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What Is More Important for National Well-Being: Money or Autonomy? A Meta-Analysis of Well-Being, Burnout, and Anxiety Across 63 Societies

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What is more important: to provide citizens with more money or with more autonomy for their subjective well-being? In the current meta-analysis, the authors examined national levels of well-being on the basis of lack of psychological health, anxiety, and stress measures. Data are available for 63 countries, with a total sample of 420,599 individuals. Using a 3-level variance-known model, the authors found that individualism was a consistently better predictor than wealth, after controlling for measurement, sample, and temporal variations. Despite some emerging nonlinear trends and interactions between wealth and individualism, the overall pattern strongly suggests that greater individualism is consistently associated with more well-being. Wealth may influence well-being only via its effect on individualism. Implications of the findings for well-being research and applications are outlined.

Keywords: subjective well-being, culture, wealth, individualism, multilevel meta-analysis

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The well-being of nations has become a major concern for economists, policy makers, and social scientists alike. Much research has been devoted to predictors of well-being, happiness, and life satisfaction of citizens of countries around the world. The research has indicated a number of well-being indices, including indicators of higher income, good governance, democratic institutions, and social equality (e.g., Bjørnskov, Dreher, & Fischer, 2008; Diener, Diener, & Diener, 1995; Stevenson & Wolfers, 2008; Veenhoven, 1994). While economists focus on material wealth (e.g., Stevenson & Wolfers, 2008), psychologists have been focusing more on cultural values, in particular individualism (e.g., Diener et al., 1995; Diener, Oishi, & Lucas, 2003; Hofstede, 2001). The question is what is more important for well-being: providing individuals with money or providing individuals with choices and autonomy in their life? There has been relatively little research into which of these two variables is more strongly related to indicators of well-being across nations, when the other variable is controlled.

Furthermore, much debate exists about whether these effects are linear or whether there is a satiation point beyond which increasing wealth does not lead to further increases in well-being (e.g., Diener & Seligman, 2004; Kenny, 2005). Similarly, various social commentators have argued that increased individualism has led to a "postmodern paradox" (Hogg, 2000, p. 231), where increased individualism and materialism are associated with an overall decline in well-being (Barber, 2003; Cushman, 1990; B. Schwartz, 2010). These arguments imply some level of interdependency between individualism and wealth that may be detrimental for well-being, a powerful idea linking ideas across sociology, psychology, philosophy, and economics, but one that is still awaiting empirical testing in a cross-national context. Therefore, we provide in this article the first comprehensive test of both nonlinear and interactive effects in addition to linear effects of wealth and individualism on well-being across societies.

Subjective well-being is the subjective evaluation of one's life, including emotional reactions to personal or general events, mood states and any judgment concerning satisfaction and fulfillment in various domains of life (marriage, work, income, and so forth; Diener et al., 2003; Myers & Diener, 1995). Well-being research on country differences to date has focused primarily on positive affective states and evaluations. Although there is some debate about the underlying dimensions of affect, there is now strong convergence of opinion that affect is hierarchically organized and follows a circumplex pattern at the lowest level (Barrett & Russell, 1999; Stanley & Meyer, 2009; Tellegen, Watson, & Clark, 1999a, 1999b; Yik, Russell, & Barrett, 1999). Negative affect states like anxiety, stress, or depression are the opposites of happiness, excitement, or engagement (see McNiel, Lowman, & Fleeson, 2010, for a recent application). The underlying dimensions of this circumplex structure may reflect positive activation (PA) versus negative activation (NA) (Tellegen et al., 1999a, b) or valence and activation (Barrett & Russell, 1999), which at the highest level tend to reflect a single happiness–unhappiness dimension (Tellegen et al., 1999a, 1999b). This hierarchical analysis is now well-supported and also consistent with neuroimaging studies (Stanley & Meyer, 2009).

The majority of previous research on well-being across societies has focused on broad PA or positive valence (like a combined subjective well-being indicator) or specific types of PA such as happiness or life satisfaction. There has been little research on negative affect across societies, with the notable exception of a

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study by van Hemert, van de Vijver, and Poortinga (2002) focusing on depression as a negative affect dimension.

Furthermore, subjective well-being indicators are drawn from opinion surveys such as the World Values Survey (Inglehart, 1997), European Social Survey (Moore, 2006), or research by Veenhoven (1999, 2008). In these instruments, respondents are asked to indicate their happiness or life satisfaction on single items or small sets of items. These indicators may miss important bodily symptoms or affective feelings captured in well-validated clinical instruments (Diener, 2006), do not cover the whole affective domain (e.g., Watson & Clark, 1992), and may introduce individualistic biases in measurement (Christopher, 1999). Hence, it is important to see whether past findings can be replicated with clinical measures of negative affect. In the current article, we employed three measures of general health (Goldberg, 1972), burnout (Maslach & Jackson, 1981), and anxiety (Spielberger, Gorsuch, & Lushene, 1970). We chose these measures as they are reliable, have been extensively used in a variety of nations, and focus on negative well-being (as we discuss later). Hence, we were concerned primarily with the lowest level of the affect hierarchy, focusing on three aspects of negative affect with varying level of specificity.

The contribution of our study is threefold: we examined (a) the relative importance of wealth versus cultural explanations of national well-being, (b) nonlinear and interactive effects of these nation-level variables, and (c) negative affect with psychometrically sound and well-validated measures. We achieved these aims by conducting a series of meta-analyses, including studies that have reported means of these instruments in nonclinical adult samples in previous research. The data spans a period of nearly 40 years; therefore, we could also examine whether levels of well-being have increased or decreased over time across these different measures (e.g., Lane, 2000; Yang, 2008). We developed a three-level mixed-effect hierarchical modeling, which allowed us to account for effects at study and country levels and to separate method effects from substantive effects of interest. In these analyses, different sample sizes across studies and regions have been taken into account, and the modeling of sample size and measurement characteristics can rule out alternative explanations. A further advantage of this multilevel approach is that findings can be generalized beyond the specific samples included in the studies (Lipsey & Wilson, 2001).

Affect Hierarchy and Measuring Nation-Level Well-Being

The hierarchical model of affect (Stanley & Meyer, 2009; Tellegen et al., 1999a, 1999b) distinguishes three levels of affect that can help to organize how subjective well-being (SWB) fits into a larger universe of affect. Three main and relatively independent facets of SWB can be distinguished: positive affect, lack of negative affect, and life satisfaction (Lucas, Diener, & Suh, 1996). These facets capture specific first-order factors of positive affect. The combination of these indicators in a subjective well-being index relates to PA, which is the second-order factor organizing affect. These facets are measured with surveys in which Likert-style questions are used to assess respondents' happiness or life satisfaction. Work by Veenhoven (n.d.); Diener, Emmons, Larsen, and Griffin (1985); and Inglehart (1997) has provided the foundation for a large number of comparative cross-national studies.

Veenhoven (n.d.) created the World Database of Happiness, in which he compiled a number of indicators of happiness and life satisfaction per country. Most sources used single-item questions (e.g., "How satisfied are you with the life you lead," from Eurobarometer; Veenhoven, n.d.), and items were rescaled to fit a uniform 0–10 metric. Therefore, this indicator can be seen as measuring positive affect as a second-order factor (PA or positive valence). Diener et al. (1985) developed a five-item measure of satisfaction with life, in which respondents answer on a scale (from 1 to 7) whether they are satisfied with their life, their life is close to their ideal, or the conditions of their life are excellent. This is more akin to a first-order positive affect dimension.

Finally, in the World Values Survey (WVS) organized by Inglehart (1997), citizens in a large number of nationally representative surveys answer questions about their values and outlook in life. Starting in 1981, the survey includes two questions that have been used to estimate subjective well-being of nations ("Taking all things together, would you say you are: very happy, quite happy, not very happy, not at all happy?" and "All things considered, how satisfied are you with your life as a whole these days?"). Again, these measure capture first-order affective states and evaluations.

These surveys have been used in a large number of cross-national comparisons (for reviews and recent re-analyses, see Diener et al., 2003; Inglehart, Foa, Peterson, & Welzel, 2008; Stevenson & Wolfers, 2008). These indicators measure primarily the positive affect and life satisfaction facets of well-being. The negative affect or negative well-being aspect is relatively ignored (van Hemert et al., 2002). The focus on limited items makes it appealing for purposes of creating national indicators of subjective well-being to be included in regular national surveys (Diener, 2006; Diener, Kesebir & Lucas, 2008). At the same time, it needs to be shown whether findings hold up when different indicators are used, particularly those that focus on negative aspects. Inglehart et al. (2008) reported that the various facets of SWB are differently affected by economic indicators. Steel, Schmidt and Schultz (2008) reported differential relationships between well-being indicators and personality, depending on how both personality and well-being were measured. They argued that "the different measures of SWB are not interchangeable" (p. 148). Therefore, the decomposition of positive and negative facets of well-being is important and more research on specific facets, especially negative affective indicators, is needed.

In this research, three different measures of negative well-being are used: a general indicator of negative well-being, representing the second level in the affect hierarchy (General Health Questionnaire; Goldberg, 1972); a specific aspect of negative well-being, anxiety (Spielberger et al., 1970); and an indicator developed within the specific domain of work well-being, burnout (Maslach & Jackson, 1981). The latter two represent the lowest level in the affect hierarchy. We aimed to provide broad empirical evidence for nation-level negative well-being by examining three indicators that tap into different levels of negative well-being.

Wealth, Individualism, and SWB

The relationships among wealth, individualism, and general well-being have been extensively discussed and researched. Our focus is on cross-national differences; therefore, we examined

these studies in a bit more detail. Research on changes over time in specific countries and experimental or cross-sectional research focusing on individuals were consulted where necessary.

As discussed earlier, much research has focused on positive aspects of SWB, drawing on data from large representative samples across societies. Although the variability is much larger at the individual level, the variability between societies is substantive, and country differences typically account for 10%–20% of the variance in scores (Diener et al., 2003). What factors may explain this variability? Economists, political scientists, and sociologists in particular have shown a great interest in this question, as findings have potentially large implication for the governance and the well-being of societies. Should policy makers stimulate or curb economic growth, and is more income leading to greater well-being of a society (or not)?

Wealth and Well-Being

The relationship between wealth and well-being has been debated. The so-called *Easterlin paradox* (Easterlin, 1973, 1995, 2005) suggests that there is no link between levels of economic growth and happiness of members of a society. Examining this paradox, Veenhoven (1993, 1999) and Inglehart (1997) argued that the relationship between wealth and happiness is curvilinear; the effect of income diminishes once a saturation point is reached. Kenny (2005) also reported a stronger correlation between income and Veenhoven's data in developing countries. Similarly, Bonini (2008) reported that the individual-level effect of income on life satisfaction measured with the WVS decreases in more high income countries.

Examining this controversy, Stevenson and Wolfers (2008) reviewed and reanalyzed the data from various sources and found a consistent and positive effect of absolute income: greater income is linearly associated with more well-being. Inglehart and colleagues (2008) reported that increasing economic development, greater democracy, and increasing social tolerance are associated with rising happiness in 45 out of 52 countries for which substantial time-series data are available. However, economic progress and societal values are linked (e.g., Welzel & Inglehart, 2010), and both may show an impact on well-being. Hence it is important to examine them simultaneously.

Wealth, Individualism, and Well-Being

Diener et al. (1995) reported that higher income, greater individualism, human rights, and social equality were all associated with higher well-being across 55 nations. However, only individualism continued to relate consistently to well-being after any of the other variables had been controlled. Schyns (1998) found that both individualism and income correlated with happiness from the WVS, but the effect of individualism disappeared after she controlled for income (contrary to the findings by Diener et al., 1995). Splitting the data, Schyns found that in rich countries, the positive effect of individualism was replicated, and in poor countries, this effect disappeared. Using Diener et al.'s (1995) data, Arrindell et al. (1997) reported that Hofstede's (1980) masculinity index (the extent to which gender roles are well defined and individuals value assertiveness over good interpersonal relationships) interacted with wealth. Among poorer countries, societies emphasizing gender roles and assertiveness had higher well-being scores, whereas among richer societies, more feminine and less gender-role orientations were associated with more well-being. Examining negative aspects of well-being, van Hemert et al. (2002) reported that depression levels in nonclinical populations were higher in less affluent, less democratically stable, and more collectivistic societies. The authors also reported some interactions between wealth and value dimensions but did not further interpret these. Focusing on variations within one nation (the United States), Rentfrow, Mellander, and Florida (2009) found that well-being was higher in states where people were wealthier, better educated and more inclusive.

In summary, these cross-national studies suggest that well-being is linked to both wealth and individualism but provide little conclusive evidence of which variable might be more important. Curvilinear relationships with wealth have been reported in some studies (e.g., Veenhoven, 1993) but not in others (Diener et al., 1995; Stevenson & Wolfers, 2008). There is some evidence of interactions between wealth and cultural indicators (Arrindell et al., 1997; van Hemert et al., 2002), but the stability of any such findings remains unclear.

In contrast to these cross-national or cross-regional analyses, social commentators have examined patterns within single societies (most typically the United States), reviewing broad social trends and drawing upon broader well-being indicators than those typically used in cross-national surveys, including levels of suicide, divorce rates, clinical depression levels, prevalence of drug addiction, and unemployment rates (e.g., Lane, 2000). Here, a trend has been noted that increased individual freedom, autonomy, and choice—all descriptors of greater individualism as studied in the cross-national studies—are associated with less well-being (e.g., Barber, 2003; Cushman, 1990; Hogg, 2007; Lane, 2000; B. Schwartz, 2000, 2004, 2010). Similarly, increased wealth and economic choice are equally associated with *decreased* well-being and *greater* depression and stress (e.g., Ahuvia, 2008; Binswanger, 2006; Lane, 2000; B. Schwartz, 2000, 2010). Some of these authors also have implied linkages between these phenomena; suggesting well-being is negatively affected if individual choice of identity (individualism) and abundant economic choice (wealth) coincide. How could we reconcile these literatures? While acknowledging that these literatures draw upon different evidence, methods, and work at different levels, we attempted integration by examining some of the proposed mechanisms.

Theoretical Explanations of Societal Differences

Explanations of Wealth Effects

Turning to wealth patterns first, needs theory (e.g., Schyns, 1998) and livability theory (Veenhoven, 1995) both have been used to support the idea that linear increases in income and prosperity are associated with more well-being. Improving broadly defined objective living conditions (education, income, equality, stability, freedom, and so forth) is associated with more happiness. Therefore, higher wealth provides better opportunities for individuals to satisfy needs and allows them to have a more comfortable life.

This theoretical account is also compatible with curvilinear patterns. It basically suggests a diminishing marginal utility of income; once basic needs that can be bought with money are met,

increasing levels of wealth do not add anymore to the overall levels of happiness (Diener, Sandvik, Seidlitz, & Diener, 1993; Diener & Seligman, 2004; Drakopoulos, 2008; Veenhoven, 1991). This argument is central to Inglehart's (1997) thesis of postmodernization. In context of economic scarcity, small increases in money will result in relative large returns (e.g., food, clothing, secure shelter, medical supplies). Having more money in these conditions increases well-being. Henrich et al. (2010) found a strong inverse relationship between market integration (extent to which societies rely on food purchases compared with homegrown, hunted, or fished food) and trust as measured by monetary offers in economic games. The greater the scarcity, the more economic gains are sought and the more well-being can be derived (see also Lane, 2000). However, once these basic needs are met, further economic growth results in only marginal gains. "From this point on, non-economic aspects of life become increasingly important influences on how long, and how well, people live" (Inglehart, 1997, p. 65). Hence, the curvilinear hypothesis is related to a diminishing marginal utility of income.

Extending this argument can also lead to a reconciliation with the arguments about increasing unhappiness in the United States despite unprecedented wealth (e.g., Lane, 2000; B. Schwartz, 2000). Greater income can lead to negative psychological processes that undermine well-being. Trying to "keep up with the Jones" (the positional treadmill) is associated with a pursuit of status goods in order to increase one's social standing. Since this is a zero-sum situation (not everyone can be better off) and everyone engages in negative comparisons with those who are better off, this is likely to lower feelings of well-being (Binswanger, 2006; Hsee, Hastie, & Chen, 2008; B. Schwartz, 2004, 2010).

A second mechanism of lowered well-being with increased choice has been discussed under various terms such as the *multi-option treadmill* (Binswanger, 2006), *tyranny of freedom* (Desmeules, 2002; B. Schwartz, 2000) and *choice overload* (Brenner, Rottenstreich, & Sood, 1999; Iyengar & Lepper, 2000) in economics, marketing, and psychology. The basic underlying idea is that while having no choice is associated with negative well-being, increasing choices allow people to experience economic freedom, need gratification, and satisfaction. However, with further increases, people become overloaded with information; they experience opportunity costs (any one selected alternative will mean that other desirable options are not available anymore) and may experience postdecision regret or blame themselves for making less than optimal decisions (for reviews, see Binswanger, 2006; Desmeules, 2002; Hsee & Hastie, 2006; Hsee et al., 2008; B. Schwartz, 2010). Hence, increases in wealth beyond a threshold where basic needs have been met and further increases in materialistic choice lead to negative psychological processes that may be associated with an overall decline in subjective well-being.

Explanations of Individualism Effects

The mechanisms underlying the relationship of well-being with individualism–collectivism involve less materialistic factors. One plausible explanation is that individualistic societies allow individuals more freedom to decide on their own life course and choices (Diener et al., 1995; Veenhoven, 2008) and demand less sacrifices for the group (Suh & Koo, 2008). Attribution of success in life to one's own actions may also contribute to higher levels of well-being (Diener et al., 1995). In S. H. Schwartz's (1994, 2004) model of cultural values, individualism is labeled *affective and intellectual autonomy*. In societies emphasizing these two types of autonomy, people are encouraged to pursue affectively pleasant experiences and are expected to cultivate and express their own ideas and intellectual directions and find meaning in their own uniqueness.

Self-determination theory (Ryan & Deci, 2002) proposes that the satisfaction of the universal needs of autonomy, relatedness, and competence lead to greater happiness and well-being. If people are free to satisfy these needs, their levels of well-being should be greater. These ideas have been received substantial support in psychological and sociological research. Within the self-determination literature, autonomy has been shown to relate to greater well-being in various cultural contexts (Chirkov, Ryan, Kim, & Kaplan, 2003, Chirkov, Ryan, & Willness, 2005). In sociology, greater freedom of choice, autonomy, and agency have been consistently linked to increased life satisfaction across 80 societies both longitudinally and cross sectionally (Inglehart et al., 2008; Welzel & Inglehart, 2010). Researchers examining the antecedents of a sense of freedom have revealed the importance of democracy, economic development, and liberal values (Inglehart et al., 2008; Johnson & Lenartowicz, 1998; Welzel & Inglehart, 2010; Welzel, Inglehart, & Klingemann, 2003). Therefore, these findings support a causal link where the greater freedom afforded to individuals in more individualistic societies then translates in greater choices and opportunities to develop and follow their personal goals, and this ultimately leads to greater well-being.

As in the situation of wealth, there have been voices arguing that this trend may not continue endlessly: too much personal freedom and autonomy may not be the best for humans, resulting in loneliness, loss of identity, and an empty self (Barber, 2003; Cacioppo & Patrick, 2008; Cushman, 1990; Hogg, 2007; B. Schwartz, 2010). This postmodern paradox (Hogg, 2000) in itself decreases well-being through a loss of social relationships (Cacioppo & Patrick, 2008; Lane, 2000; Veenhoven, 1999), leaving individuals with insufficient social support networks to deal with crisis or negative events in their lives (Lane, 2000; Veenhoven, 1999). Furthermore, excessive individualism is associated with a number of factors that further undermine collective well-being such as negative social attitudes (religious fundamentalism, nationalism, racism; e.g., Barber, 2003), erosion of social capital (Flanagan & Lee, 2003; Putnam, 2000; but see Welzel, 2010, for a counterargument), and materialism and consumerism to fill an empty self (Cushman, 1990; B. Schwartz, 2004, 2010).

Moderate levels of individualism that balance human needs for autonomy and relatedness may be best (Kagitcibasi, 2005; Vauclair, Hanke, Fischer & Fontaine, 2011) and may result in highest levels of well-being. Therefore, excessive individualism in Western societies has been linked to decreased well-being through reduced social ties, increased negative social attitudes, and materialism.

Using these broad theoretical accounts linking wealth, individualism, and well-being, one could ask what is more important for well-being: providing individuals on average with more money or providing autonomy so that individuals can make their own choices in life? Furthermore, are there limits beyond which further

increases in either wealth or autonomy can have negative consequences?

A Critique and Research Proposal

Christopher (1999; Christopher & Hickinbottom, 2008) has argued that current measurement of well-being and happiness is culturally biased by focusing on the experienced positive affect of the individual. The measurement reflects Western values and ideals of well-being, and therefore it is not surprising that Western (more individualized) samples score higher than non-Western (more collectivist) samples. In collectivistic settings, people develop an interdependent self that is associated with self-effacing tendencies (Markus & Kitayama, 1991). Uchida and Kitayama (2009) found that American students reported more happiness descriptors than Japanese students. Over 98% of American descriptions were positive, whereas only 67% of Japanese descriptions were positive. Japanese descriptions were also more socially oriented, whereas American descriptions were focused on self-oriented achievement. Esteem needs were found to correlate more highly with life satisfaction in individualistic settings than in collectivistic settings (Oishi, Diener, Lucas, & Suh, 1999). Examining contemporary and classical texts across Eastern and Western cultures, Tsai, Miao, and Seppala (2007) found that literature in Asian societies endorsed low-arousal positive affect compared with Western texts in which high-arousal positive affect was emphasized. The cultural ideals for searching and expressing positive emotional states appear to be distinct across human societies. Given these findings, the positive correlation between previous positive well-being indicators and individualism may be an artifact due to the individualistic construct and measurement bias inherent in positive affect measures (see Fontaine, 2008; van de Vijver & Leung, 1997, for a discussion of different types of biases).

One option that we could use to rule out measurement bias is to examine different indicators that are less likely to be biased toward individualism. For example, it would be important to supplement current research with indicators that focus on more objective indicators covering specific bodily and psychological symptoms associated with well-being. Negative well-being and negative affect instruments are less likely to entail an individualistic focus on positive affective experiences, reducing the threat of cultural bias in endorsing positive states as a cultural ideal. We also noted earlier that to date there have been few studies of negative affect scales across cultures (see van Hemert et al., 2002, for an exception). Measures of mental health (including a balanced set of positive and negative items) and experiences of burnout and anxiety can shed some light on the questions that have not been examined in large-scale comparative studies. Furthermore, using standardized scales that have been developed in clinical practice where practitioners can validate self-reports against clinical criteria provides a good basis for measuring well-being. We focused on measures of general health (Goldberg, 1972), burnout (Maslach & Jackson, 1981), and anxiety (Spielberger et al, 1970). Most important for our purposes, these instruments have been applied to various nonclinical populations across a large number of populations and countries. These studies can be pooled and used in the form of a meta-analysis to derive indicators of national well-being. In short, we selected these instruments for their reported validity and reliability in capturing negative aspects of well-being that focus on more specific bodily symptoms (compared with general positive or negative evaluations or affects) and the availability of published research across a large number of societies.

Meta-Analytical Procedure

Meta-analysis is a set of techniques in which the results of two or more independent studies are statistically combined to provide an overall answer to a question of interest (Everitt & Wykes, 1999). Any statistical information (e.g., *p* values, frequencies, odds ratios, correlation coefficients, factor-loading matrices) reported in metrics can be meta-analyzed. Meta-analyses of means are less frequently reported, but they can provide important and useful information about contextual effects (Lipsey & Wilson, 2001; for examples, see Fischer & Chalmers, 2008; Fischer & Mansell, 2009; van Hemert, et al., 2002). As with any meta-analysis, the questions addressed include (a) the overall effect size (mean in this case), (b) the variability across studies, and (c) the presence of moderator variables. Translated to the current article, the questions are (a) what is the overall level of negative well-being, (b) do indicators of negative well-being differ across countries, and (c) do country-level indicators of wealth and individualism influence these indicators of negative well-being? It is important to note that we did not include clinical samples or populations in our estimates. Data were included if (a) one of the instruments of interest was used, (b) participants were 18 years of age or older, (c) participants were sampled from nonclinical (general) populations (e.g., excluding samples that experience or seek advice or treatment for psychological or major physical symptoms), and (d) sufficient data was available to code effect sizes and sampling weights. The studies included in our meta-analysis are available online as supplemental materials.

Our analysis is somewhat unusual in that the key variables of interest were collected from different sources, and no single study included any two of the variables considered in our analysis (participants only completed one of the dependent variables of general health, anxiety, or burnout, and none of the independent variables). Yet, if findings across large sets of published studies are pooled, correlations between these different studies can be computed as studies can be traced back to the countries in which they were conducted (studies nested in countries; discussed later). Analyzing published data meta-analytically and pooling these meta-analytical indicators per country provide intriguing new options for answering important questions in personality and well-being research. We believe that this is an innovative feature of our analysis.

In our analysis, we used a multilevel mixed-effects model. In most meta-analyses, a fixed-effects model is used (Field, 2003; Lipsey & Wilson, 2001). Effect sizes are seen as direct replications of each other, and it is assumed that samples come from the same population (only subject-level sampling error is estimated). Although convenient, this assumption is not justified in most cases (Field, 2003). In contrast, a random model presupposes that studies are randomly drawn from a larger population of studies. Therefore, both subject-level sampling error and variability between samples are considered (Lipsey & Wilson, 2001; Van den Noortgate & Onghena, 2001). Random-effects models provide more adequate representations of most meta-analytical data sets (Konstantopoulos & Hedges, 2004). Mixed-effects models use a combination of both

approaches. Both subject-level and study-level variation in effect sizes are estimated, but the mixed-effects model goes beyond the random-effects model by testing whether study variability is systematic and explicable by specific context variables beyond random variation (see further discussions in Field, 2003; Hox & de Leeuw, 2003; Konstantopoulos & Hedges, 2004; Van den Noortgate & Onghena, 2001). Variations in study sample sizes are explicitly modeled; smaller samples and countries with fewer samples have less influence on the overall results. A further advantage of mixed-effects models is that findings can be generalized beyond the specific samples included in the meta-analysis (since studies are assumed to be random samples from a larger population of studies).

Multilevel Approach

Studies are nested within countries, and this nesting needs to be considered. Therefore, we developed a three-level structure to account for dependencies with countries, where effect sizes are Level 1, study characteristics are at Level 2 and country is the Level 3. This set-up also allowed us to control for a number of potentially important confounding variables. For example, subjective well-being has been found to be related to age (Blanchflower & Oswald, 2004) and sex differences (Yang, 2008). Much work has also focused on changes in well-being across time (e.g., Myers & Diener, 1995; Yang, 2008). Specific populations (e.g., students, high-risk populations like nurses or teachers) may also experience well-being differently (e.g., Escot, Artero, Gandubert, Boulenger, & Ritchie, 2002; Ho & Au, 2006). Finally, reliability may affect means (e.g., Oyserman, Coon, & Kemmelmeier., 2002). Therefore, we controlled for these variables before estimating country-effects.

Aim of the Study

The basic two questions asked in our study are (a) whether individualism or wealth is a better predictor of well-being, and (b) whether effects are linear and independent. Research has shown that wealth may be nonlinearly related to subjective well-being and happiness. In line with economic and psychological literature, we call this the *diminishing return* (if the effect of wealth diminishes at higher levels of income), *tyranny of freedom*, or *multi-option treadmill* effect (if increasing income or individualism leads to lower levels of well-being, i.e., a reversal of positive gains). Second, research within Western societies suggests that there is a downside to individualism. It may be that moderate levels of individualism result in highest levels of well-being. Following Hogg, we call this the *postmodern paradox* effect. Therefore, we systematically test quadratic and cubic trends in our data.

Third, although wealth and individualism are highly related, the two variables do not share more than approximately 50% of variability across currently studied samples. Several East Asian countries are notable for higher levels of collectivism than would be expected from their level of wealth, which has also been noted in relation to well-being (Myers & Diener, 1995). Some authors have speculated about interactive effects. Schyns (1998) demonstrated that individualism may be more important in richer nations. Fischer and Hanke (2009) reported that in poor societies, autonomy (individualism) led to higher levels of collective violence, whereas poor but collectivistic societies experienced more peacefulness. This indicates that social embeddedness can act as a buffer to reduce stress and violent outbursts in scarce living conditions, whereas unconstrained individualism in poor contexts is associated with more stress and violence. Psychologists have also noted that in Western societies, especially in the United States, the loss of community and social connection has led to attempts to compensate and fill this emptiness through consumption and consumerism (e.g., Cushman, 1990; B. Schwartz, 2010). We call this phenomenon *compensating the empty self through consumption*. These interactions have not been explored to date across a larger number of societies, despite some indication in previous studies that wealth and individualism may interact. Effects in rich societies that remain collectivistic while experiencing increasing wealth may provide some important insights into the underlying dynamics of well-being.

In summary, our studies contribute to the literature in a number of ways. We tested whether past research could be replicated using clinically validated measures that tapped into negative affect of well-being. This was as much an effort of replication and external validity as it was of testing claims about cultural bias. Second, we were the first to test both nonlinear and interactive effects between wealth and autonomy that had been hinted at in the literature, but had not been examined yet.

Study 1: General Health Across Countries

David Goldberg (1972) developed the General Health Questionnaire (GHQ) as a self-administered screening instrument to identify nonpsychotic psychiatric disorders. It is the most widely used inventory for mental health screening in general population and community settings. The GHQ reveals psychosocial distress that disrupts normal daily functioning (Goldberg & Williams, 1988). Initially, the GHQ was developed as a 60-item inventory measuring the four symptoms of psychological distress—somatic symptoms, anxiety and insomnia, social dysfunction, and severe depression (Goldberg & Hillier, 1979)—while the overall score is used as an assessment of psychological distress. Shorter versions using 36, 30, 28, or 12 items were developed subsequently. The most popular short version, GHQ–12, captures three components: social dysfunction, anxiety or depression, and loss of confidence (Graetz, 1991; Mäkikangas et al., 2006), while its overall score still shows high sensitivity and specificity for detection of mental health issues (e.g., Donath, 2001; Goldberg et al., 1997).

Its construct validity was assessed with a variety of clinical interview schedules in many cultural settings (e.g., Clinical Interview Schedule, Composite International Diagnostic Interview, International Psychiatric Interview; Goldberg, et al., 1997). The various GHQ versions feature good psychometric properties across cultures (Cronbach's $\alpha > .80$; cf. Banks et al, 1980; Chan & Chan, 1983; Goldberg & Williams, 1988). Furthermore, correlations with depression, stress, and negative affect measures underscore its convergent validity across cultures (e.g., Cook, Young, Taylor, & Bedford, 1996; Gouveia et al., 2003; Guppy & Weatherstone, 1997; Li & Lin, 2003; O'Connor, Cobb, & O'Connor, 2003; Shankar & Famuyiwa, 1991; Winefield et al., 2003).

In the GHQ, respondents are asked to evaluate how they have been feeling over a specified period (e.g., last few weeks). The items cover a range of affects and behavioral symptoms, ranging from neutral to highly pleasant and unpleasant activation (Stanley

& Meyer, 2009). Typical items focus on respondents' ability to concentrate, sleep, enjoy normal daily activities, and have confidence in themselves. Answers are recorded on a 4-point scale that includes verbal labels rather than numbers (e.g., *better than usual, same as usual, less than usual, much less than usual*). GHQ scores can be calculated by four different scoring methods: GHQ scoring, Likert scoring, modified Likert scoring, and chronicity scoring (CGHQ scoring; Goldberg et al., 1997). Recommended by Goldberg and colleagues (1997), GHQ scoring is the most commonly used scoring method, in which the first two response options (e.g., *better than usual, same as usual*) are weighted with 0, and the third and fourth response option (e.g., less than usual, much less than usual) with 1. A sum score is then calculated over the responses to all items. Higher scores indicated *less* well-being, that is, *more* social dysfunction, anxiety and psychological distress. Given that the GHQ scoring is most common and scores from different scoring methods cannot be transferred (Goldberg et al., 1997), we included only studies in which this method was used.

Method

Literature search. A PsycInfo search was conducted searching for articles in which GHQ was used in the period between 1972 and December 2005. Further, we included additional studies that were in the reference list of the identified articles. We made particular efforts to obtain non-Western samples (studies conducted outside North America, Western Europe, and Australia and New Zealand) by searching for foreign language studies. Studies written in foreign languages (such as Chinese, Japanese, Korean, Polish, Czech, Dutch, Spanish, Portuguese, French, and others) were partially translated and then coded.

The PsycInfo search yielded 2,668 hits. The inclusion criteria were as outlined earlier. We only included studies in which means or sums were reported with GHQ scoring. After excluding studies that did not meet our inclusion criteria, we had a total of 274 articles that provided data for 396 samples. The samples totaled 260,449 participants from 54 countries.

Study characteristics. The mean age of study participants was 37 years ($SD = 13.71$), and 45% of them were male. Information on age was missing from 38% ($k = 151$) of the articles, and gender information was missing from 16% ($k = 65$) of the articles. Missing information was substituted with the mean. Information on the year of data collection was available in 120 studies. Year of data collection correlated with the unweighted GHQ scores ($r = .45$, $p < .001$). For analyses, we substituted missing information with the publication year minus 5 years (the average lag between data collection and publication for those 120 studies). Only a fraction of studies (15.6%; 54 studies) provided information on reliability. The reported Cronbach's α ranged between .70 and .96, with a mean of .85. However, all studies provided information on the number of items. Longer scales are more reliable (Cortina, 1993a); therefore, number of items can be seen as a proxy for reliability. Across the studies that reported reliability estimates, longer versions had higher reliabilities ($r = .39$, $p < .001$). 38 studies or 9.5% of all studies sampled students. The remainder sampled either working populations or general populations.

Country-level indicators. We included country indicators for the cultural values of individualism and national wealth. For individualism, we averaged normalized scores for Inglehart's (1997) survival versus well-being dimension across available time points (from 1981 to 2006), Hofstede's (1980) Individualism index, and S. H. Schwartz's (1994, 2006) autonomy versus embeddedness score for teachers and students. Entering these data into a principal component analysis, we found that a single factor emerged that explained 75.8% of the variance. Loadings ranged from .83 for Hofstede's individualism to .92 for Schwartz's autonomy versus embeddedness student scores. Higher values indicate a greater level of individualism. Of the countries with missing data, only the data for the countries of Bosnia and Herzegovina, Serbia, and Montenegro were used in all analyses since no individualism data were available for the Pacific states and protectorates (except Fiji). Data for 43 nations included in this analysis were available.

For wealth, we averaged normalized estimates of gross domestic product (GDP) per capita (expressed in product purchase parity) from 1975 to 2004 and gross national income per capita (expressed in product purchase parity) from 1980 to 2004 (all data from United Nations Development Program, 2006). Missing data for Taiwan, Bosnia and Herzegovina, Serbia, and Montenegro were imputed from the last available estimates of GDP per capita in purchasing power parity from the CIA World Factbook (Central Intelligence Agency, n.d.). We imputed data for Yugoslavia and German Democratic Republic using the last scores available for 1990 and 1989, respectively. A factor analysis of all wealth variables yielded a single factor, explaining 96.8% of the variance. Data for all 54 countries included in this analysis were available.

Meta-analytical strategy. As the effect size for the meta-analysis, the arithmetic means of GHQ scores were calculated. In order to obtain comparable effect sizes, we standardized the reported GHQ scores. We converted sums reported using the GHQ scoring method into means by dividing the sum by the number of reported items. Therefore, all scores are expressed on a scale ranging between 0 and 1. Higher scores represent more psychological distress, anxiety, and social dysfunction. Effect sizes were weighted by samples size.

Our meta-analysis incorporates three levels of analysis: effect size level, study level, and country level. We followed the procedure reported in Fischer and Mansell (2009) by conducting a three-level variance known meta-analysis in hierarchical linear modeling (HLM; Raudenbush, Bryk, Cheong, & Congdon, 2004; Raudenbush & Bryk, 2002). At Level 1, the mean was the effect size, and the variance was based on the sample size (see Lipsey & Wilson, 2001). Therefore, the findings are weighted by sample size, and smaller samples have proportionally less influence on the overall pattern. At Level 2, study-level data were group centered (continuous variables) or left unstandardized (dummy variables), and country-level variables (Level 3) were grand mean centered.

We tested seven models. The first model examined study effects (Level 2) on GHQ scores (level 1). The second and third models investigated the linear impact of wealth and individualism (Level 3), respectively. The fourth model assessed the linear impact of both wealth and individualism entered together. This was the central model answering our overall question. The remaining models tested squared (Model 5), cubic (Model 6), and interactive effects (Model 7) of wealth and individualism on country-level mental health scores. Several authors (Cortina, 1993b; Ganzach, 1997) have recommended that with correlated predictor variables, interactions need to be tested with the quadratic terms controlled.

To assess the robustness of the various terms, we also computed models with only the curvilinear effects of individualism and wealth separately (Models 5a and 5b for quadratic effects; Model 6a and 6b for cubic effects). Furthermore, we tested the interaction alone (Model 7a) and with quadratic effects controlled (Model 7b).

Results and Discussion

The overall mean with a random-effects model was .169, and the standard error was .002, with the 95% confidence interval ranged from .165 to .173. The homogeneity analysis suggested significant variability between studies: $Q(395) = 234011.80$, $p < .001$. The random effects variance component was .0016. Country explained about 36.18% of the variability (calculated using Q_B/Q_T as an estimate similar to intraclass correlation[1]; James, 1982). The estimates per country are shown in Table 1.

When estimating the effects of study characteristics, we found that the only significant effect was for number of items (see Model 1 in Table 2). Longer scales yielded lower GHQ means. This may be due to the inclusion of a severe depression subscale in longer versions of the GHQ. As the depression subscale typically yields very low values in general population samples, application of the GHQ without this subscale (as in the popular GHQ-12 version) results in higher mean scores, indicating greater psychological stress, anxiety, and social dysfunction.

Testing the linear effects of either wealth or individualism individually, we found only a marginally significant effect for individualism (Model 3). When both effects were entered in the same model (Model 4), the effect of individualism became significant ($\gamma = -.029$, $p < .05$). Models 5 and 6 in Table 2 show a cubic trend for wealth (when tested with only wealth and with both wealth and individualism curvilinear relations): a quadratic trend for individualism (in both Models 5 and 5b), which is qualified and fully significant in Model 6 (marginally significant in Model 6b).

The interaction between wealth and individualism in Model 7 was significant but only when the curvilinear effects were controlled (compare Model 7a testing only the interaction with Models 7 and 7b that include the curvilinear terms). Therefore, the interaction showed the classical pattern of a reciprocal suppression situation (Conger, 1974; Tzelgov & Henik, 1991). The slope was steepest for individualism in poor countries, whereas in wealthy countries, the relationship between individualism and negative well-being was weakened. In highly individualistic and wealthy societies, levels of GHQ were somewhat higher than in individualistic but less wealthy societies. However, it is important to note that this interaction only emerged under reciprocal suppression conditions after quadratic and cubic effects were controlled. We will return to this pattern in the General Discussion.

The pattern for wealth was complex and did not follow most commonly encountered trends for wealth (see Figure 1). There was no reliable linear effect, and even the quadratic effect only appeared once the cubic term was entered. However, this effect was not due to multicollinearity caused by correlations with individualism (see Model 6a). Little overall support for the diminishing return, multi-option treadmill, or postmodern paradox hypothesis was found.

Figure 2 shows the pattern for individualism. Among the more traditional and collectivistic societies, increases in individualism were associated with increased levels of negative well-being. Among more individualistic European societies, increasing individualism was associated with increasing well-being. These increases in well-being with higher individualism, however, leveled off toward the extreme ends of individualism, indicating that too much autonomy may not be beneficial (postmodern paradox), but the very strong overall pattern was that individualism is associated with better well-being overall (lower scores of the GHQ).

Study 2: Anxiety Across Countries

Spielberger and colleagues (1970) developed the Spielberger State–Trait Anxiety Inventory (STAI) as a brief self-report measure of anxiety. Anxiety has been conceptualized as a complex emotional syndrome consisting of unpleasant cognitive and affective states and physiological arousal (e.g., Lazarus & Averill, 1972). It is defined as the feeling of apprehension, tension, and increased activity levels of the autonomous nervous system (Spielberger, 1972). The test construction of the STAI was guided by Freud's danger signal theory and Cattell's concepts of state and trait anxiety (Spielberger, Moscoso, & Brunner, 2005). Hence, STAI differentiates between state and trait levels of anxiety. State anxiety refers to transient feelings of apprehension, tension, and arousal, evoked by exposure to situational stressors (Spielberger, 1972). Trait anxiety, on the other hand, refers to stable dispositional differences between individuals in the general frequency and intensity with which anxiety manifests itself. Individuals who are high in trait anxiety tend to consider situations and events as more perilous and threatening than individuals with low trait anxiety, while state anxiety is induced by temporal stressful events.

The State Anxiety scale consists of 20 statements that describe how respondents feel at a particular moment in time. The balanced set of items allows the intensity of the presence or absence of anxiety to be measured as an emotional state, which enables the capture of low and high levels of state anxiety (Spielberger et al, 2005). Typical items focus on respondents' reports of feeling calm (absence of state anxiety) or feeling tense or worried (presence of state anxiety). These items capture temporal NA components of anxiety (see Watson & Clark, 1992). Responses are scored on a 4-point verbal intensity scale (ranging from *not at all* to *very much so*). Trait anxiety is measured with 20 statements about how individuals generally feel and how often they experience anxiety-laden thoughts, feelings, and somatic symptoms as dispositional tendencies (Spielberger et al., 2005). Again, a balanced set of items measures the presence or absence of dispositional anxiety, allowing an adequate assessment of low and high levels of trait anxiety. A 4-point frequency scale (ranging from *almost never* to *almost always*) is employed for trait anxiety. Typical items focus on respondents' descriptions of themselves as being "steady" or possessing self-confidence (absence of trait anxiety) or becoming tired easily (presence of state anxiety), which tap a more dispositional aspect of negative affect.

An earlier version of STAI (X-Form; Spielberger et al., 1970) was revised and 30% of its items were replaced in order to remove conceptual overlap with depression (Y-Form; Spielberger, 1983). Both STAI versions show construct validity indicated by convergent associations with other anxiety measures (Shek, 1993; Spielberger, 1972, 1983; Spielberger et al., 1970, 2005) and high levels of internal reliability (e.g., Barnes, Harp, & Jung, 2002; Spielberger et al., 2005). Test–retest

Table 1
Country Scores of Negative Well-Being Indicators

	Study 1: General Health Questionnaire			Study 2: State–Trait Anxiety Inventory						Study 3: Emotional Exhaustion subscale		
				State anxiety			Trait anxiety					
Country	Mean	*K*	*N*	Mean	*K*	*N*	Mean	*K*	*N*	Mean	*K*	*N*
American Samoa[a]	.08	1	27									
Australia	.14	42	4,7561	.45	9	1,635	.47	13	3,025	31.35	6	1,574
Austria	.12	3	700									
Belgium	.28	4	277	.47	2	35				28.35	1	625
Bosnia and Herzegovina	.31	1	102									
Brazil	.14	4	5,882	.46	4	281						
Canada	.09	11	8,790	.42	9	1,085	.48	6	701	37.11	8	1,009
Chile	.35	6	1,837									
China	.23	7	3,285									
China, Hong Kong SAR	.24	8	3,251							45.89	4	3,777
Cook Islands[a]	.18	1	36									
Czech Republic	.17	2	438									
Ethiopia				.52	2	551	.58	2	551			
Fiji	.12	1	355									
Finland	.13	10	3,371							27.65	12	25,768
France	.16	6	3,968	.42	3	428	.46	2	416	23.67	1	72
GDR	.11	1	304									
Germany	.15	6	5,519	.45	12	1,325	.49	11	1,278	31.57	8	1,709
Greece	.15	8	2,347							36.94	8	2,512
Hungary	.2	1	538	.32	2	70						
Iceland	.05	1	1,850	.44	1	167	.46	3	561			
India	.17	15	3,046	.69	1	4	.35	1	80	46.17	1	101
Indonesia	.13	1	1,670									
Ireland	.13	7	7,749									
Israel	.3	3	9,730							41.08	5	1,020
Italy	.19	20	4,866	.49	9	232	.49	9	482	37.79	4	889
Japan	.19	39	15,638	.53	13	608	.55	13	397	46.11	1	106
Kiribati[a]	.15	1	34									
Korea, South				.49	2	80	.52	2	80	48.86	2	372
Kuwait	.11	2	762									
Lebanon				.54	1	46	.55	1	46			
Mexico	.22	1	619									
Morocco	.33	1	68									
Namibia	.27	1	159									
Nauru[a]	.11	1	22									
Netherlands	.13	7	9,820	.4	3	835	.45	2	820	26.01	49	51,058
New Zealand	.16	12	4,403	.4	2	1,141	.44	2	1,141	36.53	2	778
Nigeria	.11	10	4,229	.49	2	60	.49	2	60			
Norway	.12	2	1,850	.43	3	228				31.42	13	2,558
Pakistan	.15	1	238							48.51	2	143
Palau[a]	.13	1	13									
Papua New Guinea[a]	.16	1	40									
Poland				.45	1	41	.49	1	41	40.35	3	492
Russia	.2	4	603	.71	1	28						
Samoa[a]	.15	1	21									
Serbia and Montenegro	.4	3	2,961									
Singapore	.09	1	12									
Slovakia				.46	2	242	.54	2	242			
Slovenia				.46	2	326	.43	2	326			
Solomon Islands[a]	.18	1	117									
South Africa										45.81	2	1,579
Spain	.16	20	9,020				.41	2	618	37.03	10	3,098
Sri Lanka[a]	.2	1	100									
Sweden	.07	4	2,929	.43	7	1,917	.43	6	1,838	30.7	9	7,512
Switzerland				.41	1	165	.43	1	165			
Taiwan	.13	1	146							35.15	3	1,313
Turkey	.11	3	2,614	.46	4	494	.52	10	1,769	35.76	7	649

Table 1 (*continued*)

Country	Study 1: General Health Questionnaire			Study 2: State–Trait Anxiety Inventory						Study 3: Emotional Exhaustion subscale		
				State anxiety			Trait anxiety					
	Mean	*K*	*N*	Mean	*K*	*N*	Mean	*K*	*N*	Mean	*K*	*N*
United Arab Emirates				.48	2	113	.53	2	113			
United Kingdom	.17	95	82,829	.44	9	712	.48	9	719	42.68	10	2,114
United States of America	.2	9	3,510	.48	14	2,628	.46	12	5,044	40.05	74	13,321
Vanuatu[a]	.13	1	52									
Venezuela	.18	1	20									
Yugoslavia[a]	.09	1	121									

Note. Scores for the General Health Questionnaire and the State–Trait Anxiety Inventory cannot exceed 1. Scores for the Emotional Exhaustion subscale (of the Maslach Burnout Inventory) are the percentages of the maximum possible score of 100. SAR = Special Administrative Region; GDR = German Democratic Republic.

[a] Countries not included in the three-level analysis of General Health Questionnaire due to missing information on individualism.

reliabilities and experimental manipulations support the differentiation into state and trait components (Barnes et al., 2002; Spielberger et al., 1970). State and trait anxiety are two clearly distinguishable factors of anxiety (e.g., Bernstein & Eveland, 1982; Hishinuma et al., 2000; Spielberger, Vagg, Barker, Donham, & Westberry, 1980; Suzuki, Tsukamoto, & Abe, 2000; Vagg, Spielberger, & O'Hearn, 1980). The STAI has been adapted to many languages and is widely used in clinical and nonclinical settings to measure anxiety (Spielberger et al., 2005).

Method

Literature search. A PsycInfo search was conducted for articles between 1970 and 2006 in which Spielberger's State–Trait Anxiety Inventory (STAI) was used. The keywords were "Spielberger State–Trait Anxiety Inventory" or "STAI." We also included additional studies that were in the reference list of the identified articles. We used the same inclusion criteria as in Study 1 (study used STAI, data for nonclinical adult samples, availability of sufficient statistical information). We excluded any general population samples with health problems (e.g., people visiting a general practitioner) or participants who were caretakers of the chronically sick (e.g., parents caring for terminally ill children, patients with AIDS).

Sample and instrument characteristics. The PsycInfo search and literature search created 1,007 hits. After excluding studies that did not meet our inclusion criteria, we had 164 samples that included either state or trait measures of anxiety. State anxiety was reported in 123 samples from 28 countries based on 15,477 participants. The mean age of the participants was 35 years (reported for 86 studies), and about 48% of participants were male. A total of 39 studies (31.7%) had sampled students. The alpha for the 13 studies (where it was reported) ranged from .84 to .93, with a mean of .90. Data from 116 samples in 24 countries based on 20,513 individuals were available for trait anxiety. The mean age of participants was 29 years (reported for 95 samples). About 48% of respondents were male (reported for 115 samples). A total of 46 studies (37.7%) were conducted with student samples. Reliability was reported for 18 studies and ranged from .84 to .93, with a mean of .90. The correlation of the state and trait anxiety means in the 84 studies that reported both was .67 ($p < .001$).

Country–level variables. The same indicators as in Study 1 were used. We did not need to replace any missing data, and indicators were available for all countries.

Procedure. All studies used the same response scale. We standardized the scores to vary between 0 and 1. Sampling variance was based on the sample size. The same three-level analysis for testing seven models as in Study 1 was used.

Results and Discussion

First, we will report the findings for state anxiety. The mean for state anxiety was .465, and the standard error was .007, with the 95% confidence interval ranging from .451 to .479. The random effects variance component was .0058. The means were highly heterogeneous: $Q(123) = 10{,}344$, $p < .001$. The effect of country was significant: $Q_B\ (27) = 118.15$, $p < .001$. The variability between countries based on these means was 48.08%. Table 1 shows the random-effect statistics per country.

Examining the study-level effects in the multilevel analysis (see Model 1 in Table 3), we found that the only study-level variable that significantly predicted mean state anxiety was whether the population was composed of students (vs. general population). Students had significantly higher state anxiety means.

Both greater wealth and greater individualism were associated with less anxiety, when entered individually. When entered together, only individualism remained significant, but wealth was not significant (see Model 4 in Table 3). This suggests that wealth effects are mediated by individualism, making individualism the more important and proximate correlate of well-being. This main effect of individualism remained in most models (with the only exception being Model 7b when only individualism and its curvilinear terms were entered). The quadratic effects were not significant when entered alone (Models 5, 5a, and 5b), but the cubic effect for wealth was significant in Model 6a, when individualism effects were controlled. When entering these cubic trends, the quadratic effect for individualism also became significant (Model 6). Finally, entering the quadratic and cubic trends as well as the interaction between wealth and individualism in Model 7, we found that the significant effects for the cubic wealth effect as well as squared individualism remained significant. The cubic trend for individualism was marginally significant ($p = .08$).

Table 2
Three-Level Multilevel Analysis for the General Health Questionnaire Scores

HLM level	Model 1	Model 2	Model 3	Model 4	Model 5	Model 5a	Model 5b	Model 6	Model 6a	Model 6b	Model 7	Model 7a	Model 7b
Level 1													
Intercept	.150**	.152**	.156**	.156**	.156**	.154**	.156*	.163**	.159**	.156**	.166**	.158**	.157**
Level 2													
No. of items	−.001*	−.001*	−.001*	−.001*	−.001*	−.001	−.001*	−.001*	−.001*	−.001*	−.001*	−.001*	−.001*
Students	.021	.021	.024	.023	.020	.023	.021	.023	.022	.023	.022	.038	.020
% of males	−.000	−.000	−.000	−.000	−.000	−.000	−.000	−.000	−.000	−.000	−.000	−.000	−.000
Mean age	−.000	−.000	−.000	−.000	−.000	−.000	−.000	.000	.000	.000	.000	.000	−.000
Year data	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	−.000	.000
Level 3													
Wealth		−.005		.015	.024†	−.002		.014	−.040*		.013	.019	.035*
Wealth^2					−.012	−.014		−.038*	−.051**		−.069*		−.021
Wealth^3								.024*	.034**		.032*		
Individualism			−.019†	−.029*	−.022		−.004	−.061*		−.033†	−.095**	−.037*	−.035*
Individualism^2					−.021*		−.026**	−.021**		−.037**	−.037**		−.028*
Individualism^3								.020*		.019†	.026**		
Wealth × Individualism											.038*	−.004	.018†

Note. HLM = hierarchical linear modeling.
† $p < .10$. * $p < .05$. ** $p < .01$.

The cubic trend resembled the cubic trend found for GHQ. Greater wealth in poor countries was associated with less anxiety. Among moderately wealthy societies, increases in wealth appeared to increase anxiety slightly, but in the wealthiest societies, anxiety levels were among the lowest in our sample. It is important to consider that this effect only appeared when individualism was controlled. The quadratic effect for individualism was less stable since it only appeared after the cubic effects were entered. The cubic effect showed a pattern of accelerating decrease in anxiety with increasing individualism that reversed at the high end of individualism (in line with the postmodern paradox effect). Greater autonomy is positive, but too much autonomy may be associated with higher anxiety. Overall, the important finding to note is the strong and consistent main effect of individualism.

For trait anxiety, the mean effect was .487, and the standard error was .008, with the 95% confidence interval ranging from .471 to .504. The random effects variance component was .0084, and the means were highly heterogeneous: $Q(112) = 11{,}489$, $p < .001$. The effect of country was significant: $Q_B(24) = 57.26$, $p < .001$, with country accounting for 31.77% of the variance in these means. See Table 1 for random-effects coefficients per country.

The variance-known (V-known) analysis showed that the only significant effect at the study level was again due to students (Model 1). Students showed higher dispositional trait anxiety than general samples. An explanation for higher dispositional anxiety may originate in the developmental changes that students are experiencing during this period (e.g., late adolescence, leaving home, preparing for work life, economic concerns during study; e.g., Spielberger, 1979). Given the duration of studies (typically a minimum of 3–4 years), these transitions and temporal anxieties about the future as well as economic worries are likely to reflect in more dispositional anxieties.

We found that both wealth (Model 2) and individualism (Model 3) significantly predicted anxiety, after controlling for study and time effects, when entered separately. Greater wealth and greater individualism were associated with less trait anxiety. When both were entered together, only individualism continued to be a significant predictor but not wealth (see Model 4 in Table 4). The effect of wealth on trait anxiety appears to be mediated by individualism. There was a quadratic effect for wealth in Model 5, but only when individualism and individualism squared were also entered (cf. Model 5a). Testing for nonlinear effects (Model 6), we found that the cubic trends did not add any variance; therefore, they are not shown in Table 4. In the final Model 7 (listed in Table 4), the main effect of individualism remained significant, and the squared effect of wealth remained marginally significant. Among the poorest societies, there was no discernible relationship between wealth and trait anxiety, but with increasing wealth, the relationship became stronger. Among more wealthy societies, increases in average income were associated with less anxiety.

In summary, the effects again point to a marked and robust effect of individualism, when the effect of wealth was controlled. No interaction was found, but some complex curvilinear relationships with wealth emerged, suggesting that wealth is not directly (linearly) related to anxiety. Contrary to tyranny of freedom or multi-option treadmill arguments, greater income among richer countries was associated with decreased anxiety (better well-being). Overall, there was little support for the

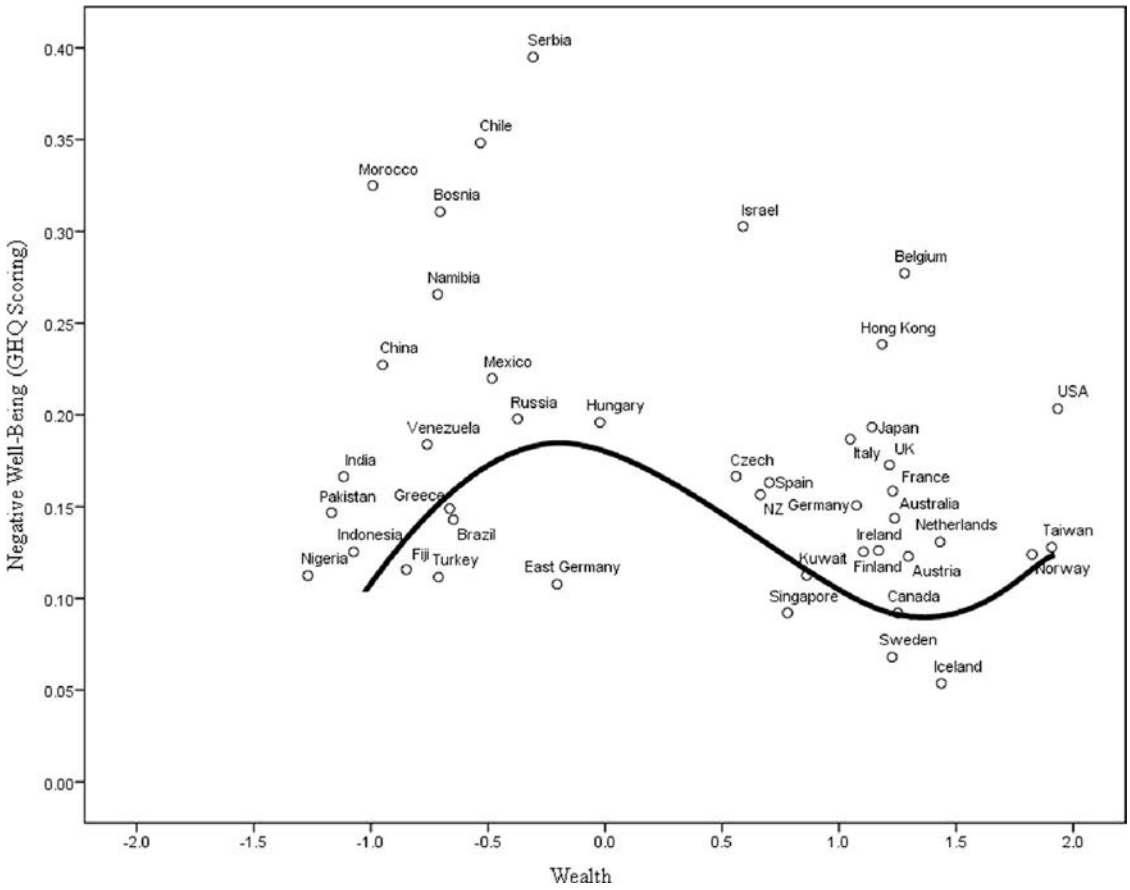

Figure 1. Relationship between wealth and General Health Questionnaire (GHQ) scores (Model 6a); higher scores on GHQ indicated greater psychological distress, anxiety, and social dysfunction. East Germany = German Democratic Republic; NZ = New Zealand; UK = United Kingdom; USA = United States of America.

postmodern paradox, tyranny of freedom, or multi-option treadmill hypothesis.

Study 3: Burnout Across Countries

Maslach and Jackson (1981) developed the Maslach Burnout Inventory (MBI) that has become the most applied and well-accepted instrument of burnout, a concept widely used in the occupational stress literature. Burnout was first conceptualized in a bottom-up approach with human service workers (Maslach, 2003), who feel occupational strain on a daily basis as they engage with many people, including troubled individuals (Maslach & Jackson, 1981). Later, the burnout concept was extended to other professions (Maslach, Schaufeli, & Leiter, 2001; Schaufeli, Leiter, Maslach, & Jackson, 1996).

According to Maslach and Jackson (1986), burnout is a psychological syndrome caused by occupational stressors that manifests itself in three aspects: emotional exhaustion (EE), depersonalization (DP), and lack of personal accomplishment (LPA). These three components compose the subscales of the MBI. The subscales have moderate to high internal reliability, with EE showing consistently high reliabilities across cultures (Cronbach's $\alpha > .80$; cf. Anis-ul-Haque & Khan, 2001; Huang, Chuang, & Lin, 2003; Taris, Le Blanc, Schaufeli, & Schreurs, 2003; Tuuli & Karisalmi, 1999), while DP and LPA show somewhat lower internal reliability (Cronbach's alpha $> .60$; cf. Cheung & Tang, 2007; Fujiwara, Tsukishima, Tsutsumi, Kawakami, & Kishi, 2003; Richardsen & Martinussen, 2005; Taris et al., 2005).

EE is considered as the most important manifestation of the burnout syndrome (Worley, Vassar, Wheeler, & Barnes, 2008). EE is also the most reliable and widely reported component (Maslach et al., 2001), and therefore, we focused on this component. It captures the basic individual stress dimension of burnout and refers to feelings of being overextended and depleted of emotional and physical resources. It is typically measured with nine items, in terms of the experienced frequency or intensity of these feelings. Example items include "I feel emotionally drained from my work"; "I feel frustrated by my job"; and "I feel used up at the end of the workday." This measure captures a very clear negative activation component (high activation, unpleasant negative valence). Meta-analyses have revealed the consistent and strong associations of EE with negative affect (Thoresen, Kaplan, Barsky, Warren, & de Chermont, 2003) and with job stressors (Lee & Ashforth, 1996). The factorial structure and validity of the scale have been well supported (Maslach et al., 2001; Worley et al., 2008).

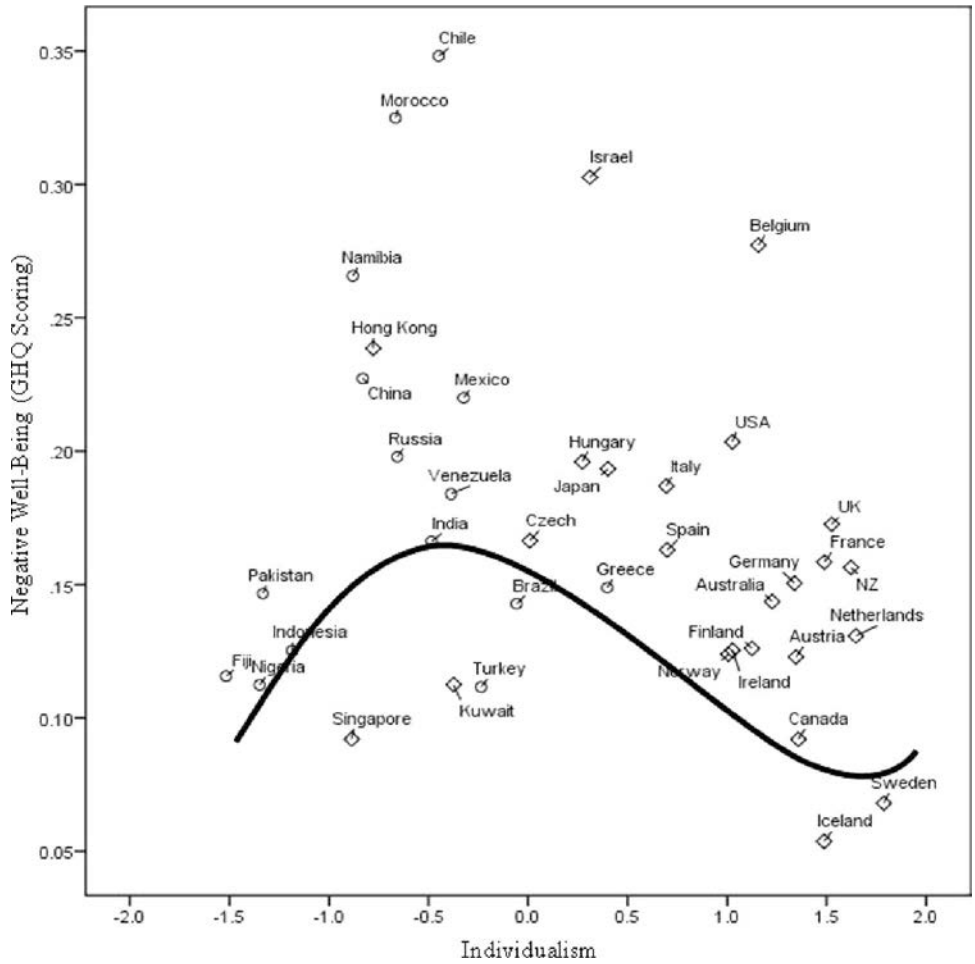

Figure 2. Relationship between individualism and General Health Questionnaire (GHQ) scores (Model 6b); higher scores on GHQ indicated greater psychological distress, anxiety, and social dysfunction. East Germany = German Democratic Republic; NZ = New Zealand; UK = United Kingdom; USA = United States of America.

Method

Literature search. As in Studies 1 and 2, a PsycInfo search was conducted for articles in the period between 1981 and 2007 in which the MBI was sued. We also included additional studies that were in the reference lists of the identified articles. The inclusion criteria for the studies were the same as those for Studies 1 and 2. The PsycInfo search had 1,041 hits. After excluding studies that did not meet our inclusion criteria, we had 200 articles that provided data for 245 samples. A total of 124,149 participants from 25 countries were included.

Study and participant characteristics. The mean age of the participants was 38.4 years (reported in 157 studies), and 44.7% of the participants were male (reported in 183 samples). The largest groups of participants were teachers (17.7% or 44 samples) and nurses (16.9% or 42 samples). The average reliability was .87, ranging between .62 and .94 (reported in 170 samples).

Country-level variables. We used the same indicators as in the previous studies. Scores were available for all countries included in the meta-analysis, and we did not need to substitute missing information.

Procedure. The meta-analytical procedures are corresponding with those in Studies 1 and 2. We used percent of maximum possible (POMP) scoring (Cohen, Cohen, Aiken, & West, 1999) for transforming the means along a scale ranging from 0 to 100. Since the standard deviation was frequently reported, we were able to calculate the inverse variance estimate on the basis of both score variance and sample size (Lipsey & Wilson, 2001).

Results and Discussion

The average EE mean was 35.028, and the standard error was .547, with the 95% confidence interval ranging from 33.956 to 36.099. The random effects variance component was 71.222, and the means were highly heterogeneous: $Q(246) = 42{,}661.61$, $p < .001$. The effect of country was significant: $Q_B(25) = 196.08$, $p < .001$, accounting for about 44.23% of the variance in EE means. The random-effects means per country are reported in Table 1.

Entering the study level variables first in the V-known multilevel model (see Model 1 in Table 5), we found that only the percentage of males was significant. The more males were in the sample, the lower the score of emotional exhaustion. This may be due to higher emo-

Table 3
Three Level Multilevel Analysis for State Anxiety

HLM level	Model 1	Model 2	Model 3	Model 4	Model 5	Model 5a	Model 5b	Model 6	Model 6a	Model 6b	Model 7	Model 7a	Model 7b
Level 1													
Intercept	.449*	.453**	.456**	.457**	.457**	.454	.456**	.459**	.454**	.456**	.459**	.457**	.456**
Level 2													
Year published	−.001	−.001	−.001	−.001	−.001	−.001	−.001	−.001	−.001	−.001	−.001	−.001	−.001
Students	.043**	.044**	.043**	.040**	.042**	.043**	.045**	.035*	.043**	.045**	.040*	.041**	.043**
% of males	−.000	.000	−.000	−.000	−.000	−.000	−.000	−.000	−.000	−.000	−.000	−.000	−.000
Mean age	.001	.000	.001	.000	.000	.000	.001	.000	.000	.000	.000	.000	.001
Level 3													
Wealth		−.026*		.016	.012	−.031*		.034	−.031†		.044†	.018	.019
Wealth^2					−.000	.008		.057	.007		.036		−.016
Wealth^3								−.030*	.001		−.029*		
Individualism			−.033**	−.046**	−.036		−.024*	−.047†		−.023	−.068†	−.043**	−.042†
Individualism^2					−.009		−.011	−.043*		−.011	−.072*		−.024
Individualism^3								.019		−.000	.025†		
Wealth × Individualism											.048	−.001	.031

Note. HLM = hierarchical linear modeling.
† $p < .10$. * $p < .05$. ** $p < .01$.

tionality of women or to women being employed in more stressful jobs where occupants are more prone to burnout (e.g., teaching, nursing, social service). Year of publication had a marginal effect in that more recent publications reported lower exhaustion scores.

At Level 3, after study-level effects were controlled, both wealth (Model 2) and individualism (Model 3) were significantly related to EE when entered separately. Greater individualism and greater wealth were associated with less EE and therefore with more well-being. When entered together (Model 4), only individualism continued to be significant, not wealth. Entering all curvilinear effects (Models 5 and 6), only the main effect of individualism was significant and a consistent predictor of EE. In the final model including the quadratic, cubic, and interaction term for individualism and collectivism, only individualism and the interaction between individualism and wealth were significant. The interactive term was not significant when entered alone (Model 7a) but became significant when the quadratic and cubic effects were controlled (Models 7 and 7b). This again suggests a reciprocal repression situation. The interaction pattern was identical to the one observed for GHQ: there was a weak negative slope between individualism and EE in rich countries, but a steep negative slope in poor countries. In summary, the effect of individualism again was observed, indicating that greater autonomy is important for well-being, whereas wealth was not a unique predictor.

General Discussion

What variables predict negative well-being across nations? Across all three studies and four data sets, we observed a very consistent and robust finding that societal values of individualism were the best predictors of well-being. Linear effects of wealth did not add much beyond this indicator, despite significantly more scholarly attention and discussion around economic variables than values such as individualism. It appears that the extent to which individuals are provided with choices in their lives is a good indicator of their well-being, supporting some previous findings with positive affect indicators of well-being (e.g., Diener et al., 1995). Furthermore, if wealth was a significant predictor alone, this effect disappeared when individualism was entered. This finding points to a mediator relationships of individualism. It appears plausible that increased wealth leads to more autonomy and freedom (e.g., Inglehart, 1997; Inglehart et al., 2008; Welzel & Inglehart, 2010). Increasing wealth in a society may influence well-being but primarily through allowing citizens to experience greater autonomy and freedom in their daily life.

In our analyses, we used different indicators developed in clinical research and can also rule out a number of alternative explanations that may have threatened results of previous research, including measurement validity and cultural bias (we will return to this issue later).

How Robust Are Our Effects?

We focused on individual facets of negative affect. It would be important to test whether there are trends that apply to overall negative affect (Watson & Clark, 1992). We constructed an overall indicator of well-being that was based on these four measures (GHQ, EE, state anxiety, and trait anxiety). Obviously, the country estimates were not adjusted for sample size, and we did not control for no study

Table 4
Three Level Multilevel Analysis for Trait Anxiety

HLM level	Model 1	Model 2	Model 3	Model 4	Model 5	Model 5a	Model 5b	Model 7	Model 7a
Level 1									
Intercept	.466**	.469**	.473**	.473**	.476**	.469**	.472**	.475**	.473**
Level 2									
Year published	−.000	−.000	−.000	−.000	−.000	−.000	−.000	−.000	−.000
Students	.046**	.047**	.044**	.043**	.043**	.048**	.044**	.045**	.043**
% of males	−.000†	−.000†	−.000†	−.000†	−.000†	−.000†	−.000†	−.000†	−.000†
Mean age	.000	.001	.001	.001	.001	.000	.0001	.001	.001
Level 3									
Wealth		−.019*		.007	.025	−.014		.030†	.007
Wealth^2					−.018*	−.008		−.033†	
Individualism			−.027**	−.033*	−.041*		−.021*	−.047*	−.025†
Individualism^2					.001		−.007	−.016	
Wealth × Individualism								.032	−.011

Note. Model 6 omitted due to nonsignificance. HLM = hierarchical linear modeling.
† $p < .10$. * $p < .05$. ** $p < .01$.

characteristics. However, this analysis will give us an indicator of the robustness of the effect. We normalized all four indicators and combined them into a single indicator. The average intercorrelation was .24, and the resulting Cronbach's alpha was .52. To what extent does this indicator overlap with other measures used in previous research? The correlations with other well-being measures were strong and mostly significant, namely the Beck Depression Inventory scores reported by Van Hemert et al. (2002; $\rho = .73$, $p < .01$, $k = 24$), the happiness indicator by Veenhoven (n.d.; $\rho = -.57$, $p < .001$, $k = 35$) and indictors from the World Values Survey (Inglehart, 1997; life satisfaction: $\rho = -.35$, $p = .06$, $k = 30$; happiness: $\rho = -.53$, $p < .01$, $k = 30$). These results point to the overall validity of the indicators. They support a hierarchical model of affect at the country level. We also observe that life satisfaction as a more cognitive evaluation is somewhat less strongly correlated with more affective measures (see also Inglehart et al., 2008), highlighting the fact that different measures of SWB are not identical (Steel et al., 2008).

Turning to this overall negative affect variable, we then used the same set of predictors (linear, squared, cubic, and interactive effects of wealth and individualism) as in the hierarchical linear modeling (HLM) analysis to predict this new combined negative well-being score. Together, the variables explained 53.3% of the variance in this new indicator. The largest share was explained by the main effects ($\Delta R^2 = .23$, $p < .05$), followed by quadratic effects ($\Delta R^2 = .11$, $p < .05$), cubic effects ($\Delta R^2 = .07$, $p = .09$), and the interaction ($\Delta R^2 = .12$, $p < .01$). Contrary to the HLM analysis, countries with fewer observations and smaller samples have weight equal to that of countries with bigger sample sizes. To avoid this problem and to test the robustness and significance of these effects on overall negative affect, we conducted a bootstrap analysis with 1,000 random bootstrap samples. With this analysis, the impact of influential cases (e.g., outliers, small samples) is controlled, and a good estimate of the stability of our findings is provided. The linear (unstandardized coefficient = −.50, $p < .05$) and quadratic (unstandardized coefficient = −.47, $p < .05$) effects of individualism were significant as well as the interaction between wealth and individualism (unstandardized coefficient = .68, $p < .05$). Wealth did not significantly predict any variance beyond individualism. Among less affluent countries, greater individualism was associated with more well-being. Among wealthier societies, the association with individual freedom was still there but somewhat weakened.

In Studies 1 and 3, we found similar patterns, but the interaction only became significant when the curvilinear effects were controlled. This indicates a classical reciprocal-suppressing situation (Conger, 1974; Tzelgov & Henik, 1991). Ganzach (1997) demonstrated with random and real data that reciprocal-suppressing situations can be quite common in psychology. If the true model involves both curvilinear and interactive effects, testing for only one of the effects (e.g., only curvilinear or interactive effects, but not both) can lead to Type II errors. Cortina (1993b) went even further by recommending that curvilinear effects need always to be controlled prior to testing interactive effects. In personality and social psychological research, there is evidence that suppressing relationships can increase validity (Collins & Schmidt, 1997; Tzelgov & Henik, 1991). The important thing is to cross-validate and replicate such relationships. Here, we found similar patterns with different indicators and in different samples in Studies 1 and 3. Furthermore, the bootstrap analyses suggest that this pattern can be found when countries are randomly replaced and this analysis is repeated 1,000 times. Therefore, this interaction and its meaning should be explored in further studies.[1]

Well-Being and Autonomy

Our findings provide new insights into well-being at the societal level. We studied negative affect as an underrepresented variable in previous cross-national investigations of SWB. Our results

[1] This interaction should be interpreted with caution due to the high complexity. It may support the theory of "compensating the empty self through consumption" among a small subset of societies. Social commentators (e.g., Lane, 2000) have noted this trend in the United States as the most highly developed society. Individualism is associated with increases in freedom and autonomy and subsequent greater well-being overall. However, in more affluent societies, high individualism may become a liability. Detachment from social support networks, freedom to select and choose groups to socialize with, and a relative loss of social identity are associated with an empty self, which people may try and substitute for through acquiring material goods (e.g., Cushman, 1990; B. Schwartz, 2010). Greater autonomy in most other societies, on the other hand, is associated with positive well-being, independent of the material conditions.

Table 5
Three Level Multilevel Analysis for Emotional Exhaustion

HLM level	Model 1	Model 2	Model 3	Model 4	Model 5	Model 5a	Model 5b	Model 6	Model 6a	Model 6b	Model 7	Model 7a	Model 7b
Level 1													
Intercept	36.578**	39.337**	36.972**	37.082**	37.093**	36.931**	36.963**	37.133**	36.864**	37.057**	37.148**	37.086**	37.173**
Level 2													
No. of items	0.033	0.066	0.037	0.051	0.059	0.060	0.044	0.059	0.065	0.058	0.068	0.046	0.062
Teachers	1.169	0.858	1.055	0.935	0.842	0.893	0.949	0.835	0.834	0.837	0.932	1.050	0.970
Nurses	−0.578	−0.779	−0.517	−0.612	−0.639	−0.736	−0.509	−0.640	−0.743	−0.621	−0.894	−0.066	−0.835
% of males	−0.032*	−0.033*	−0.032*	−0.032*	−0.032*	−0.033*	−0.032*	−0.033*	−0.033*	−0.033*	−0.033*	−0.033*	−0.033*
Mean age	−0.030	−0.028	−0.028	−0.027	−0.027	−0.028	−0.026	−0.026	−0.028	−0.026	−0.030	−0.029	−0.029
Year published	−0.196†	−0.195†	−0.194†	−0.194*	−0.193†	−0.195†	−0.194†	−0.194†	−0.195†	−0.194†	−0.195†	−0.194†	−0.194†
Level 3													
Wealth		−3.305*		−1.040	−0.005	−3.840*		0.906	−4.792*		1.600	−0.870	1.982
$Wealth^2$					−0.737	0.062		1.061	−1.416		−3.357		−2.168
$Wealth^3$								−0.821	1.261		0.775		
Individualism			−4.566**	−4.062*	−3.874*		−3.800*	−5.894*		−5.827*	−9.112*	−5.680*	−7.491*
$Individualism^2$					−0.083		−1.146	−2.547		−2.289	−1.710		−1.171
$Individualism^3$								1.417		1.405	0.851		
Wealth × Individualism											3.336**	1.478	3.036*

Note. HLM = hierarchical linear modeling.
$^{\dagger} p < .10$. $^{*} p < .05$. $^{**} p < .01$.

confirm some general findings observed with positive aspects of SWB. Most important, there is a strong statistical effect of individualism. Providing individuals with more autonomy appears to be important for reducing negative psychological symptoms, relatively independent of wealth. One question that our analysis leaves unanswered is what aspect of individualism is associated with this increased well-being. In line with previous research, we have argued that it is increased autonomy of individuals in more individualistic societies. Our indicator included a number of different concepts of individualism (including affective and intellectual autonomy and self-expression) and the dimensional opposite of individualism, collectivism (including embeddedness and survival values). These concepts emerged as a single factor in a nation-level factor analysis (see Study 1). However, in the future, researchers should examine the subcomponents (Fischer et al., 2009; Triandis, 1995) and identify the active ingredients in individualism more directly.

Limitations

We had claimed that using clinical instruments would allow us to overcome a number of previous limitations. Certainly, all measures used were well validated and used more than single items. Each instrument is well established and has been applied successfully in a number of contexts (as evidenced by the number of studies and countries covered in this meta-analysis). Using instruments that focus on negative aspects of well-being that are bodily symptoms and experiences with varying levels of specificity instead of relying on general questions of happiness or well-being also helps to overcome criticism leveled against standard measures of subjective well-being as culturally biased (e.g., Christopher, 1999). However, a number of constraints remain.

First, although the instruments were less abstract and more contextualized than previous instruments and items measuring general happiness and life satisfaction, all instruments were still focused on the individual. Respondents in more individualistic societies might be more accustomed to focusing on the self, and therefore, they should be more aware of their personal feelings, experiences, and bodily states. Collectivists might be less aware of these individual-focused experiences since they are more attuned to the social context. Collectivistic well-being might be more related to the well-being of relevant others. However, this would not explain the strong correlation with individualism as such, because if this was the case, we would expect higher negative well-being scores in more individualistic societies. Therefore, cultural bias in the measurement focus might be less of an issue. This notion is supported by cross-cultural validation studies of negative well-being measures. For instance, Bhui, Bhugra and Goldberg (2000) found that the GHQ-12 performed very well for the screening of mental health in British and Indian participants.

A second issue is the question of bias in the measurement process. We have little information on the equivalence and validity of the scales in individual studies that were included in our analyses. Reliability was generally excellent in the studies in which it was reported, but in many studies, it was not. Translation bias could not be examined. However, bias due to translation is a form of random bias and would lead to higher error terms at the country level, which then would make significant effects less likely (Fontaine, 2008; Schmitt, Allik, McCrae, & Benet-Martinez,

2007). Since we found significant effects for all scales, this form of bias can be ruled out.

However, violations in other forms of equivalence (functional, structural, metric, and full-score equivalence; see Fontaine, 2005; van de Vijver & Fischer, 2009; van de Vijver & Leung, 1997) cannot be completely ruled out. Again, the emergence of effects in the complete sample and in particular in the bootstrapping results across all samples and studies is reassuring. If there were not significant effects, it would point toward nonequivalence in scores. However, differential factor structures, acquiescence, norms of self-presentation, or social desirability can have an effect in individual studies and need to be controlled in empirical research. Maybe we underestimated important effects due to such biases. For instance, individuals may differ systematically in terms of their motivation for self-presentation when taking part in a survey. Individualistic participants may be driven by a motivation to present themselves in as positive a light as possible, leading to systematically lower scores across our negative well-being measures. In contrast, collectivistic participants' striving for collective benefits may motivate them to systematically score higher on negative well-being measures as this may benefit the group in the long run if interventions are being envisioned. Therefore, our analysis should be seen as rather conservative estimates of the effects of nation-level influences.

We relied on nonrepresentative samples reported in previous research. Students were a sizable minority in measurements of anxiety (but student samples were largely absent for Studies 1 and 3 as general population samples were used). Therefore, our indicators may not have adequately captured the well-being of an entire nation. Nevertheless, our results indicate that (a) the overlap with other measures of well-being is substantive, validating our approach; (b) the main results are consistent across studies, indicating the subjective well-being of nations can also be replicated in smaller samples that are nonrepresentative; and (c) given the replicability and pervasiveness of the macro-level effects, representativeness may not be an issue when the societal effects are being examined (all citizens will be affected, although the degree might vary).

Conclusions

Our study offers an important avenue for further research. We investigated factors predicating national differences in well-being, using multiple indicators for each construct at hand. The question was whether it is more important to provide individuals with money or with autonomy. Our results suggest that providing individuals with autonomy has overall a larger and more consistent effect on well-being than money does. Money leads to autonomy (Welzel et al., 2003; Welzel & Inglehart, 2010), but it does not add to well-being or happiness.

References

Ahuvia, A. (2008). If money doesn't make us happy, why do we act as if it does? *Journal of Economic Psychology, 29,* 491–507. doi:10.1016/j.joep.2007.11.005

Anis-ul-Haque, M., & Khan, S. (2001). Burnout and organizational sources of social support in human service professions: A comparison of woman doctors and nurses. *Journal of the Indian Academy of Applied Psychology, 27,* 57–66.

Arrindell, W. A., Hatzichristou, C., Wensink, J., Rosenberg, E., Twillert, B., Stedema, J., & Meijer, D. (1997). Dimensions of national culture as predictors of cross-national differences in subjective well-being. *Personality and Individual Differences, 23,* 37–53. doi:10.1016/S0191-8869(97)00023-8

Banks, M. H., Clegg, C. W., Jackson, P. R., Kemp, N. J., Stafford, E. M., & Wall, T. D. (1980). The use of the General Health Questionnaire as an indicator of mental health in occupational studies. *Journal of Occupational Psychology, 53,* 187–194.

Barber, B. R. (2003). *Jihad vs. McWorld: Terrorism's challenge to democracy.* London, United Kingdom: Corgi Books.

Barnes, L. L. B., Harp, D., & Jung, W. S. (2002). Reliability generalization of scores on the Spielberger State–Trait Anxiety Inventory. *Educational and Psychological Measurement, 62,* 603–618. doi:10.1177/0013164402062004005

Barrett, L. F., & Russell, J. A. (1999). The structure of current affect: Controversies and emerging consensus. *Current Directions in Psychological Science, 8,* 10–14. doi:10.1111/1467-8721.00003

Bernstein, I. H., & Eveland, D. C. (1982). State vs. trait anxiety: A case study in confirmatory factor analysis. *Personality and Individual Differences, 3,* 361–372. doi:10.1016/0191-8869(82)90002-2

Bhui, K., Bhugra, D., & Goldberg, D. (2000). Cross-cultural validity of the Amritsar Depression Inventory and the General Health Questionnaire amongst English and Punjabi primary care attenders. *Social Psychiatry and Psychiatric Epidemiology, 35,* 248–254. doi:10.1007/s001270050235

Binswanger, M. (2006). Why does income growth fail to make use happier? Searching for the treadmills behind the paradox of happiness. *Journal of Socio-Economics, 35,* 366–381. doi:10.1016/j.socec.2005.11.040

Bjørnskov, C., Dreher, A., & Fischer, J. A. V. (2008). Cross-country determinants of life satisfaction: Exploring different determinants across groups in society. *Social Choice Welfare, 30,* 119–173. doi:10.1007/s00355-007-0225-4

Blanchflower, D. G., & Oswald, A. J. (2004). Well-being over time in Britain and USA. *Journal of Public Economics, 88,* 1359–1386. doi:10.1016/S0047-2727(02)00168-8

Bonini, A. N. (2008). Cross-national variation in individual life satisfaction: Effects of national wealth, human development, and environmental conditions. *Social Indicators Research, 87,* 223–236. doi:10.1007/s11205-007-9167-6

Brenner, L., Rottenstreich, Y., & Sood, S. (1999). Comparison, grouping, and preference. *Psychological Science, 10,* 225–229. doi:10.1111/1467-9280.00141

Cacioppo, J. T., & Patrick, W. (2008). *Loneliness: Human nature and the need for social connection.* New York, NY: Norton.

Central Intelligence Agency. (n.d.) *World factbook.* Retrieved November 20, 2009, from https://www.cia.gov/library/publications/the-world-factbook/

Chan, D. W., & Chan, T. S. C. (1983). Reliability, validity, and the structure of the general health questionnaire in a Chinese context. *Psychological Medicine, 13,* 363–371. doi:10.1017/S0033291700050996

Cheung, F. Y., & Tang, C. S. (2007). The influence of emotional dissonance and resources at work on job burnout among Chinese human service employees. *International Journal of Stress Management, 14,* 72–87. doi:10.1037/1072-5245.14.1.72

Chirkov, V. I., Ryan, R. M., Kim, Y., & Kaplan, U. (2003). Differentiating autonomy from individualism and independence: A self-determination theory perspective on internalization of cultural orientations and well-being. *Journal of Personality and Social Psychology, 84,* 97–110. doi:10.1037/0022-3514.84.1.97

Chirkov, V. I., Ryan, R. M., & Willness, C. (2005). Cultural context and psychological needs in Canada and Brazil: Testing a self-determination

approach to the internalization of cultural practices, identity and well-being. *Journal of Cross-Cultural Psychology, 36,* 423–443. doi:10.1177/0022022105275960

Christopher, J. C. (1999). Situating psychological well-being: Exploring the cultural roots of its theory and research. *Journal of Counseling and Development, 77,* 141–152.

Christopher, J. C., & Hickinbottom, S. (2008). Positive psychology, ethnocentrism, and the disguised ideology of individualism. *Theory & Psychology, 18,* 563–589. doi:10.1177/0959354308093396

Cohen, P., Cohen, J., Aiken, L. S., & West, S. G. (1999). The problems of units and the circumstance for POMP. *Multivariate Behavioral Research, 34,* 315–346. doi:10.1207/S15327906MBR3403_2

Collins, J. M., & Schmidt, F. L. (1997). Can suppressor variables enhance criterion-related validity in the personality domain? *Educational and Psychological Measurement, 57,* 924–936. doi:10.1177/0013164497057006003

Conger, A. J. (1974). A revised definition of suppressor variables: A guide to their identification and interpretation. *Educational and Psychological Measurement, 32,* 579–599. doi:10.1177/001316447203200303

Cook, M., Young, A., Taylor, D., & Bedford, A. P. (1996). Personality correlates of psychological distress. *Personality and Individual Differences, 20,* 313–319. doi:10.1016/0191-8869(95)00183-2

Cortina, J. M. (1993a). What is coefficient alpha? An examination of theory and application. *Journal of Applied Psychology, 78,* 98–104. doi:10.1037/0021-9010.78.1.98

Cortina, J. M. (1993b). Interaction, nonlinearity, and multicollinearity: Implications for multiple regression. *Journal of Management, 19,* 915–922.

Cushman, P. (1990). Why the self is empty: Toward a historically situated psychology. *American Psychologist, 45,* 599–611. doi:10.1037/0003-066X.45.5.599

Desmeules, R. (2002). The impact of variety on consumer happiness: Marketing and the tyranny of freedom. *Academy of Marketing Science Review, 12,* 1–33.

Diener, E. (2006). Guidelines for national indicators of subjective well-being and ill-being. *Applied Research in Quality of Life, 1,* 151–157. doi:10.1007/s11482-006-9007-x

Diener, E., Diener, M., & Diener, C. (1995). Factors predicting the subjective well-being of nations. *Journal of Personality and Social Psychology, 69,* 851–864. doi:10.1037/0022-3514.69.5.851

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment, 49,* 71–75. doi:10.1207/s15327752jpa4901_13

Diener, E., Kesebir, P., & Lucas, R. (2008). Benefits of accounts of well-being—for societies and for psychological science. *Applied Psychology: An International Review, 57,* 37–53.

Diener E., Oishi S., & Lucas, R. E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluations of life. *Annual Review of Psychology, 54,* 403–425.

Diener, E., Sandvik, E., Seidlitz, L., & Diener, M. (1993). The relationship between income and subjective well-being: Relative or absolute. *Social Indicators Research, 28,* 195–223. doi:10.1007/BF01079018

Diener, E., & Seligman, M. E. P. (2004). Toward an economy of well-being. *Psychological Science in the Public Interest, 5,* 1–31. doi:10.1111/j.0963-7214.2004.00501001.x

Donath, S. (2001). The validity of the 12-item General Health Questionnaire in Australia: A comparison between three scoring methods. *Australian and New Zealand Journal of Psychiatry, 35,* 231–235. doi:10.1046/j.1440-1614.2001.00869.x

Drakopoulos, S. A. (2008). The paradox of happiness: Towards an alternative explanation. *Journal of Happiness Studies, 9,* 303–315. doi:10.1007/s10902-007-9054-5

Easterlin, R. A. (1973). Does money buy happiness? *The Public Interest, 30,* 3–10.

Easterlin, R. A. (1995). Will raising the incomes of all increase the happiness of all? *Journal of Economic Behavior & Organization, 27,* 35–47. doi:10.1016/0167-2681(95)00003-B

Easterlin, R. A. (2005). Diminishing marginal utility of income? Caveat emptor. *Social Indicators Research, 70,* 243–255. doi:10.1007/s11205-004-8393-4

Escot, C., Artero, S., Gandubert, C., Boulenger, J. P., & Ritchie, K. (2001). Stress levels in nursing staff working in oncology. *Stress and Health: Journal of the International Society for the Investigation of Stress, 17,* 273–279.

Everitt, B. S., & Wykes, T. (1999). *A dictionary of statistics for psychologists.* London, United Kingdom: Arnold.

Field, A. P. (2003). The problems in using fixed-effects models of meta-analysis on real-world data. *Understanding Statistics, 2,* 77–96.

Fischer, R., & Chalmers, A. (2008). Is optimism universal? A meta-analytical investigation of optimism levels across 22 nations. *Personality and Individual Differences, 45,* 378–382. doi:10.1016/j.paid.2008.05.008

Fischer, R., Ferreira, M. C., Assmar, E., Redford, P., Harb, C., Glazer, S., . . . Achoui, M. (2009). Individualism-collectivism as descriptive norms: Development of a subjective norm approach to culture measurement. *Journal of Cross-Cultural Psychology, 40,* 187–213. doi:10.1177/0022022109332738

Fischer, R., & Hanke, K. (2009). Are societal values linked to global peace and conflict? *Peace and Conflict: Journal of Peace Psychology, 15,* 227–248. doi:10.1080/10781910902993959

Fischer, R., & Mansell, A. (2009). Commitment across cultures: A meta-analytical approach. *Journal of International Business Studies, 40,* 1339–1358. doi:10.1057/jibs.2009.14

Flanagan, S., & Lee, A.-R. (2003). The new politics, culture wars, and the authoritarian-libertarian value change in advanced industrial democracies. *Comparative Political Studies, 36,* 235–270. doi:10.1177/0010414002250664

Fontaine, J. R. (2008). Traditional and multilevel approaches in cross-cultural research: An integration of methodological frameworks. In F. J. R. van de Vijver, D. A. van Hemert, & Y. Poortinga (Eds.), *Individuals and cultures in multi-level analysis* (pp. 65–92). Mahwah, NJ: Erlbaum.

Fontaine, J. R. J. (2005). Equivalence. In K. Kempf-Leonard (Ed.), *Encyclopedia of social measurement* (Vol. 1, pp. 803–813). New York, NY: Academic. doi:10.1016/B0-12-369398-5/00116-X

Fujiwara, K., Tsukishima, E., Tsutsumi, A., Kawakami, N., & Kishi, R. (2003). Interpersonal conflict, social support, and burnout among home care workers in Japan. *Journal of Occupational Health, 45,* 313–320. doi:10.1539/joh.45.313

Ganzach, Y. (1997). Misleading interaction and curvilinear terms. *Psychological Methods, 2,* 235–247. doi:10.1037/1082-989X.2.3.235

Goldberg, D. P. (1972). *The detection of psychiatric illness by questionnaire: A technique for the identification and assessment of non-psychotic psychiatric illness.* New York, NY: Oxford University Press.

Goldberg, D. P., Gater, R., Sartorius, N., Ustun, T. B., Piccinelli, M., Gureje, O., & Rutter, C. (1997). The validity of two versions of the GHQ in the WHO study of mental illness in general health care. *Psychological Medicine, 27,* 191–197. doi:10.1017/S0033291796004242

Goldberg, D. P., & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. *Psychological Medicine, 9,* 139–145. doi:10.1017/S0033291700021644

Goldberg, D. P., & Williams, P. (1988). *A user's guide to the General Health Questionnaire.* Windsor, United Kingdom: NFER-Nelson.

Gouveia, V. V., da S. Chaves, S. S., de Oliveira, I. C. P., Dias, M. R., Gouveia, R. S. V., & de Andrade, P. R. (2003). A utilização do QSG-12 na população geral: Estudo de sua validade de construto [The use of the GHQ-12 in a general population: A study of its construct validity]. *Psicologia: Teoria e Pesquisa, 19,* 241–248.

Graetz, B. (1991). Multidimensional properties of the general health questionnaire. *Social Psychiatry and Psychiatric Epidemiology, 26,* 132–138. doi:10.1007/BF00782952

Guppy, A., & Weatherstone, L. (1997). Coping strategies, dysfunctional attitudes and psychological well-being in white collar public sector employees. *Work & Stress, 11,* 58–67. doi:10.1080/02678379708256822

Henrich, J., Ensminger, J., McElreath, R., Barr, A., Barrett, C., Bolyanatz, A., . . . Ziker, J. (2010, March 19). Markets, religion, community size, and the evolution of fairness and punishment. *Science, 327,* 1480–1484. doi:10.1126/science.1182238

Hishinuma, E. S., Miyamoto, R. H., Nishimura, S. T., Nahulu, L. B., Andrade, N. N., Makini, G. K. Jr., . . . Guerrero, A. P. (2000). Psychometric properties of the State–Trait Anxiety Inventory for Asian/Pacific-Islander adolescents. *Assessment, 7,* 17–36. doi:10.1177/107319110000700102

Ho, C., & Au, W. (2006). Teaching Satisfaction Scale: Measuring job satisfaction of teachers. *Educational and Psychological Measurement, 66,* 172–185. doi:10.1177/0013164405278573

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values.* Beverly Hills, CA: Sage.

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions, and organizations across nations* (2nd ed.). Thousand Oaks, CA: Sage.

Hogg, M. A. (2000). Subjective uncertainty reduction through self-categorization: A motivational theory of social identity processes. *European Review of Social Psychology, 11,* 223–255. doi:10.1080/14792772043000040

Hogg, M. A. (2007). Uncertainty–identity theory. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 39, pp. 69–126). San Diego, CA: Academic Press.

Hox, J. J., & de Leeuw, E. D. (2003). Multilevel models for meta-analysis. In S. P. Reise & N. Duan (Eds.), *Multilevel modeling: Methodological advances, issues, and applications* (pp. 90–111). Mahwah, NJ: Erlbaum.

Hsee, C. K., & Hastie, R. (2006). Decision and experience: Why don't we choose what makes us happy? *Trends in Cognitive Sciences, 10,* 31–37. doi:10.1016/j.tics.2005.11.007

Hsee, C. K., Hastie, R., & Chen, J. (2008). Hedonomics: Bridging decision research with happiness research. *Perspectives on Psychological Science, 3,* 224–243. doi:10.1111/j.1745-6924.2008.00076.x

Huang, I., Chuang, C. J., & Lin, H. (2003). The role of burnout in the relationship between perceptions of organizational politics and turnover intentions. *Public Personnel Management, 32,* 519–531.

Inglehart, R. (1997). *Modernization and postmodernization: Cultural, economic, and political change in 43 societies.* Princeton, NJ: Princeton University Press.

Inglehart, R. F., Foa, R., Peterson, C., & Welzel, C. (2008). Development, freedom, and rising happiness: A global perspective (1981–2007). *Perspectives on Psychological Science, 3,* 264–285. doi:10.1111/j.1745-6924.2008.00078.x

Iyengar, S. S., & Lepper, M. (2000). When choice is demotivating: Can one desire too much of a good thing? *Journal of Personality and Social Psychology, 79,* 995–1006. doi:10.1037/0022-3514.79.6.995

James, L. R. (1982). Aggregation bias in estimates of perceptual agreement. *Journal of Applied Psychology, 67,* 219–229. doi:10.1037/0021-9010.67.2.219

Johnson, J. P., & Lenartowicz, T. (1998). Culture, freedom, and economic growth: Do cultural values explain economic growth? *Journal of World Business, 33,* 332–356.

Kagitcibasi, Ç. (2005). Autonomy and relatedness in cultural context: Implications for self and family. *Journal of Cross-Cultural Psychology, 36,* 403–422. doi:10.1177/0022022105275959

Kenny, C. (2005). Does development make you happy? Subjective well-being and economic growth in developing countries. *Social Indicators Research, 73,* 199–219. doi:10.1007/s11205-004-0986-4

Konstantopoulos, S., & Hedges, L. V. (2004). Meta-analysis. In D. Kaplan (Ed.), *The Sage handbook of quantitative methodology for the social sciences* (pp. 281–297). Newbury Park, CA: Sage.

Lane, R. E. (2000). *The loss of happiness in market democracies,* New Haven, CT: Yale University Press.

Lazarus, R. S., & Averill, J. R. (1972). Emotion and cognition: With special reference to anxiety. In C. D. Spielberger (Ed.), *Anxiety: Current trends in theory and research* (pp. 242–284), New York, NY: Academic Press.

Lee, R. T., & Ashforth, B. E. (1996). A meta-analytic examination of the correlates of the three dimensions of job burnout. *Journal of Applied Psychology, 81,* 123–133. doi:10.1037/0021-9010.81.2.123

Li, H., & Lin, C. (2003). College stress and psychological well-being of Chinese college students. *Acta Psychologica Sinica, 35,* 222–230.

Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis.* London, United Kingdom: Sage.

Lucas, R. E., Diener, E., & Suh, E. (1996). Discriminant validity of well-being measures. *Journal of Personality and Social Psychology, 71,* 616–628. doi:10.1037/0022-3514.71.3.616

Mäkikangas, A., Feldt, T., Kinnunen, U., Tolvanen, A., Kinnunen, M.-L., & Pulkkinen, L. (2006). The factor structure and factorial invariance of the 12-item General Health Questionnaire (GHQ-12) across time: Evidence from two community based samples. *Psychological Assessment, 18,* 444–451. doi:10.1037/1040-3590.18.4.444

Markus, H., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98,* 224–253. doi:10.1037/0033-295X.98.2.224

Maslach, C. (2003). Job burnout: New directions in research and intervention. *Current Directions in Psychological Science, 12,* 189–192. doi:10.1111/1467-8721.01258

Maslach, C., & Jackson, S., E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior, 2,* 99–113. doi:10.1002/job.4030020205

Maslach, C., & Jackson, S. E. (1986). *The Maslach Burnout Inventory manual* (2nd ed.). Palo Alto, CA: Consulting Psychologists Press.

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. In S. T. Fiske, D. L. Schacter, & C. Zahn-Waxler (Eds.), *Annual reviews: Psychology, 52,* 397–422. doi:10.1146/annurev.psych.52.1.397

McNiel, J. M., Lowman, J. C., & Fleeson, W. (2010). The effect of state extraversion on four types of affect. *European Journal of Personality, 24,* 18–35. doi:10.1002/per.738

Moore, S. C. (2006). The value of reducing fear: An analysis using the European Social Survey. *Applied Economics, 38,* 115–117. doi:10.1080/00036840500368094

Myers, D. G., & Diener, E. (1995). Who is happy? *Psychological Science, 6,* 10–17.

O'Connor, D. B., Cobb, J., & O'Connor, R. C. (2003). Religiosity, stress, and psychological distress: No evidence for an association among undergraduate students. *Personality and Individual Differences, 34,* 211–217. doi:10.1016/S0191-8869(02)00035-1

Oishi, S., Diener, E. F., Lucas, R. E., & Suh, E. M. (1999). Cross-cultural variations in predictors of life satisfaction: Perspectives from needs and values. *Personality and Social Psychology Bulletin, 25,* 980–990. doi:10.1177/01461672992511006

Oyserman, D., Coon, H. M., & Kemmelmeier, M. (2002). Rethinking individualism and collectivism: Evaluation of theoretical assumptions and meta-analyses. *Psychological Bulletin, 128,* 3–72. doi:10.1037/0033-2909.128.1.3

Putnam, R. D. (2000): *Bowling alone.* New York, NY: Simon & Schuster.

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd ed.). Newbury Park, CA: Sage.

Raudenbush, S. W., Bryk, A., Cheong, Y. F., & Congdon, R. (2000). *Hierarchical linear and nonlinear modeling.* Lincolnwood, IL: Scientific Software International.

Rentfrow, P., Mellander, C., & Florida, R. (2009). Happy states of America: A state-level analysis of psychological, economic, and social well-being. *Journal of Research in Personality, 43,* 1073–1082. doi:10.1016/j.jrp.2009.08.005

Richardsen, A. M., & Martinussen, M. (2005). Factorial validity and consistency of the MBI-GS across occupational groups in Norway. *International Journal of Stress Management, 12,* 289–297. doi:10.1037/1072-5245.12.3.289

Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3–33). Rochester, NY: University of Rochester Press.

Schaufeli, W. B., Leiter, M. P., Maslach, C., & Jackson, S. E. (1996). The Maslach Burnout Inventory–General Survey (MBI-GS). In C. Maslach, S. E. Jackson, & M. P. Leiter (Eds.), *Maslach Burnout Inventory manual* (3rd ed., pp. 22–26). Palo Alto, CA: Consulting Psychologists Press.

Schmitt, D. P., Allik, J., McCrae, R. R., & Benet-Martinez, V. (2007). The geographic distribution of Big Five personality traits: Patterns and profiles of human self-description across 56 nations. *Journal of Cross-Cultural Psychology, 38,* 173–212. doi:10.1177/0022022106297299

Schwartz, B. (2000). Self-determination: The tyranny of freedom. *American Psychologist, 55,* 79–88. doi:10.1037/0003-066X.55.1.79

Schwartz, B. (2004). *The paradox of choice: Why more is less.* New York, NY: Ecco Press.

Schwartz, B. (2010). Be careful what you wish for: The dark side of freedom. In R. M. Arkin, K. C. Oleson, & P. J. Carroll (Eds.), *The handbook of the uncertain self* (pp. 62–77). New York, NY: Psychology Press.

Schwartz, S. H. (1994). Beyond individualism–collectivism: New cultural dimensions of values. In U. Kim, H. C. Triandis, C. Kagitcibasi, S. C. Choi, & G. Yoon (Eds.), *Individualism and collectivism: Theory, method, and applications* (pp. 85–119). Thousand Oaks, CA: Sage.

Schwartz, S. H. (2004). Mapping and interpreting cultural differences around the world. In H. Vinken, J. Soeters, & P. Ester (Eds.), *Comparing cultures: Dimensions of culture in a comparative perspective* (pp. 43–73). Leiden, the Netherlands: Brill.

Schyns, P. (1998). Cross-national differences in happiness: Economic and cultural factors explored. *Social Indicators Research, 43,* 3–26. doi:10.1023/A:1006814424293

Shankar, J., & Famuyiwa, O. O. (1991). Stress among factory workers in a developing country. *Journal of Psychosomatic Research, 35,* 163–171. doi:10.1016/0022-3999(91)90071-U

Shek, D. T. L. (1993). The Chinese version of the State–Trait Anxiety Inventory: Its relationship to different measures of psychological well-being. *Journal of Clinical Psychology, 49,* 349–358. doi:10.1002/1097-4679(199305)49:3<349::AID-JCLP2270490308>3.0.CO;2-J

Spielberger, C. D. (1972). *Anxiety: Current trends in theory and research.* New York, NY: Academic Press.

Spielberger, C. D. (1979). *Understanding stress and anxiety.* New York, NY: Harper & Row.

Spielberger, C. D. (1983). *Manual for the State–Trait Anxiety Inventory (STAI).* Palo Alto, CA: Consulting Psychologists Press.

Spielberger, C. D., Gorsuch, R. L., & Lushene, R. D. (1970). *Manual for the State-Trait Anxiety Inventory.* Palo Alto, CA: Consulting Psychologists Press.

Spielberger, C. D., Moscoso, M. S., & Brunner, T. M. (2005). Cross-cultural assessment of emotional states and personality traits. In R. K. Hambleton, P. F. Merena, & C. D. Spielberger (Eds.), *Adapting educational and psychological test for cross-cultural assessment* (pp. 343–368). Mahwah, London: Erlbaum.

Spielberger, C. D., Vagg, P. R., Barker, L. R., Donham, G. W., & Westberry, L. G. (1980). The factor structure of the State–Trait Anxiety Inventory. In C. D. Spielberger & I. G. Sarason (Eds.), *Stress and anxiety* (Vol. 7, pp. 95–109). Washington, DC: Hemisphere/Wiley.

Stanley, D. J., & Meyer, J. P. (2009). Two dimensional affective space: A new approach to orienting the axes. *Emotion, 9,* 214–237. doi:10.1037/a0014612

Steel, P., Schmidt, J., & Schultz, J. (2008). Refining the relationship between personality and subjective well-being. *Psychological Bulletin, 134,* 138–161. doi:10.1037/0033-2909.134.1.138

Stevenson, B., & Wolfers, J. (2008, Spring). Economic growth and subjective well-being: Reassessing the Easterlin paradox. *Brookings Papers on Economic Activity, 1–87.*

Suh, E. M., & Koo, J. (2008). Comparing subjective well-being across cultures and nations: The "what" and "why" questions. In M. Eid & R. J. Larsen (Eds.), *The science of subjective well-being* (pp. 414–427). New York, NY: Guilford Press.

Suzuki, T., Tsukamoto, K., & Abe, K. (2000). Characteristic factor structures of the Japanese version of the State–Trait Anxiety Inventory: Coexistence of positive–negative and state–trait factor structures. *Journal of Personality Assessment, 74,* 447–458. doi:10.1207/S15327752JPA7403_8

Taris, T. W., Le Blanc, P. M., Schaufeli, W. B., & Schreurs, P. J. G. (2005). Are there causal relationships between the dimensions of the Maslach Burnout Inventory? A review and two longitudinal tests. *Work & Stress, 19,* 238–255.

Tellegen, A., Watson, D., & Clark, L. A. (1999a). Further support for a hierarchical model of affect: Reply to Green and Salovey. *Psychological Science, 10,* 307–309. doi:10.1111/1467-9280.00159

Tellegen, A., Watson, D., & Clark, L. A. (1999b). On the dimensional and hierarchical structure of affect. *Psychological Science, 10,* 297–303. doi:10.1111/1467-9280.00157

Thoresen, C. J., Kaplan, S. A., Barsky, A. P., Warren, C. R., & de Chermont, K. (2003). The affective underpinnings of job perceptions and attitudes: A meta-analytic review and integration. *Psychological Bulletin, 129,* 914–945. doi:10.1037/0033-2909.129.6.914

Triandis, H. (1995). *Individualism–collectivism.* Boulder, CO: Westview Press.

Tsai, J. L., Miao, F., & Seppala, E. (2007). Good feelings in Christianity and Buddhism: Religious differences in ideal affect. *Personality and Social Psychology Bulletin, 33,* 409–421. doi:10.1177/0146167206296107

Tuuli, P., & Karisalmi, S. (1999). Impact of working life quality on burnout. *Experimental Aging Research, 25,* 441–449. doi:10.1080/036107399243922

Tzelgov, J., & Henik, A. (1991). Suppression situations in psychological research: Definitions, implications, and applications. *Psychological Bulletin, 109,* 524–536. doi:10.1037/0033-2909.109.3.524

United Nations Development Program (UNDP). (2006). *Statistics of the Human Development Report: International human development indicators*. Retrieved from http://hdr.undp.org/en/statistics/, last accessed April 10, 2011.

Uchida, Y., & Kitayama, S. (2009). Happiness and unhappiness in east and west: Themes and variations. *Emotion, 9,* 441–456. doi:10.1037/a0015634

Vagg, P. R., Spielberger, C. D., & O'Hearn, T. P. J. (1980). Is the State–Trait Anxiety Inventory multidimensional? *Personality and Individual Differences, 1,* 207–214. doi:10.1016/0191-8869(80)90052-5

Van den Noortgate, W., & Onghena, P. (2003). Multilevel meta-analysis: A comparison with traditional meta-analytical procedures. *Educational and Psychological Measurement, 63,* 765–790.

van de Vijver, F., & Fischer, R. (2009). Improving methodological robustness in cross-cultural organizational research. In R. S. Bhagat and R. M. Steers (Eds.), *Handbook of culture, organizations, and work* (pp. 491–

517). Cambridge, United Kingdom: Cambridge University Press. doi: 10.1017/CBO9780511581151.019

van de Vijver, F., & Leung, K. (1997). *Methods and data analysis of comparative research.* Needham Heights, MA: Allyn & Bacon.

van Hemert, D. A., van de Vijver, F. J. R., & Poortinga, Y. H. (2002). The Beck Depression Inventory as a measure of subjective well-being: A cross-national survey. *Journal of Happiness Studies, 3,* 257–286. doi: 10.1023/A:1020601806080

Vauclair, C.-M., Hanke, K., Fischer, R., & Fontaine, J. (2011). The structure of human values at the culture level: A meta-analytical replication of Schwartz's value orientations using the Rokeach Value Survey. *Journal of Cross-Cultural Psychology, 42,* 186–205. doi: 10.1177/0022022110396864

Veenhoven, R. (1991). Is happiness relative? *Social Indicators Research, 24,* 1–34. doi:10.1007/BF00292648

Veenhoven, R. (1993). *Happiness in nations: Subjective appreciation of life in 56 nations 1946–1992.* Rotterdam, the Netherlands: Erasmus University.

Veenhoven, R. (1994). Is happiness a trait? *Social Indicators Research, 32,* 101–160. doi:10.1007/BF01078732

Veenhoven, R. (1995). The cross-national pattern of happiness: Test of predictions implied in three theories of happiness. *Social Indicators Research, 34,* 33–68. doi:10.1007/BF01078967

Veenhoven, R. (1999). Quality-of-life in individualistic society. A comparison of 43 nations in the early 1990s. *Social Indicators Research, 48,* 159–188. doi:10.1023/A:1006923418502

Veenhoven, R. (2008). Sociological theories of subjective well-being. In M. Eid & R. J. Larsen (Eds.), *The science of subjective well-being* (pp. 44–61). New York: Guilford Press.

Veenhoven, R. (n.d.) *World database of happiness.* Retrieved from http://worlddatabaseofhappiness.eur.nl/

Watson, D., & Clark, L. A. (1992). On traits and temperament: General and specific factors of emotional experience and their relation to the five-factor model. *Journal of Personality, 60,* 441–476. doi:10.1111/j.1467-6494.1992.tb00980.x

Welzel, C. (2010). How selfish are self-expression values? A civicness test. *Journal of Cross-Cultural Psychology, 41,* 152–174. doi:10.1177/0022022109354378

Welzel, C., & Inglehart, R. (2010). Values, agency, and well-being: A human development model. *Social Indicators Research, 97,* 43–63. doi:10.1007/s11205-009-9557-z

Welzel, C., Inglehart, R., & Klingemann, H. D. (2003). The theory of human development: A cross-cultural analysis. *European Journal of Political Research, 42,* 341–379. doi:10.1111/1475-6765.00086

Winefield, A. H., Gillespie, N., Stough, C., Dua, J., Hapuarachchi, J., & Boyd, C. (2003). Occupational stress in Australian university staff: Results from a national survey. *International Journal of Stress Management, 10,* 51–63. doi:10.1037/1072-5245.10.1.51

Worley, J. A., Vassar, M., Wheeler, D. L., & Barnes, L. L. B. (2008). Factor structure of scores from the Maslach Burnout Inventory: A review and meta-analysis of 45 exploratory and confirmatory factor-analytic studies. *Educational and Psychological Measurement, 68,* 797–823. doi:10.1177/0013164408315268

Yang, Y. (2008). Social inequalities in happiness in the United States, 1972 to 2004: An age-period-cohort analysis. *American Sociological Review, 73,* 204–226. doi:10.1177/000312240807300202

Yik, M. S. M., Russell, J. A., & Barrett, L. F. (1999). Structure of self-reported current affect: Integration and beyond. *Journal of Personality and Social Psychology, 77,* 600–619. doi:10.1037/0022-3514.77.3.600

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