes the concept of perishable body and an everlasting soul.

Finally, in some cultures, the concepts of happiness are more physical in nature. For instance, the Fante speakers of Ghana describe happiness/excitement literally as "eye-get" ("anigye") and joy/contentment as "eye-agree/reach" ("anika"), in contrast with shame as "eye-die" ("aniwu") and guilty as "eye-put" ("anyito" in Dzokoto & Okazaki, 2006). These descriptions suggest that among the Fante speakers of Ghana, happiness and associated positive emotions are eye-catching and easy on the eyes, whereas shame and guilt are hard on the eyes. Interestingly, Dzokoto and Okazaki (2006) found that the Dagbani speakers of Ghana describe happiness as "white heart," peace as "heart at rest," anger as "agitated heart," and sadness as "destruction of the heart." These descriptions suggest that for the Dagbani speakers of Ghana, positive emotions are physically low arousal states, whereas negative emotions are physically aroused, agitated states. These physical descriptions of happiness suggest that for the Fante and the Dagbani speakers of Ghana, the concepts of happiness are tied to objective bodily reactions to external events and less concerned with the satisfaction or fulfilment of one's desires and goals, which tend to be more subjective, internal, and mentally constructed.

In sum, good luck and fortune has been a dominant definition of happiness around the world since antiquity (McMahon, 2006; Oishi et al., 2013). However, the meaning of happiness has expanded and changed over time in different parts of the world (due in part to different religious beliefs and economic, social, political, and physical conditions). The diversity in the concepts of happiness across cultures and time poses a major challenge to empirical research on happiness (see below how scientists have approached this issue). However, it is also important to note that the inquiry into diverse concepts of happiness using

diverse methods has enriched our understanding of what it means to be in a relatively permanent state of being well.

### Measurement of Happiness Across Cultures

One of the first happiness scales was developed by George Hartmann (1934). He asked respondents to rate on the following single item: “If you compare yourself with others of the same sex and age, how would you rate your own general happiness? Use this definition as a guide: ‘A relatively permanent state of well-being characterized by dominantly agreeable emotions ranging in values from mere contentment to positive felicity.’ Give due weight to both inner and outer factors or manifestations: most unhappy of all, a great majority of persons are happier than you are, a slight majority of other people are happier than you are, about average, somewhat happier than the general run of mankind, far happier than the great majority of human beings, the happiest of all” (p. 206). One-month test-retest reliability was .70, and the correlation with informant reports was .34. In 1946, a 3-point happiness item (“Take altogether, how would you say things are these days-would you say you are very happy, pretty happy, or not too happy”) was included in a national survey (Easterlin, 1974). In 1965, Hadley Cantril used a single-item ladder scale (0 = the worst possible life; 10 = the best possible life). Unlike Hartmann, Cantril’s scale was used to measure the subjective evaluation of life accomplishments (more similar to life satisfaction than the feeling of happiness). These single-item measures of happiness and life satisfaction have been used widely in large international surveys such as the World Values Survey and the Gallup World Polls.

**Multiple-item scales.** Bradburn (1969) was the harbinger of positive psychology that emerged in the late 1990s. He was already concerned that researchers in the 1950s and the 1960s were preoccupied with mental illness and not paying enough attention to mental health. He used the conceptual model of well-being similar to “older pleasure-pain or utility models that view an individual’s happiness or well-being in terms of the degree to which pleasure predominates over pain in his life experiences” (p. 9). To measure the degree to which pleasure predominates pain in life, Bradburn developed a 10-item scale called the affect balance scale (ABS). The five positive items were as follows: (1) “Pleased about having accomplished something?” (2) “That things were going your way?” (3) “Proud because someone complimented you on something you had done?” (4) “Particularly excited or interested in something?” (5) “On top of the world?” (answered in the Yes/No format). Bradburn overturned the prevailing assumption about positive and negative affect being the opposite ends of one dimension and showed that positive affect and negative affect are relatively independent; that is, there are people who are high in both positive and negative affect, as well as those who are low in positive and negative affect. It is also noteworthy that decades later the Gallup World Polls adopted the affect items similar to Bradburn’s ABS, using the yes-no format.

Devins et al. (1997) explored cross-cultural equivalence of the affect balance scale with Chinese, Vietnamese, and Laotian refugees to Canada (those who arrived in 1979-1981). The researchers could not translate the item “Have you been feeling on top of the world?” into South Asian languages. Thus, they used only 9 items that were translatable. Confirmatory factor analyses showed that the remaining 9 items formed two factors (positive and negative affect), just like in an English-speaking Canadian sample. It should be noted, however, that these items capture mostly high arousal positive emotions that are deemed more ideal for North Americans than East Asians. Furthermore, MacIntosh (1998) analyzed the World Values Survey data from 38 nations, and found that the full 10-item, 2-factor solution did not fit data in most nations. (Curiously, the 2-factor model fit best in Nigeria, where CFI was .90 and RMSEA was .056, and South Africa, where CFI was .94, and RMSEA was .061; in other nations, fit was worse.)

Watson (1988) criticized the affect balance scale for having relatively low internal reliability ( $\alpha = .54$  for positive,  $.52$  for negative affect) and poor convergent validity with other affect measures. Instead, Watson, Clark, and Tellegen (1988) developed the 20-item Positive and Negative Affect Schedule (PANAS). Like the ABS, the PANAS items focused on high arousal positive affect such as excited, enthusiastic, and inspired. When Japanese psychologists, Tokihiro Ogawa and colleagues (Ogawa, Monchi, Kikuya, & Suzuki, 2000), developed an emotion scale, they included items such as ゆっくりした (slow/relaxed), のどかな (rustic/peaceful), 静かな (quiet/tranquil), and the low arousal positive affect formed a distinct factor from general positive and negative affect. The general emotion scale created by these Japanese psychologists did not include pride. Similarly, Hamid and Cheng (1996) asked Hong Kong Chinese to nominate 10 emotion words and created the Chinese Affect Scale. This scale included low arousal states such as comfortable, relaxed, and peaceful, as well as agreeable (more interpersonal affective state). The Chinese Affect Scale also does not include pride. Therefore, it is not surprising that pride is not a part of the positive affect factor among Asian samples (Scollon, Diener, Oishi, & Biswas-Diener, 2005), nor does it correlate highly with general positive emotion (Kitayama, Markus, & Kurokawa, 2000). It is also noteworthy that when Thompson (2007) created the international PANAS by testing out the original PANAS items with culturally diverse samples, the resulting positive affect items were *determined*,

*attentive, alert, inspired, and active* (i.e., *enthusiastic, strong, interested, excited, and proud* dropped out).

Whereas the ABS, the PANAS, and other emotion scales were focused on happiness and other positive emotional experiences as an indicator of emotional well-being, other researchers assessed an evaluative dimension of a relatively permanent state of well-being, that is how an individual sees her/his life to be. Lyubomirsky and Lepper (1999) developed the 4-item subjective happiness scale (SHS), which is very similar to Hartmann's (1934) scale. The SHS items are the following: (1) "In general, I consider myself...1 = not a very happy person to 7 = a very happy person" (2) "Compared to most of my peers, I consider myself...1 = less happy and 7 = more happy" (3) "Some people are generally very happy. They enjoy life regardless of what is going on, getting the most of out of everything. To what extent does this characterization describe you?" and (4) "Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?" (reversed item). As the SHS focuses on a trait-like happy person, test-retest reliability was quite high (one-month test-retest reliability,  $r = .85$  to  $.90$ ; one-year test retest reliability,  $r = .55$ ). The SHS has been successfully translated into Japanese (Shimai, Otake, Utsuki, Ikemi, & Lyubomirsky, 2004), Malay (Swami, 2008), German and Tagalog (Swami et al., 2009).

Among many scales to measure a relatively permanent state of being well, the Satisfaction with Life Scale (SWLS: Diener, Emmons, Larsen, & Griffin, 1985) is the most popular in psychology. The 5-item scale of life satisfaction captures several aspects of being well: favorable objective external conditions (Item 2: "The conditions of my life are excellent"), a small gap between reality and ideal (Item 1: "In most ways my life is close to my ideal"), goal-fulfillment (Item 4: "So far I have gotten the important things I want in life"), and positive evaluation of life (Item 3: "I am satisfied with my life," Item 5: "If I could live my life over, I would change almost nothing").

Oishi (2006) evaluated the cross-cultural equivalence of the SWLS between Chinese and American university student samples. First, when the one-factor model with free factor loadings was examined using the multi-group structural equation model (SEM), the fit was acceptable (GFI = .981; RMSEA = .06). The standardized factor loadings were all above .67 among the U.S sample, whereas they were high for the first three items (.62, .66, .72) among the Chinese sample. The goal fulfillment item was .49, and the last item, "If I could live my life over, I would change almost nothing," was the weakest with .38 (see similar results for Orang Asli, aboriginal people in Malaysia in Howell, Howell, & Schwabe, 2006). When factor loadings were constrained to be the same between the two samples, Item 5: "If I could live my life over, I would change almost nothing," was the only item that showed an item bias (constraining this item to be equivalence decreased the fit significantly worse). When Oishi (2006) used the differential item function (DIF) analysis of the Item Response Theory (IRT), which models not only factor loadings but also item difficulty, 4 of the 5 items showed a significant item bias. In particular, Item 4: "So far I have gotten the important things I want in life" and Item 5: "If I could live my life over, I would change almost nothing" showed large DIFs. It is interesting to note that the most equivalent item was explicitly concerned with favorable external conditions: "The conditions of my life are excellent." In contrast, two items regarding the past accomplishments showed a large discrepancy. Namely, among Chinese students, those who endorsed favorable external conditions were not necessarily those who endorsed goal fulfillment items. Among American students, those who endorsed favorable external conditions were those who endorsed past accomplishment items. Overall, the results of the IRT analyses were consistent with the conceptual analyses discussed above (Lu & Gilmour, 2004; Tsai et al., 2006). Furthermore, given that the good luck and fortune definitions are prominent in many cultures (Oishi et al., 2013), the first three items of the SWLS might be the most appropriate, least biased life satisfaction items across many cultures (see Tay, Huang, & Vermunt, 2016; Tay, Meade, & Cao, 2015 for the application of IRT in cross-cultural research).

It is also noteworthy that some researchers modified the SWLS to fit a local culture and education levels of respondents. For instance, Biswas-Diener and Diener (2001) used the 7 faces (1 = frown to 7 = extreme smile) instead of 1 = strongly disagree to 7 = strongly agree when they administered the SWLS to slum dwellers and sex workers in Calcutta, India.

**Alternative measures.** Global, retrospective measures of SWB have been criticized on various grounds (e.g., Kahneman, 1999; Schwarz & Strack, 1999). One issue is concerned with memory bias, in that global measures might not capture everyday affective experiences. To address this issue, experience sampling method (ESM), in which respondents were prompted to report their momentary mood at random moments, has been used in cross-cultural research on SWB (e.g., Oishi, 2002; Oishi, Diener, Scollon, & Biswas-Diener, 2004; Scollon et al., 2005). Some researchers used the time-contingent recording (e.g., noon, 3pm, 6pm, and 9pm in Mesquita & Karasawa, 2002). In addition, daily diary method has been utilized to gather daily life satisfaction and positive emotional experiences (Kitayama, Mesquita, & Karasawa, 2006; Oishi et al., 2007). Due to these methods often being taxing to participants, some researchers relied on Day Reconstruction Method (DRM: Kahneman, Krueger, Schkade, Schwarz, &

Stone, 2004), in which respondents were asked to recall various episodes in the morning, in the afternoon, and in the evening of the previous day (Oishi, Kurtz, Miao, Park, & Whitchurch, 2011; see Diener & Tay, 2014 for a review on DRM).

In addition to “online” measures, others have used informant reports to address some of the judgmental bias issues. Saeki et al. (2014), for instance, used informant reports and found that Japanese informants (the target’s friends) tended to view the target’s life satisfaction to be higher than the target him/herself,  $d = .51$ . Although in terms of domain satisfaction, the differences were much smaller (e.g., satisfaction with weather,  $d = .10$ ; satisfaction with love life,  $d = .02$ ).

With the rise of implicit measures (e.g., Implicit Association Test: IAT), several researchers have attempted to develop an implicit, reaction-based measure of SWB. For example, Constantini et al. (in press) developed the IAT-based positive orientation scale and found a small but positive correlation with the SWLS,  $r = .24$ ,  $p < .001$  (however, it is equally strongly correlated with global self-esteem,  $r = .23$ ,  $p < .001$ , as well). Yamaguchi et al. (2007) found that Japanese reported lower levels of global self-esteem explicitly than Americans, but their IAT-based self-esteem was as high as Americans. Thus, IAT-based measures of SWB could be promising in future cross-cultural research (see however Falk & Heine, 2015; Schimmack & Diener, 2003 for some cautionary notes).

More recently, researchers have started to use social media data such as Facebook and Twitter to gather information regarding users’ state of the mind and feelings. Golder and Macy (2011) conducted the linguistic analysis of 509 million tweets from about 2.4 million individuals across the world, though limited to English speakers. They found that Indians were happier relative to North Americans in the morning, whereas Africans were relatively happier than Indians in early evening hours. Within the U.S., Eichstaedt and colleagues (2015) found that anger-related words used in Twitter predicted county-level heart disease mortality. This means that in the counties where heart disease mortality is high, residents were more likely to use anger in their Tweets than those living in counties where heart disease mortality is low. Similarly, Facebook Data Team (2011) applied automated sentiment analysis to the status updates and created an index of positivity and negativity. Techniques like this are extremely promising, as they capture a large number of individuals’ everyday moods naturally (that is, without making them think about the purpose of research). However, when Wang, Kosinski, Stillwell, and Rust (2014) compared daily, weekly, and monthly Facebook’s Gross National Happiness Index with daily, weekly, and monthly aggregate scores of self-reported life satisfaction (SWLS) among myPersonality Facebook application users, the Facebook positivity score was negatively associated with the SWLS in all three time frames. It should be noted that the linguistic analysis of Twitter updates also showed some discrepancies from self-reported SWB. For instance, conservatives typically report higher levels of happiness than liberals. However, Tweets were more positive and happier among the followers of the Democratic party than those of the Republican party (Wojcik, Hovasapian, Graham, Motyl, & Ditto, 2015). In short, social media present unprecedented large, ecological data. Although it is clearly promising in the context of cross-cultural research on SWB, it is also important to further validate specific indices in the future (see Kern et al., 2016 a review on how to use social media in psychological research).

Another way to measure SWB is to code the sign of positive and negative affective state from non-verbal behaviors. For example, Harker and Keltner (2001) coded yearbook photos for genuine smile and found that yearbook smiles predicted self-reported well-being over 30 years later (see Seder & Oishi, 2012 for smile intensity in the Facebook profile photos). Oettingen and Seligman (1990) observed bar patrons’ non-verbal behaviors unobtrusively and found that East Berlin workers (then living in the communist country) smiled and laughed less and showed more slumped posture than did West Berlin workers.

As many surveillance cameras are placed in public space (e.g., 33 permanent cameras in Washington DC), it might be possible to use scenes captured on these surveillance cameras for SWB across cultures (Tay, Jebb, & Woo, 2017). For instance, MIT Media Lab researchers Javier Hernandez, Mohammed Hoque, and Rosalind Picard (2012) set up a camera on 4 different locations on a university campus and assessed the degree to which people who passed by were smiling for 10 weeks. The researchers report that over the study period, thousands of people passed by the camera and showed the pattern expected from academic schedules such as exam periods, holidays, and graduation day. The “mood meter” like this could provide a naturalistic behavioral index of happiness that could be scaled up for cross-cultural comparison (e.g., Hernandez et al. (2012) calculated the average intensity of smile among people present in an image, thus the mood meter ranges from 0% to 100%).

Finally, numerous researchers have attempted to identify biological markers of SWB. Richard Davidson and his colleagues used electroencephalography (EEG) asymmetry during the resting period as an indicator of SWB (Urry et al., 2004). Using EEG, Lun, Oishi, Coan, Akimoto, and Miao (2010) found that East Asians showed greater left prefrontal cortex activation (than European Americans) when they felt

understood by others.

Some researchers have examined cortisol outputs and found, for instance, that anger and tension are associated with higher levels of cortisol in the evening (Adam, Hawkey, Kudielka, & Cacioppo, 2006). Yet other researchers have explored heightened expression of genes associated with NF- $\kappa$ B and under-expression of genes associated with anti-inflammatory glucocorticoid response elements as indicators of ill-being (e.g., Cole et al., 2007). More recently, Fredrickson and colleagues (2013) used 53 genes to indicate the “conserved transcriptional response to adversity” (CTRA) and showed their associations with hedonic and eudaimonic well-being (see Nickerson, 2017 for a critique). Kitayama, Akutsu, Uchida, and Cole (2016) measured the same 53 genes’ expression status and found the similar patterns of correlations with self-reported hedonic and eudaimonic well-being. The central claim of Fredrickson et al. that eudaimonic well-being is more strongly associated with CTRA than hedonic well-being has been questioned due to the high correlation between two types of well-being ( $r = .79$  in Fredrickson et al., 2013;  $r = .70$  in Kitayama et al.). However, the gene expression of the CTRA appears to be reliably associated with self-reported well-being. Thus, CTRA and related RNA measures appear to be a promising biological index of well-being that might be of use to cross-cultural comparison in the future.

**Indigenous scales.** Although the majority of cross-cultural research on SWB has taken the etic approach (translate an original scale), several researchers have used the emic approach. For instance, Hitokoto and Uchida (2015) developed the interpersonal happiness scale to capture the Japanese view on happiness, which is characterized by interpersonal harmony, relational worth, stability, and being above the minimum acceptable standard. Sample items include the following: “I believe that I and those around me are happy,” “I feel that I am being positively evaluated by others around me,” “Although it is quite average, I live a stable life,” and “I believe I have achieved the same standard of living as those around me.”

Similarly, Lee et al. (2013) developed the peace of mind scale to capture the Chinese way of being well. Sample items include these statements: “My mind is free and at ease,” “I feel content and comfortable with myself in daily life,” “My life style gives me feelings of peace and stability” and “I have peace and harmony in my mind.” As expected, it is moderately correlated with the SWLS,  $r(135) = .54$ ,  $p < .001$ . Furthermore, Lee et al. found that Taiwanese college students scored higher on the peace of mind scale than European American college students,  $t = 3.61$ ,  $p < .001$ ,  $d = .55$ .

Singh, Raina, and Sahni (2017) created the Sukha-Dukha scale to capture uniquely Indian concepts of happiness. Sukha refers to favorable experiences, and Dukha refers to unfavorable experiences. The ultimate level of happiness is thought to be achieved when “dualities of sukha and dukha cease to exist” (p. 118). The 23-item sukha scale resulted in 4 factors: happiness due to contentment (“khush” “saubhagya”), happiness due to physical and mental well-being (“svastha” “sakaratomak”), happiness due to social well-being (“Santosh” “hita”), and happiness due to spiritual well-being (“utsah,” “rasa”).

Finally, Wang, Wong, and Yeh (2016) created the dialectical coping scale to capture a uniquely Chinese way of coping: Sample items include these sentiments: “When I experience difficulties, I remind myself that misfortune coexists with blessings,” “I believe that the problems in my life don’t last forever,” and “In understanding the obstacles in my life, I can see the interconnections between negative and positive events.” Overall, indigenous scales might be able to capture aspects of SWB that cannot be adequately assessed by existing mostly Western measures.

**Qualitative approach.** Because the concepts of happiness are diverse, some researchers have used a qualitative approach (see also Biswas-Diener, this volume; Thin, this volume for the utility of the qualitative approach). Kral et al. (2011), for instance, interviewed the Inuit people and asked them about meanings of happiness, as well as health, sadness, healing, and social change. The Inuit’s happiness was deeply intertwined with family. When asked about happiness, one respondent (male, age 47) said, “Summer life. Family. Having a good family relationship with my wife and with my daughters” (p. 430). Although family is often mentioned in the context of happiness across the globe, the second most frequently mentioned category among the Inuit was being on the land. This indicates the Inuits’ deep attachment to their land, which is very different from the residents of many developed countries.

When Galinha et al. (2016) interviewed extremely poor people in Maputo, Mozambique, by far the most frequently mentioned happy events were concerned with family and weddings: “When I got married it was a happy time with a great party with his family and mine. As my grandfather had oxen, he offered an ox to me” (p.79). Whereas many focus exclusively on happiness or related concepts, others explore respondents’ life stories overall. For instance, Cox, Casablanca, and McAdams (2013) used the life story interview, asking interviewees to talk about their life overall, key events, challenges, beliefs, and future prospects. The life story interview shows some common themes of unhappiness among sex workers in Managua, Nicaragua: early family problems, early departure from home, difficult romantic relationships, and financial difficulties. The interview contents could be coded in terms of positivity and negativity.

## Substantive Measurement Issues

With the introduction of internet, cross-cultural research has become much easier than decades ago. Yet, there still remain many challenges to cross-cultural research on SWB. In this chapter, we will focus on the three main issues: response style, self-presentation concerns, and judgmental biases.

**Response style.** There appear to be cultural variations in the tendency to use a certain number in responding to the survey questions. Some cultures are more acquiescent than others. For instance, when asked “how introverted are you?” and “how extraverted are you?”, Koreans were more likely to agree with both introversion and extraversion items than Americans were (Choi & Choi, 2002). The researchers speculated that East Asians can think of the situations in which they felt introverted as well as extraverted and thus tend to endorse both items. This tendency could easily have an impact on emotional items. Namely, if East Asians are more likely than Americans to endorse both positive and negative emotion items, then the positive-negative emotion correlation should be positive among East Asians, whereas it should be negative among Americans. Indeed, Schimmack, Oishi, and Diener (2002) found that the frequency of positive-negative emotional experiences correlation was positive among Hong Kong ( $r = .09$ ) and Japanese participants ( $r = -.07$ ), whereas it was negative among Americans ( $r = -.36$ ) and Australians ( $r = -.37$ ). It is important to dissect the degree to which acquiescence affects SWB responses. For instance, researchers can use two conceptually identical items worded oppositely: “It should be forbidden completely to smoke in malls” and “It should ‘not’ be forbidden to smoke in malls” (Baron-Epel, Kaplan, Weinstein, & Green, 2010).

Related to acquiescence, Chen, Lee, and Stevenson (1995) found that Americans use the extreme response more and the middle response less than Taiwanese and Japanese. Similarly, several large-scale cross-cultural surveys found systematic cultural variations in response styles (e.g., Smith et al., 2016). These findings present a major concern for the observed mean differences in SWB across cultures. For instance, when Americans report higher levels of life satisfaction than Japanese, would the difference be driven by extreme responding (or extreme response avoiding)? As an initial test of the role of extreme responding, Oishi (2010) re-coded the original 7-point scale of the SWLS to the 3-point scale (1 to 3 = 1; 4 = 2, 5 to 7 = 3). In this recoding, 5, 6, 7 responses were coded as the same. In the original 7-point scale, the U.S.-Japan difference was substantial,  $d = .81$ . When the 3-point scale was used, the difference was almost identical,  $d = .79$ . To make sure this is not just specific to the U.S.-Japan comparison, Oishi also tested the Chile-Japan difference. The magnitude of the mean difference remained virtually unchanged:  $d = 1.24$  in the original 7-point scale,  $d = 1.25$  in the 3-point scale.

In addition, when the IRT scoring method was utilized, the U.S.-China difference in the SWLS remained substantial,  $d = .71$  (only 1 of the 5 items was equivalent, thus the IRT scoring weighed this one item more heavily than other “biased” items), whereas the U.S.-China difference in the original scale (sum score) was  $d = 1.18$  (Oishi, 2006). These findings suggest that although extreme responding might affect the mean score, the magnitude of the mean difference seems to be relatively unaffected (it should be noted, however, that when a large number of respondents respond randomly or use extreme categories, the conversion could result in a dramatically different result, see Vittersø, Biswas-Diener, & Diener, 2005 for an example; see also Batz, Parrigon, & Tay, 2016 for the number conversion issue in cross-cultural comparisons).

Related to the number use, self-presentation concerns could blur true mean differences. For instance, Americans typically say “Good” or “Great!” to answer “How are you?” In contrast, many East Asians typically say “OK” or “So-so.” It is not uncommon for Japanese to say “not so good” or “dying.” In the U.S., there is a pressure to be positive, whereas elsewhere there is a pressure not to be too positive. Then, the self-presentational concern (e.g., to appear modest) could be a serious issue. Kim, Schimmack, and Oishi (2012) utilized informant reports and found that European Canadians were more positive overall (positive toward themselves and positive toward others) than were East Asians. Once this general positivity bias was statistically removed, the mean difference in self-reported SWB disappeared.

Although happiness is highly valued across cultures, there are cultural variations in the desirability of happiness (Diener, 2000). Americans, Australians, and Argentine value happiness far more than Chinese and Indian. It is noteworthy that when Americans are led to think that happiness is a particularly desirable quality, they tend to exaggerate their current levels of happiness (Wojcik & Ditto, 2014). Kim and Lee (2011) also found that American college students who are concerned about self-presentation (those who post only happy photos on Facebook) also reported being a happier person (the SHS). These findings present a possibility that observed mean differences in self-reports of SWB could be due to self-presentational differences rather than “real” differences.

To address the self-presentation issue, Oishi (2010) examined the U.S.-Japan differences in the SWLS using informant reports as well as self-reports: In self-reports measured in two time points,

American students reported higher levels of life satisfaction than Japanese students ( $M_{us} = 23.08$  vs.  $M_{japan} = 21.27$ ,  $t [174] = 2.13$ ,  $p = .035$ ,  $d = .32$  at Time 1,  $M_{us} = 23.78$  vs.  $M_{japan} = 20.77$ ,  $t [174] = 3.74$ ,  $p < .001$ ,  $d = .57$  at Time 2. American students' life satisfaction rated by their informants was also higher than Japanese students' life satisfaction rated by their informants,  $M_{us} = 23.15$  vs.  $M_{japan} = 21.77$ ,  $t [174] = 2.06$ ,  $p = .041$ ,  $d = .31$ . Japanese informant reports were also similar to self-reports in terms of the means cores. Thus, these results suggest that self-presentation concerns might not play a huge role in cross-cultural comparisons of the SWLS scores. However, Saeki et al. (2014) found that Japanese informant reports were substantially higher than self-reports of the SWLS. It is unclear, however, whether the target's friend exaggerated the target's life satisfaction, or the target downplayed their life satisfaction. In order to ascertain the rater effect and the target effect, it is critical to have a Round Robin type measure (group member providing self-reports as well as ratings of all other members; see Kwan, John, Kenny, Bond, & Robins, 2004; Su & Oishi, 2011 for the use of Round Robin measure on culture and self-enhancement).

**Memory and judgmental bias.** A potential memory bias emerges when two individuals or two groups of individuals do not differ in terms of daily experiences of happiness, yet they report different levels of overall happiness. Oishi (2002, Study 1) found that the mean of daily satisfaction over 7 days did not differ between European Americans and Asian Americans, yet European Americans evaluated the whole week to be more satisfying than did Asian Americans. A regression analysis suggested that Asian Americans took into account the best day and the worst day during the 7-day period when evaluating the whole week, whereas European Americans took into account only the best day. Oishi (2002) replicated this finding with an experience sampling method (Study 2) and the evaluation of life events. Furthermore, Oishi and Diener (2003) used a performance task such as an anagram and a free throw task and measured online emotional experiences, recalled emotional experiences, and replicated Oishi (2002).

However, the third study of this kind, Scollon, Diener, Oishi, and Biswas-Diener (2004), in which online emotional experiences were assessed using an experience sampling method, did not replicate the findings from Oishi (2002). Instead, Scollon et al found that Japanese reported lower levels of happiness than Americans both online and retrospectively. Since Japanese reported less happiness online already, Scollon et al. did not find cultural differences in memory bias. It should be noted, however, that Oishi et al.'s (2007) 21-day daily diary study in the U.S., Japan, and Korea showed again that European Americans reported higher levels of life satisfaction (the SWLS) than Japanese and Koreans. However, the average daily satisfaction of European Americans was not different from Japanese. Oishi et al.'s (2011) DRM study in the U.S. and Korea further replicated these findings (i.e., no cultural difference in the average positive emotion felt across various episodes on the previous day, but difference in the SWLS). Kitayama et al.'s (2006) 14-daily diary study on engaging and disengaging emotions also showed that Japanese and Americans did not differ in the daily experience of socially engaging positive emotions (e.g., *shitashimi* [friendly feelings], although Americans reported more socially disengaging emotions such as pride than Japanese). Likewise, Oishi (2010) reports that the intensity with which Japanese and American respondents reported positive moods at the time of completing a questionnaire was virtually identical ( $M_{us} = 6.12$  vs.  $M_{japan} = 5.97$ ,  $t [530] = .87$ ,  $p = .38$ ,  $d = .08$ ), yet Americans reported being happier about their lives in general than Japanese ( $M_{us} = 6.10$  vs.  $M_{japan} = 5.69$ ,  $t [530] = 2.35$ ,  $d = .20$ ).

Overall, although some studies (e.g., Scollon et al., 2004) found cultural differences in online positive emotional experiences, the degree of cultural differences in online positive emotional experiences tends to be smaller than in global reports. Online reports are based on specific situations and events that just happened. Thus, a general belief about the typical level of happiness (e.g., "I am a happy person") or cultural norm ("I should be happy") play a relatively small role. In contrast, global reports are based on events that are remembered (Tov, 2012), as well as a general belief about the typical level of happiness (Robinson & Clore, 2002) and cultural norms. Therefore, global reports appear to magnify cultural differences in everyday emotional experiences, especially when cross-cultural comparisons involve two groups that differ in desirability of happiness (see Oishi, 2010 for more details).

A related issue is concerned with a positivity bias, or the degree to which global domains are more positively evaluated than their corresponding, specific domains. For instance, overall satisfaction with education should be comparable to the average satisfaction with professors, lectures, and textbooks. Diener, Scollon, Oishi, Dzokoto, and Suh (2000) found that the positivity bias score (global domain ratings – average specific domain ratings) was higher among the countries with higher mean levels of life satisfaction measured by the SWLS,  $r = .57$ ,  $p < .001$ . These findings suggest that countries where people report higher levels of life satisfaction might be evaluating the overall life more positively. However, at this point it is unclear whether it is fair to say this is a "bias" or a characteristic of a happy person/culture.

One way to address the issue of positivity bias is to use vignettes and see how people from different

cultures evaluate others' lives. Angelini, Cavapozzi, Corazzini, and Paccagnella (2014) used such a method and found that there are indeed large cultural differences. For instance, John was described to be 63-years old, a widow, relatively poor, and with heart problems. However, his children and grandchildren visit him regularly. Over 20% of Germans and Dane thought John was satisfied or very satisfied with his life. In contrast, less than 10% of Italian respondents thought John was satisfied or very satisfied. Once researchers controlled for the vignettes' ratings, cross-national differences in self-reported life satisfaction between Italy and Denmark disappeared. Like Diener et al. (2000), however, it is inconclusive whether vignette ratings are capturing judgmental biases or naturally positive inclinations. In addition, cultural differences in ratings of John's life satisfaction might be shedding light on one's values rather than positivity bias *per se*. For example, this example might tell us that Germans and Dane consider children and grandchildren's visits more important than financial conditions. It is also possible to interpret the results as indicating that in Denmark and Germany, one can live happily without much money thanks to better social welfare programs and public goods, whereas in Italy one must have money to live a good life. It is important to discern values from judgmental biases in the future by perhaps creating diverse vignettes (Angelini et al. used only two vignettes).

## Conclusion

The concepts of happiness are diverse across times and cultures (McMahon, 2006; Oishi et al., 2013). They contain the notions of good luck and fortune, bliss, the satisfaction of desires, and a physical sensation of "eye-get" ("anigye" in Fante, Ghana). At this point, however, the notions of happiness in Africa, Middle East, and South Africa are still relatively unknown. It is critical to explore various concepts of happiness in even more diverse cultural samples in the future.

Over the last twenty years, researchers have developed many ways to assess different concepts of happiness using divergent terms ("on top of the world", "calm," etc.), assessing multiple concepts (e.g., the SWLS items) or multiple life domains, using indigenous scales (e.g., the Sukha-Dukha scale), using informant reports, assessing momentary moods, and analyzing non-invasive, social media (e.g., Twitter) or camera data (e.g., "mood meter").

Cross-cultural comparisons are challenging in many ways, ranging from conceptual and measurement equivalence to potential differences in number use, self-presentational concerns, and memory and judgmental biases. Researchers have access to ever more diverse and large cross-cultural datasets. The conceptual refinement goes hand-in-hand with the refinement of measures. Researchers should be fully aware of sophisticated statistical methods to test measurement equivalence (e.g., Eid & Diener, 2001; Kim et al., 2012; Tay et al., 2016; Tay, Woo, Klafehn, & Chiu, 2010) in cross-cultural research on SWB. At the same time, it should be recognized that qualitative approaches (e.g., life story interview, Cox et al., 2013; free associations, Dzokoto & Okazaki, 2006) shed a new light on the concepts of happiness. The advancement of culture and SWB research hinges largely on conceptual clarification and solid measurement. To this end, SWB researchers must be aware of diverse methods and measurement issues summarized above and strive to go beyond the extant "good enough" measures of SWB.

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