Different Types of Well-Being? A Cross-Cultural Examination of Hedonic and Eudaimonic Well-Being

David J. Disabato, Fallon R. Goodman, Todd B. Kashdan, and Jerome L. Short
George Mason University

Aaron Jarden
Auckland University of Technology

A large international sample was used to test whether hedonia (the experience of positive emotional states and satisfaction of desires) and eudaimonia (the presence of meaning and development of one’s potentials) represent 1 overarching well-being construct or 2 related dimensions. A latent correlation of .96 presents negligible evidence for the discriminant validity between Diener’s (1984) subjective well-being model of hedonia and Ryff’s (1989) psychological well-being model of eudaimonia. When compared with known correlates of well-being (e.g., curiosity, gratitude), eudaimonia and hedonia showed very similar relationships, save goal-directed will and ways (i.e., hope), a meaning orientation to happiness, and grit. Identical analyses in subsamples of 7 geographical world regions revealed similar results around the globe. A single overarching construct more accurately reflects hedonia and eudaimonia when measured as self-reported subjective and psychological well-being. Nevertheless, measures of eudaimonia may contain aspects of meaningful goal-directedness unique from hedonia.

Keywords: well-being, happiness, positive psychology, eudaimonia, meaning in life

The ability to meaningfully distinguish between types of well-being is debatable. A common framework of well-being distinguishes between hedonic well-being (hedonia) and eudaimonic well-being (eudaimonia; Ryan & Deci, 2001). According to Aristippus (3rd century BCE), the Greek philosopher and founder of the Cyrenaic school of philosophy, hedonia represents the maximization of pleasure and minimization of pain (Tatarkiewicz, 1976), whereas eudaimonia represents human flourishing and living up to one’s full potential (i.e., self-actualization). Eudaimonia stems from Aristotle’s 4th-century BCE (1985) conceptualization of well-being that extends beyond pleasure-driven happiness to encapsulate being true to oneself and working toward personal growth. Although this distinction between hedonia and eudaimonia has been helpful in describing and directing research on well-being, there is questionable evidence for its theoretical utility and empirical support (Coyne, 2013; Kashdan, Biswas-Diener, & King, 2008, Kashdan et al., 2009; Sheldon, 2013). A systematic understanding of well-being is imperative as research and large-scale initiatives develop in line with the positive psychology movement (e.g., comprehensive soldier and family fitness; Eidelson, Pilisuk, & Soldz, 2011). Before executives and policymakers allocate resources toward improving human well-being, a more comprehensive, scientifically based understanding of what exactly humans are striving for is needed. The present study assessed the extent to which hedonia, operationalized as subjective well-being, and eudaimonia, operationalized as psychological well-being, represent distinct types of well-being.

Theoretical Conceptualizations of Hedonia and Eudaimonia

Psychologists traditionally hold to the philosophical conceptualization of hedonia stated above, which departs from a lay definition of hedonia. The pleasure that is maximized refers to a broad array of human experiences that range from having sex and eating food, to feeling excited for a new experience. Psychologists have built on these conceptualizations to define hedonia as how satisfying one evaluates his or her life to be. The most widely used conceptualization of hedonia is Diener’s (1984) tripartite model of subjective well-being, which contains three components: life satisfaction, and the balance between positive and negative affect (for a recent review, see: Busseri & Sadava, 2011). Many studies have used components or variations of this model to measure well-being (e.g., Vittersø, 2003).

Hedonic definitions of well-being are incomplete for some scholars who have argued that well-being cannot be reduced to only immediately gratifying experiences (Ryff, 1989; Waterman, 1993). Research on eudaimonia draws upon Aristotle’s distinction between pleasure and the good life, with Aristotle defining a good life as living to one’s fullest potential in accordance with virtue or excellence. Unlike research on hedonia, there is less agreement among modern researchers on what constitutes eudaimonia (Huta & Waterman, 2014). To date, there is no single agreed-upon theory or methodological approach to studying eudaimonia.
Extant models of eudaimonia vary widely, but they typically have two points of convergence: some component of personal meaning and growth, and the explicit exclusion of an affect component (Ryan & Deci, 2001). One of the most common theories of eudaimonia is psychological well-being, which equates to positive functioning (Ryff & Singer, 1998). This theory conceptualizes eudaimonia as a broad type of well-being rather than a specific adaptive trait (e.g., authenticity; Waterman, 1993). The facets of psychological well-being stem from the historically rich humanistic–existential psychology literatures, including Jahoda’s (1958) focus on the positive side of mental health. The psychological well-being model has been used to study relationships between well-being and personality traits, mental and physical health, healthy aging, family and occupational experiences, and neurological processes (Ryff, 2014).

Different Types of Well-Being?

Despite the popularity of the hedonia–eudaimonia distinction within the well-being literature, there is skepticism about its empirical support and theoretical utility (Coyne, 2013; Kashdan et al., 2008, Kashdan et al., 2009; Sheldon, 2013). The primary criticism is a lack of discriminant validity between hedonia and eudaimonia. Discriminant validity is crucial for the measurement of global and abstract constructs such as well-being (Fiske, 1982). Several studies of hedonia and eudaimonia have revealed very large correlations ranging from .76 to .92, which shed doubt on their discriminant validity. Four prior factor-analytic studies have measured hedonia and eudaimonia with Diener’s (1984) tripartite model of subjective well-being and Ryff’s (1989) model of psychological well-being, respectively. Two of these studies used a large, nationally representative sample of middle-aged U.S. adults and found that hedonia and eudaimonia were highly correlated, \( r = .84 \) (Keyes, Shmotkin, & Ryff, 2002) and \( r = .78 \) (Gallagher, Lopez, & Preacher, 2009, Study 2). In a study among U.S. undergraduates, hedonia and eudaimonia were correlated, \( r = .92 \) (Gallagher et al., 2009, Study 1). A fourth study of U.K. adults found that hedonia and eudaimonia were correlated, \( r = .76 \) (Linley, Maltby, Wood, Osborne, & Hurling, 2009). In a more recent study, researchers found an observed correlation, \( r = .79 \) between happiness (i.e., hedonia) and flourishing (i.e., eudaimonia) in a convenience sample of healthy adults (Fredrickson et al., 2013). These prior psychometric studies of the subjective well-being model of hedonia and the psychological well-being model of eudaimonia suggest substantial overlap between the two constructs.

Hedonia, Eudaimonia, and Correlates of Well-Being

If hedonia and eudaimonia are indeed separate constructs, certain correlates of well-being should differentially correlate with each type of well-being. For example, hedonia might be more strongly related to a pleasure orientation to happiness because of the emphasis on greater positive emotional states (Kahneman, Diener, & Schwarz, 1999) and to rumination because it often covaries with negative emotional experiences (Keyes, 2005). Similarly, eudaimonia might be more strongly related to a meaning orientation to happiness and the search of meaning in life because of eudaimonia’s emphasis on meaning and purpose (Ryan & Deci, 2001; Ryan, Huta, & Deci, 2008), to gratitude and loneliness because they involve the quality of social relationships (Ryan & Deci, 2000), to curiosity and engagement because they involve challenging oneself and searching for personal growth (Compton, Smith, Cornish, & Qualls, 1996), and to hope and grit because they involve goal-directedness and striving to reach one’s potential or intrinsic motivation (Ryan & Deci, 2000, 2001). A lack of differential relationships between hedonia and eudaimonia in the theoretically expected direction would cast doubt on the distinction between the two types of well-being.

The Present Study

The primary aim was to test the discriminant validity between two proposed types of well-being—hedonia and eudaimonia—measured by subjective and psychological well-being, respectively. We have built on prior studies that have tested the distinction between hedonia and eudaimonia in three ways. First, in this study we replicated previous findings using similar measurement models that found low discriminant validity coefficients (i.e., high latent correlations) between hedonia and eudaimonia. Second, we assessed the degree to which known correlates of well-being differentially related to separate hedonia and eudaimonia factors. Third, we used an international sample to assess well-being on a global level, as all prior studies have been restricted to the U.S. and UK. The international sample allowed us to test whether measurement models of well-being differed across world regions.

Method

Participants and Procedure

Data from the International Wellbeing Study (www.wellbeingstudy.com) were collected between March, 2009 and March, 2013. The sample consisted of 7,617 young late adolescent and adult participants (aged 15 years and older). Age showed a positively skewed distribution, with \( M = 33.5 \) and \( SD = 14.2 \). Over half of the participants were married (54%) and most were women (79%). Participants were compensated with a chance to win one of 15 $100 vouchers, an email summary of their score reports compared with others, and the opportunity to take one of three different well-being courses. Participants were recruited through emailed and printed advertisement posters distributed to study investigators’ work colleagues, university departments, businesses, charitable organizations, and online forums including listservs.

Organization Into World Regions

Participants were from 109 different countries from six of the seven world continents (Antarctica excluded) and completed the online questionnaires in 16 different languages. The 109 countries were grouped into nine world regions to make meaningful comp-

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1 The final sample size reflects participants who completed all measures. Of the participants who started the online survey, 82% completed all measures. Unfortunately, demographic information comparing completers and noncompleters was not available because demographic questions were asked at the end of the survey.

2 Our total sample contained people (8.9%, \( n = 679 \)) who were younger than 18 years old. The majority of adolescents were from Finland, Slovenia, the Philippines, Greece, and New Zealand. Principle investigator Aaron Jarden received ethical permission to include late adolescents from the Open Polytechnic of New Zealand Ethics Committee, September, 2009.
parisons. Because very few country groupings led to measurement invariance and the desired degree of homogeneity, a data-driven approach of organizing countries into world regions was inappropriate. A theoretical approach was chosen based on participants’ country of residence. Initial world region groupings were selected according to the CIA Factbook, a reputable source of world information (see www.cia.gov). Past international well-being research has used the CIA Factbook’s world regions to help group international samples (e.g., Tay & Diener, 2011). The CIA Factbook organizes countries primarily by geographical proximity, which excludes important contextual information. Categorizations of countries for the current study were made based on additional information about common historical, cultural, linguistic roots, and current economics. For example, due to Mexico’s colonial history, Latin culture, Spanish language, and less developed economy, it was separated from North American countries (e.g., United States) and grouped with South American countries. The United States and Canada were grouped with Northern Europe because of their similar ancestral roots and economic development. Southeast Asia was separated from East and South Asia because of its greater colonial and Judeo-Christian influence. South Asia was combined with East Asia because of the limited South Asian subsample size \((n = 48)\). Participants from Africa and the Middle East were excluded from subsample analyses due to insufficient sample sizes \((ns = 64, 49, \text{respectively})\). The final seven world regions are displayed in Table 1.

**Measures**

The total assessment battery from the International Wellbeing Study (www.wellbeingstudy.com) contained 20 scales (235 items), which took participants an average of 29 min. Of these, 12 scales (159 items) were used for the present analyses. Most participants completed the assessment battery in English (59%). Where scales were already available in one of the desired 16 languages, that language translation was used. Where no translation was available from the English version to the required language, scales were translated by a native speaker of that language who had a degree in psychology or higher (most translators were master’s- or doctoral-level students in psychology familiar with psychometrics). Scales were then independently cross-checked after translation by a second translator and areas of disagreement identified and resolved between the two translators.

**Hedonia**

*Satiesation with life.* The Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) is a five-item measure of present, global life satisfaction, which comprise a cognitive judgment of a person’s quality of life. Participants responded on a Likert scale from 1 = *strongly disagree* to 7 = *strongly agree*. An example item is, “I am satisfied with my current life.” Cronbach’s \(\alpha\) ranged from .89 to .91 across world regions.

*Happiness.* The Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) is a four-item measure of global happiness. The first item assesses absolute happiness, the second item assesses relative happiness compared with peers, and the last two items assess how well characteristics of happiness describe each participant’s self. Participants responded to items on a Likert scale from 1 to 7. The first two item anchors are from 1 = *less happy* to 7 = *more happy*, and the last two item anchors are from 1 = *not at all* to 7 = *a great deal*. Cronbach’s \(\alpha\) ranged from .74 to .86 across the world regions.

**Depression.** The Center for the Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) is a 20-item measure of depressive symptoms that emphasizes affective components of depression (see Ensel, 1986, for an overview of the measure). Participants responded to items on a 4-point Likert scale from 0 = *rarely or none of the time* to 3 = *most or all of the time*. An example item is, “I felt that everything I did was an effort.” Cronbach’s \(\alpha\) ranged from .89 to .92 across the world regions.

**Eudaimonia**

*Psychological well-being.* The Scales of Psychological Well-Being (Ryff, 1989) contains six subscales of positive psychological functioning: Self-Acceptance, Positive Relations With Others, Autonomy, Environmental Mastery, Purpose in Life, and Personal Growth. A shortened version with three items per subscale was used (Ryff & Keyes, 1995). Participants responded to items on a 7-point Likert scale from 1 = *strongly disagree* to 7 = *strongly agree*. The six subscales were used individually based on evidence showing that a six-factor model (one factor for each subscale) represents the data better than a one- or three-factor model of psychological well-being (Chen, Jing, Hayes, & Lee, 2013). Consistent with past studies, the three-item subscale estimates of internal consistency were low due to the theoretical, top-down item-selection process. To be sure to capture the functional diversity within each aspect of well-being, the abbreviated scale constructors chose to maximize conceptual breadth rather than statistical reliability.

The self-acceptance subscale measures positive evaluations of one’s self and past life \((\alpha = .60–.71)\); e.g., “I like most parts of my personality”). The Positive Relations With Others subscale measures the quality of interpersonal relationships \((\alpha = .57–.61)\); e.g., “I have not experienced many warm and trusting relationships with others”–reverse scored). The Autonomy subscale measures self-determination and independence, including the ability to evaluate oneself by personal standards \((\alpha = .51–.65)\); e.g., “I have confidence in my own opinions, even if they are different from the way most other people think”). The Environmental Mastery subscale measures the capacity to effectively manage one’s life and surrounding world \((\alpha = .43–.61)\); e.g., “I am good at managing the responsibilities of daily life”). The Personal Growth subscale measures a sense of continued growth and development as a person \((\alpha = .41–.66)\); e.g., “For me, life has been a continuous process of learning, changing, and growth”). The Purpose in Life subscale measures belief that one’s life has meaning, purpose, and a clear sense of direction \((\alpha = .02–.34)\); e.g., “Some people wander aimlessly thought life, but I am not one of them”). However, due to the low internal consistency across world regions, this subscale (a) did not adequately measure purpose in life, (b) likely tapped into other related constructs (e.g., mindfulness, personal growth),

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3 Copies of all scales and items used in the International Wellbeing Study are available at the study website (http://www.wellbeingstudy.com).

4 The total sample correlation between two items (i.e., “Some people wander aimlessly through life, but I am not one of them” and “I sometimes feel as if I’ve done all there is to do in life”) in the Purpose in Life subscale was .01, which explains the low \(\alpha\).
Correlates of Well-Being

Happiness orientations. The Orientations to Happiness Scale (Peterson, Park, & Seligman, 2005) is an 18-item measure consisting of three six-item subscales representing three different pathways by which individuals seek happiness: A Pleasure Orientation (e.g., “I am very likely to appreciate the positive in the world”); an Engagement Orientation (e.g., “I am very interested in pursuing personal growth”); and a Meaning Orientation (e.g., “I am very much like me”). Participants responded to items on a 5-point Likert scale ranging from 1 = not at all like me to 5 = very much like me. Cronbach’s α ranged from .72 to .84 for the Engagement Orientation, and .70 to .84 for the Meaning Orientation.

Hope. The (Dispositional) Adult Hope Scale (Snyder et al., 1991) is a 12-item measure of a motivational state oriented toward achieving goals. The measure consists of two 4-item subscales: Agency, or goal-directed determination (e.g., “I energetically pursue my goals”), and Pathways, or planning ways to meet goals (e.g., “I can think of many ways to get the things in life that are important to me”). The scale also contains four filler items that are excluded from analyses. Participants responded to items on an 8-point Likert scale from 1 = definitely false to 8 = definitely true. Cronbach’s α ranged from .85 to .91 across the world regions.

Gratitude. The Gratitude Survey–Six-Item Form (McCullough, Emmons, & Tsang, 2002) is a measure of one’s general tendency to appreciate the positive in the world. Participants responded to items on a 7-point Likert scale from 1 = strongly disagree to 7 = strongly agree. An example item is “I am grateful to a wide variety of people.” Cronbach’s α ranged from .75 to .84.

Curiosity. The Curiosity and Exploration Inventory–II (Kashdan et al., 2009) is a 10-item measure of the motivational system associated with the pursuit of novelty and challenge. The measure consists of two 5-item subscales: Stretching, or seeking out new knowledge and experiences (e.g., “I actively seek as much information as I can in new situations”); and Embracing, or willingness to embrace novelty and uncertainty (e.g., “I am the type of person who really enjoys the uncertainty of everyday life”). Participants responded to items on a 5-point Likert scale ranging from 1 = very slightly or not at all to 5 = extremely. Cronbach’s α ranged from .84 to .90.

Grit. The Grit Scale (Duckworth, Peterson, Matthews, & Kelly, 2007) is a 12-item measure of trait-like perseverance and passion for long-term goals. The measure consists of two 6-item subscales: Perseverance of Effort, (e.g., “Setbacks don’t discourage me”), and Consistency of Interests (e.g., “I often set a goal but

Table 1
Relative Frequency by World Region and Country

<table>
<thead>
<tr>
<th>Region</th>
<th>Relative frequency (%)</th>
<th>Count</th>
<th>Region</th>
<th>Relative frequency (%)</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oceania</td>
<td>25.7</td>
<td>1,964</td>
<td>Southern Europe</td>
<td>11.5</td>
<td>874</td>
</tr>
<tr>
<td>New Zealand</td>
<td>21.1</td>
<td>1,605</td>
<td>Slovenia</td>
<td>3.9</td>
<td>296</td>
</tr>
<tr>
<td>Australia</td>
<td>4.6</td>
<td>439</td>
<td>Greece</td>
<td>2.4</td>
<td>181</td>
</tr>
<tr>
<td>Anglo Nations &amp; Northern Europe</td>
<td>25.2</td>
<td>1,909</td>
<td>Germany</td>
<td>1.7</td>
<td>128</td>
</tr>
<tr>
<td>United States</td>
<td>11.4</td>
<td>870</td>
<td>Portugal</td>
<td>1.1</td>
<td>81</td>
</tr>
<tr>
<td>England</td>
<td>5.2</td>
<td>393</td>
<td>Spain</td>
<td>.5</td>
<td>37</td>
</tr>
<tr>
<td>Finland</td>
<td>4.2</td>
<td>319</td>
<td>France</td>
<td>.5</td>
<td>36</td>
</tr>
<tr>
<td>Canada</td>
<td>1.7</td>
<td>128</td>
<td>Other</td>
<td>1.5</td>
<td>115</td>
</tr>
<tr>
<td>Norway</td>
<td>1.3</td>
<td>97</td>
<td>Latin America</td>
<td>9.2</td>
<td>719</td>
</tr>
<tr>
<td>Ireland</td>
<td>.7</td>
<td>54</td>
<td>Mexico</td>
<td>4.1</td>
<td>315</td>
</tr>
<tr>
<td>Other</td>
<td>.6</td>
<td>48</td>
<td>Colombia</td>
<td>2.7</td>
<td>204</td>
</tr>
<tr>
<td>Former USSR &amp; Eastern Europe</td>
<td>21.6</td>
<td>1,637</td>
<td>Brazil</td>
<td>.8</td>
<td>59</td>
</tr>
<tr>
<td>Hungary</td>
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<td>1,076</td>
<td>Guatemala</td>
<td>.5</td>
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</tr>
<tr>
<td>Czech Republic</td>
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<td>258</td>
<td>Other</td>
<td>1.4</td>
<td>106</td>
</tr>
<tr>
<td>Russia</td>
<td>2</td>
<td>155</td>
<td>East and South Asia</td>
<td>3.6</td>
<td>273</td>
</tr>
<tr>
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<td>96</td>
<td>China</td>
<td>2.8</td>
<td>210</td>
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<td>Malaysia</td>
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<tr>
<td>Other</td>
<td>.2</td>
<td>18</td>
<td>Other</td>
<td>.2</td>
<td>15</td>
</tr>
</tbody>
</table>

5 We conducted all analyses with the Purpose in Life subscale included (instead of the Presence of Meaning in Life subscale). We obtained very similar results for the one- and two-factor models (e.g., latent correlations between Hedonia and Eudaimonia ranged from .81 to .93 across the world regions with a total sample correlation of .91). However, as expected, the model fit was slightly worse for the one-factor model, χ²(35) = 2060.35, p < .001; CFI = .93; NNFI = .91; RMSEA = .087; SRMR = .042, and two-factor models, χ²(31) = 1597.55, p < .001; CFI = .95; NNFI = .93; RMSEA = .078; SRMR = .037.
later choose to pursue a different one"–reverse coded). Participants responded to items on a 5-point Likert scale from 1 = not at all like me to 5 = very much like me. Cronbach’s α ranged from .73 to .82.

Search for meaning. The Search subscale of the Meaning in Life Questionnaire (Steger et al., 2006) is a 5-item measure of the extent to which a person is actively seeking meaning in his or her life (e.g., “I am seeking a purpose or mission for my life”). Participants responded to items on a 7-point Likert scale from 1 = absolutely untrue to 7 = absolutely true. Cronbach’s α ranged from .83 to .90 across the world regions.

Rumination. The 6-item Rumination Scale, a new short form created from the 22-item Ruminative Response Style subscale of the Response Styles Questionnaire, assesses responses to depressive symptoms that focus on their meanings, causes, and consequences (Nolen-Hoeksema, 1991). Participants were prompted with, “In the past 3 months would you say you . . .?” and responded to six items using this stem. Two items came from the Brooding factor, or moody and self-critical pondering (e.g., “Thought: ‘Why can’t I handle things better?’”), and four from the Depression-Related factor, thought to directly tap into depression symptoms themselves (e.g., “Thought: ‘Why can’t I get going?’”) Trennor, Gonzalez, & Nolen-Hoeksema, 2003). Participants responded to items on a 7-point Likert scale from 1 = strongly disagree to 7 = strongly agree. Cronbach’s α ranged from .83 to .88.

Loneliness. The Three-Item Loneliness Scale (Hughes, Waite, Hawkley, & Cacioppo, 2004) is a short form of the Revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980), which measures feelings of being isolated, disconnected, and lacking social connectedness. An example item is “How often do you feel isolated from others?” Participants responded to items on a 5-point Likert scale ranging from 1 = never to 5 = all of the time. Cronbach’s α ranged from .79 to .87.

Results

Data Analytic Overview

Whether validated, self-report measures of hedonic and eudaimonic well-being indicated one of two types of well-being was tested in an international sample. Confirmatory factor analysis (CFA) model-fit indices for the one-factor and two-factor models were compared to determine whether a one-factor or two-factor model of well-being best represented the data.

Discriminant validity between Hedonia and Eudaimonia was tested in two ways. First, the magnitude of the latent correlation between Hedonia and Eudaimonia was examined. A very strong correlation would suggest negligible unique variance between the two factors. Second, convergent validity coefficients were compared. We estimated correlations between both types of well-being and related variables. Smaller differences between the Hedonia and Eudaimonia factor correlations would suggest less discriminant validity, indicating that the factors are assessing the same construct.

Because it is possible that one large international sample might not adequately represent all regions of the world, analyses were repeated with subsamples based on the geographic world regions. Results are first presented with the total sample, followed by subsample results organized by world regions.

Total Sample CFAs

Structural equation modeling using full maximum-likelihood estimation was conducted with the software Analysis of Moment Structures, Version 22.0 (AMOS; Arbuckle, 2013) and the latent variable analysis (lavaan) package in R (Rosseel, 2012). The total sample-observed correlation matrix of well-being indicators used is presented in Table 2. To evaluate model specification, the −2 log-likelihood χ² value, comparative fit index (CFI), non-normed fit index (NNFI), root-mean-square error of approximation (RMSEA), and standardized root-mean-square residual (SRMR) were used to test model fit. An excellent fitting model has a small, nonsignificant χ² value; however this is regarded as an overly stringent model-fit criterion for large sample sizes (Kline, 2011). Although conventional model-fit cutoffs exist for the CFI, NNFI, RMSEA, and SRMR (e.g., Hu & Bentler, 1999; CFI/NNFI ≥ .95; RMSEA/SRMR ≤ .08), these standards are shown to vary across model types (Fan & Sivo, 2007; Kenny & McCoach, 2003) and may be too stringent (Marsh, Hau, & Wen, 2004). Rather than focus solely on covariance discrepancies, we interpreted our models based on building both accurate and parsimonious theories for the science of well-being (Mulaiik et al., 1989).

Two CFAs were performed to determine whether Hedonia and Eudaimonia were better modeled as one factor or two correlated factors. A one-factor model was first conducted in which all nine Hedonia and Eudaimonia indicators were loaded onto the same overarching well-being factor. The second CFA was a correlated two-factor model in which the three Hedonia indicators were loaded onto a Hedonia factor and the six Eudaimonia indicators were loaded onto an Eudaimonia factor.

One-factor model. Our first CFA tested how well one overall well-being factor represented the data. Well-being was modeled as a single factor indicated by the nine well-being (sub)scales. Figure 1 depicts the standardized results. Model fit: χ²(27) = 970.85, p < .001; CFI = .963; NNFI = .950; RMSEA = .068; SRMR = .030.

Two-factor model. The second CFA tested how well a correlated two-factor model of well-being represented the data. The Hedonia factor was based on Diener’s (1984) model of subjective well-being and consisted of three scales: the Satisfaction with Life Scale, the Subjective Happiness Scale, and the CES-D scale (Radloff, 1977). The Eudaimonia factor consisted of five subscales of the Scales of Psychological Well-Being (Ryff, 1989): Self-Acceptance, Positive Relationships With Others, Autonomy, Environmental Mastery, and Personal Growth, as well as the Presence subscale from the Meaning in Life Questionnaire (Steger et al., 2006).
Two-Factor Model Correlations With Related Measures of Well-Being

As an additional test for the validity of the two-factor model, known correlates of well-being were used to compare convergent validity coefficients between hedonia and eudaimonia. A construct’s validity includes identifying unique relationships between a construct and related variables (Cronbach & Meehl, 1955). To the extent two factors have different correlations with the same variable, their separate construct validity is supported. To the extent two factors have the same correlations with the same variable, their construct validity is not supported. If the latter is true then the two factors likely represent the same construct. To test the relationship between the well-being factors and correlate variables, correlates of well-being were added to the two-factor measurement model. The factor loadings were fixed to the two-factor solution and correlations from the Hedonia and Eudaimonia factors to the correlates were estimated. Each correlate of well-being was added to a separate structural equation model, so there were 10 different models.

Beyond the modeled correlations, the size of the discrepancy between the Hedonia and Eudaimonia correlations for the same correlate variable was examined (see Table 3, column Δ|r|). The average correlation difference between Hedonia and Eudaimonia was .07, indicating a high degree of similarity between the Hedonia and Eudaimonia constructs. Hypothesis tests (Steiger’s z test) were conducted to determine significant differences between the Hedonia and Eudaimonia correlations for each correlate variable (Meng, Rosenthal, & Rubin, 1992). All correlation magnitude differences were significant at p < .001. Notably, due to the large sample size (n = 7617), the correlation-magnitude difference had to be less than .01 to be nonsignificant. Overall, the Hedonia and Eudaimonia correlations were in large part similar except for hope, meaning orientation, and grit.

Well-Being by World Region

Whether a one-factor or two-factor model was more valid for each distinct world region was tested, as well as how these measurement models varied between world regions. Identical confirmatory analyses used for the total sample were conducted on each

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Some researchers have suggested that Scales of Psychological Well-Being consists of three rather than six factors, whereas environmental mastery, self-acceptance, meaning in life, and personal growth are grouped together into one factor (Abbott et al., 2006; Burns & Machin, 2009). We tested the two-factor model with this Eudaimonia structure and obtained very similar results (e.g., latent correlations between Hedonia and Eudaimonia ranged from .85 to .95 across the world regions with a total sample correlation of .92).

To highlight the importance of controlling for measurement error, the total sample-observed correlation between Hedonia and Eudaimonia was .46. The correlation was calculated after standardizing each well-being indicator and taking the mean of the standardized variables that encompassed the Hedonia and Eudaimonia factors.
One factor model of well-being

Two factor model of well-being

Figure 1. Standardized factor loadings and variance explained for the one and two factor models of well-being.

SWLS = Satisfaction With Life Scale; SHS = Subjective Happiness Scale; HM = Happiness Measures; CESD = Center for the Epidemiological Studies Depression Scale; SA = self-acceptance; PR = personal relations with others; AU = autonomy; EM = environmental mastery; ML = meaning in life; PG = personal growth; e = error term.

Discussion

Using a large, comprehensive community-based sample from around the globe, we examined the uniqueness of two proposed factors of well-being: Hedonia and Eudaimonia. Our results suggest that self-report measures of well-being based upon Diener’s (1984) subjective well-being model and Ryff’s (1989) psychological well-being model reflect one overarching well-being construct. More specifically, Hedonia and Eudaimonia showed little evidence of discriminant validity, but instead were highly correlated ($r = .96$) and similarly related to other well-being variables ($|r| = .07$). The one-factor model of well-being generated satisfactory model-fit indices, albeit slightly weaker than those for the two-factor model. Similar evidence was found for a one-factor model of well-being throughout different world regions.

Discriminant Validity: Factor Correlations

The large magnitude of the correlation between Hedonia and Eudaimonia ($r = .96$) suggests that they primarily capture one type of well-being but also share substantial overlap. This suggests that the two factors are not completely distinct and may represent different aspects of the same underlying construct of well-being.
overarching well-being construct. There is some debate about how large a correlation magnitude must be to suggest poor discriminant validity between two factors or measures. For example, some researchers have suggested that a latent correlation magnitude greater than .85 indicates poor discriminant validity (e.g., Kline, 2011). The $r = .96$ Hedonia–Eudaimonia correlation found in this study far exceeds this cutoff and leaves little unique variance between the two factors.

Hedonia, Eudaimonia, and Related Well-Being Variables

Even if the correlation between two constructs is high, unique relationships to other variables support their discriminant validity. The validity of a psychological construct often involves showing distinct placement in a nomological network of related constructs (Cronbach & Meehl, 1955). Hedonia and Eudaimonia—as measured in this study—showed little evidence to support distinct placement. Average correlation differences were small ($|\Delta r| = .07$), and only three of the 11 variables' correlation differences exceeded .06. Notably, other studies that have argued for a lack of discriminant validity between well-being constructs found correlation differences much larger than our own (e.g., Judge, Erez, Bono, & Thoresen, 2002; Smith, Pope, Rhodewalt, & Poulton, 1989). Thus, results from nomological net analyses substantiate the lack of discrimination between Hedonia (operationalized as subjective well-being) and Eudaimonia (operationalized as psychological well-being).

Three exceptions to this trend were hope, meaning orientation, and grit: Each differentially related to Hedonia and Eudaimonia (see Table 5). One explanation for these findings is that hope (as measured in this study) and grit involve goal-directed behavior. Eudaimonia might more strongly relate to goal-directed behavior than hedonia because theoretical conceptualizations of eudaimonia involve striving to reach one’s full potential (i.e., self-actualization; Maslow, 1943) and intrinsic motivation (Ryan & Deci, 2000). These goals may be in the pursuit of meaning, supported by the greater correlation difference between a meaning orientation to happiness and a pleasure and engagement orientation. Alternatively, the correlation difference for meaning orientation may be due to use of the same word “meaning” in the meaning orientation and meaning in life items (Arnluf, Larsen, Martinsen, & Bong, 2014).

Latent Factors Versus Scale Scores

Prior researchers have obtained support for the distinction between Hedonia and Eudaimonia through the use of scale scores rather than latent factors. Although Keyes et al. (2002) conducted a CFA with latent factors, the authors used the results of logistic regression and discriminant function analyses with scale scores to support the discriminant validity of Hedonia and Eudaimonia. The main advantage of latent factors over scale scores is the reduction of measurement error (Cohen, Cohen, Teresi, Marchi, & Velez, 1990). Analyzing data with latent factors ensures that measures capture only the construct of interest rather than additional confounding constructs. In the context of this study, measurement error includes the unique variance of each of the nine well-being indicators. Although not random error, this unique variance is distinct from both Hedonia and Eudaimonia. When there is a significant correlation between the Eudaimonia scale score and another variable, it is difficult to determine which aspect of Eudaimonia is driving this relationship. For example, curiosity might relate to Eudaimonia’s scale score due to the unique variance of personal growth, and loneliness might relate because of the unique variance of positive relations with others. Thus, the analysis of scale scores may be inappropriate for testing a measurement model of well-being and lead to misleading statistical inference.

Hedonia and Eudaimonia May Be the Same Well-Being Construct

The large magnitude correlation and small average correlation differences between Hedonia and Eudaimonia may suggest that they reflect the same overarching well-being construct. Some readers may find these results surprising given the rich philosophical history behind the distinction between Hedonia and Eudaimonia (Telfer, 1990). Five explanations are proposed for this counterintuitive conclusion.

...”Happiness” is a term that has been personalized such that definitions can deviate drastically from one person to another. Some researchers portray hedonia as happiness (Ryan & Deci, 2001; Waterman, 2008). Philosophical hedonism is often defined as the maximization of pleasure coupled with the minimization of pain (Tatarkiewicz, 1976). However, in a Wittgensteinian sense, it is possible that the term “happiness” has changed in our modern culture to mean more than just maximizing pleasure and minimizing pain. It may now encompass traditional eudaimonic qualities of meaning and fulfillment.

Hedonia is not operationalized in psychology as pleasure. Although debate exists in the philosophical literature, hedonism is traditionally associated with pleasure as opposed to happiness (e.g., Haybron, 2001; Morris, 2011). Unfortunately, none of the indicators of Hedonia directly tap into the experience of pleasure. Even positive affect, as measured by the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), may be a poor operationalization of maximizing pleasure and minimizing pain. The PANAS contains items reflecting philosophically eudaimonic emotions such as determination, interest, and inspiration (Watson et al., 1988). The emotions of excitement and enthusiasm from the PANAS may capture effort toward meaningful goal pursuits rather than pleasure (Deci & Ryan, 2000).

There is no clear distinction between hedonic and eudaimonic experiences. Some philosophers and psychologists prefer to interpret Hedonia as a high ratio of positive to negative subjective experiences (e.g., Huta & Waterman, 2014). However, it becomes difficult to categorize positive subjective experiences as hedonic or eudaimonic with this broadened interpretation of Hedonia. For example, is maximizing one’s meaning in life while attempting to minimize feelings of meaninglessness hedonic or eudaimonic? Meaning is traditionally viewed as a eudaimonic experience, but the example also fits the broadened hedonic definition of maximizing positive experiences and minimizing negative experiences.

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11 Leaving out hope, meaning orientation, and grit, the average correlation difference between Hedonia and Eudaimonia was .04.

12 We acknowledge the possibility of covarying measurement error (e.g., social desirability in each item) present in a latent factor.
consideration, the focus of this study was not to test whether one
outcomes than global well-being constructs. In light of this
tant to be labeled a scientific theory (see Kashdan et al., 2008).
strong philosophical roots, but it lacks sufficient empirical support
empiricism without theory can be harmful to psychological
2 values are significant at
.965 .949 .978 .962 .937 .941 .944
.96 .947 .970 .949 .916 .921 .932
Meaning orientation .33 .48 .15 –61.07***
Grit .39 .54 .15 –64.18***
Note. |Δr| = difference in correlation magnitude.
*p < .05. **p < .01. ***p < .001.

Philosophical theory, rather than empirical investigation, pro-
motes the distinction between Hedonia and Eudaimonia. Some
researchers have argued that a purely empirically driven approach
to the study of well-being is harmful and that scientists must
respect theoretical complexity (Ryan & Huta, 2009; Waterman,
2008). Empiricism without theory can be harmful to psychological
science, but theory without empiricism can be equally harmful.
Scientific theories should be evaluated with special attention to
empirical evidence. The Hedonia and Eudaimonia distinction has
empirical evidence. The Hedonia and Eudaimonia distinction has
Scientific theories should be evaluated with special attention to
empirical evidence. The Hedonia and Eudaimonia distinction has

The explanations in the previous section are useful for this study
and further consideration by other researchers and practitioners
interested in the structure of well-being. Nonetheless, there are
limitations to this study that offer additional insight into why there
is negligible discriminant validity between Hedonia and Eudaimo-
ia (as measured in this study). First, it is possible that the
operational measurements of Hedonia and Eudaimonia used in this
study are inadequate and do not capture the underlying constructs.
The Hedonia measurement model was derived from Diener’s
(1984) model of subjective well-being, but did not include tradi-
tional measures of positive and negative affect (i.e., PANAS;
Watson et al., 1988). As for Eudaimonia, there is still much
disagreement among researchers about what constitutes it, and
how to measure it. For example, Waterman (1993, 2008) defined
Eudaimonia as authenticity to one’s “true self” rather than Ryff
and Singer’s (2008) multifaceted definition. The lack of discrim-
inant validity between Hedonia and Eudaimonia might be attrib-
utable to the operational definition of Eudaimonia used in this
study (i.e., the Scales of Psychological Well-Being; Burns &
Machin, 2009). A different measure, such as the longer 54- and
84-item versions of the Scales of Psychological Well-Being of
Eudaimonia, may have led to greater discriminant validity. Sec-
ond, the underlying constructs of Hedonia and Eudaimonia may
exist, but participants might have been unable to distinguish be-
tween them when subjectively reporting their experiences. Differ-
entiation of these constructs might require a high level of aware-
ness and insight that participants might have lacked.
Limitations about the sample include the fact that most partic-
ips were likely middle to upper class, given the study require-
ment for Internet access. In addition, less than 20% were men.

Table 3
Latent Correlations of Hedonia and Eudaimonia With
Correlates of Well-Being

| Variable       | Hedonia | Eudaimonia | |Δr| | Steiger’s z |
|----------------|---------|------------|--------|-----|-------------|
| Gratitude      | .63     | .64        | .01    | –4.64***|
| Pleasure orient | .24     | .21        | .03    | 10.96***|
| Rumination     | –.56    | –.52       | .04    | –17.08***|
| Meaning in life| –.30    | –.25       | .05    | –18.58***|
| Engagement orientation | .33 | .39 | .06 | –23.06***|
| Loneliness     | –.49    | –.63       | .06    | –29.33***|
| Curiosity      | .36     | .42        | .06    | –23.39***|
| Hope           | .67     | .77        | .10    | –57.34***|
| Meaning orient | .33     | .48        | .15    | –61.07***|
| Grit           | .39     | .54        | .15    | –64.18***|

Note. |Δr| = difference in correlation magnitude.
*p < .05. **p < .01. ***p < .001.

Limitations

One-factor model NNFI .954 .932 .947 .970 .949 .916 .921
RMSEA .069 .082 .068 .051 .067 .083 .079
SRMR .032 .039 .034 .026 .030 .048 .050
χ2/(27) 1954 1909 1637 874 719 273 138
CFI .69 .63 .25 .05 .56 .29 .01
RMSEA .031 .038 .032 .024 .028 .047 .048
SRMR .029 .036 .029 .022 .025 .044 .045
χ2/(1) 2(26) 277.00 368.09 209.18 80.74 92.16 20.62 45.76
Δχ2/(1) 2(27) a 280.23 375.42 228.96 88.28 112.78 77.30 50.29

Two-factor model
One-factor model NNFI .954 .932 .950 .972 .959 .914 .930
RMSEA .070 .083 .066 .049 .060 .083 .074
SRMR .031 .038 .032 .024 .028 .047 .048
χ2/(1) 2(26) 277.00 368.09 209.18 80.74 92.16 20.62 45.76
Δχ2/(1) 2(27) a 280.23 375.42 228.96 88.28 112.78 77.30 50.29

Table 4
Model Fit by World Region

<table>
<thead>
<tr>
<th>Model</th>
<th>Statistic</th>
<th>Oceania &amp; Anglo &amp; N. Europe</th>
<th>USSR &amp; E. Europe</th>
<th>S. Europe</th>
<th>Latin Amer.</th>
<th>E. &amp; S. Asia</th>
<th>Southeast Asia</th>
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<td>88.28</td>
<td>112.78</td>
<td>77.30</td>
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<td>92.16</td>
<td>20.62</td>
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<td>.950</td>
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<td>.048</td>
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<tr>
<td>Δχ2/(1)</td>
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<td>7.33**</td>
<td>19.78***</td>
<td>7.54**</td>
<td>20.62***</td>
<td>2.03</td>
<td>4.53**</td>
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<td>.98</td>
<td>.96</td>
<td>.92</td>
<td>.95</td>
<td>.91</td>
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</tbody>
</table>

Note. Anglo = Anglo nations; N. = northern; USSR = former nations of the Union of Soviet Socialist Republics; E. = East; S. = South; Amer. = America; CFI = comparative fit index; NNFI = nonnormed fit index; RMSEA = root-mean-square error of approximation; SRMR = standardized root-mean-square residual; Δχ2/(1) = change in chi-square value.
a All χ2 values are significant at p < .001.
*p < .05. **p < .01. ***p < .001.
Most participants were also from traditionally Western cultures, and results may not generalize to people from countries of non-Western culture. These sample demographics potentially restrict our findings to middle–upper class women from Western countries.

Last, and perhaps most important to note, this study tested the factor structure of well-being from a single measurement perspective. Determining whether different types of well-being exist is a complicated and multifaceted research question that arguably requires multimethod assessment extending beyond self-report measures. Rather than concluding that one type of well-being exists, results suggest that Hedonia and Eudaimonia as operation- alized and measured in this study are the same type of well-being.

Conclusion and Future Directions

Researchers interested in the distinction between Hedonia and Eudaimonia might consider focusing on pathways to reaching a state of well-being. For example, is a person’s conscious orientation in life toward maximizing the pleasure/pain ratio, or is it virtue excellence? These types of research questions would prevent researchers from conflating the predictors of well-being with well-being itself (Kashdan et al., 2008). Preliminary research in this area has suggested that eudaimonic motivations relate more strongly to well-being than do hedonic motivations (e.g., Hender-

Table 5

<table>
<thead>
<tr>
<th>Variable</th>
<th>Oceania</th>
<th>Anglo &amp; N. Europe</th>
<th>USSR &amp; E. Europe</th>
<th>S. Europe</th>
<th>Latin Amer.</th>
<th>E. &amp; S. Asia</th>
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<td>974</td>
<td>719</td>
<td>273</td>
<td>138</td>
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<td>.07***</td>
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<td>.04***</td>
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<td>.01</td>
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</table>

Note. Anglo = Anglo nations; N. = northern; USSR = former nations of the Union of Soviet Socialist Republics; E. = East; S. = South; Amer. = America; |Δr/δl| = difference in correlation magnitude.

*p < .05. ***p < .001.

References

Chen, F. F., Jing, Y., Hayes, A., & Lee, J. M. (2013). Two concepts of two authenticity), rather than Hedonia and Eudaimonia (Biswas-Diener, Kashdan, & King, 2009). Based on the questions being asked, researchers and applied professionals can determine what level of measurement is most appropriate.