

The Role of Positive and Negative Emotions in Life Satisfaction Judgment Across Nations

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This study examined how the frequency of positive and negative emotions is related to life satisfaction across nations. Participants were 8,557 people from 46 countries who reported on their life satisfaction and frequency of positive and negative emotions. Multilevel analyses showed that across nations, the experience of positive emotions was more strongly related to life satisfaction than the absence of negative emotions. Yet, the cultural dimensions of individualism and survival/self-expression moderated these relationships. Negative emotional experiences were more negatively related to life satisfaction in individualistic than in collectivistic nations, and positive emotional experiences had a larger positive relationship with life satisfaction in nations that stress self-expression than in nations that value survival. These findings show how emotional aspects of the good life vary with national culture and how this depends on the values that characterize one's society. Although to some degree, positive and negative emotions might be universally viewed as desirable and undesirable, respectively, there appear to be clear cultural differences in how relevant such emotional experiences are to quality of life.

Keywords: satisfaction with life, positive emotions, negative emotions, national culture

In 1902, more than a century ago, William James observed, "How to gain, how to keep, how to recover happiness, is in fact for most men at all times the secret motive of all they do and of all they are willing to endure" (James, 1902/1999, p. 90). Although the pursuit of happiness is one of the eternal human quests, psychologists are only now starting to comprehend what makes people happy. Research in the past 20 years has made considerable progress in identifying the factors that influence people's subjective well-being (SWB) or happiness.

Researchers distinguish between two components of SWB: a global cognitive evaluation of the satisfaction with one's life as a whole (Andrews & Withey, 1976) and an affective component that

refers to positive and negative emotionality (Bradburn, 1969; Lucas, Diener, & Suh, 1996). Although in many studies the two components of SWB have been found to be interrelated, they are not identical (Diener, 1994). For instance, Lucas and colleagues (1996) demonstrated that life satisfaction was discriminable from both positive and negative affect. Yet, as argued by Diener, Oishi, and Lucas (2003), many researchers have measured only a single aspect of SWB (such as life satisfaction), and therefore the interrelation between the cognitive and affective components of SWB is not well understood, especially at the cultural level (see also Pavot & Diener, 2004). Nevertheless, the study of this relation and how it may vary across nations is important, as it can reveal what constitutes a good life in emotional terms and how this may be shaped by national culture.

The main aim of the present study was to examine the relation between positive and negative emotions and judgments of life satisfaction across nations. We focused on three questions. First, are life satisfaction judgments overall mainly related to the frequency of positive or to the frequency of negative emotions, and does each uniquely contribute to life satisfaction judgments? Answers to these questions may shed light on the extent to which people globally are satisfied with their lives because they frequently experience pleasant or positive emotions and/or because they infrequently experience unpleasant or negative emotions. Second, are there national differences in how strongly the frequencies of positive and negative emotions relate to judgments of life satisfaction? It could be that members of different nations assess positive or negative emotions differently in determining how satisfied they are with their lives. Third, we examined whether the

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cultural value dimensions of individualism/collectivism and survival/self-expression play a role in shaping these differences across nations. Knowledge about the moderating role of these cultural characteristics can provide insight into the values that shape the importance of positive and negative emotions in forming global judgments of the quality of one's life.

The Relative Importance of Positive Versus Negative Emotions for Life Satisfaction Judgment

As mentioned above, two major components of SWB are life satisfaction and experienced emotions. As indicated by previous research, the affective component of SWB depends primarily on the frequency and not on the intensity of positive and negative affective experiences (Diener, Colvin, Pavot, & Allman, 1991; Diener, Sandvik, & Pavot, 1990). Diener and colleagues (1990), for instance, found that self-reported intensity of positive affect added little to the prediction of SWB after the frequency of positive affect had been taken into account.

Regarding the relation between the emotional and cognitive components of SWB, research has shown that when people make judgments about life satisfaction, hedonic balance (i.e., the proportion of positive/pleasant emotions to negative/unpleasant emotions experienced) serves as an important source of information (Schimmack, Oishi, & Diener, 2002; Schimmack, Radhakrishnan, Oishi, Dzokoto, & Ahadi, 2002; Schwarz & Strack, 1991; Suh, Diener, Oishi, & Triandis, 1998). Moreover, experimental evidence has shown that positive and negative experiences have a causal influence on satisfaction judgments (Schwarz & Clore, 1983). Such findings are supportive of an affect-as-information perspective (e.g., Schwarz & Clore, 2007), suggesting that people rely on their emotional experiences to form judgments of how satisfied they are with their lives.

Yet, is life satisfaction equally related to the presence of positive emotions and the absence of negative emotions? A preliminary answer to this question can be found in a study by Suh and colleagues (1998), who examined the direct links among positive affect, negative affect, and life satisfaction judgment in two large sets of international data. Using the World Values Survey data from 41 countries, Suh et al. (1998) found that across nations, positive affect was, on average, as strongly correlated with life satisfaction as negative affect ($r_s = .29$ and $-.29$ for positive and negative affect, respectively); in their second study, however, the responses of college students from 40 countries indicated that positive affect was more strongly correlated with life satisfaction as compared with negative affect ($r_s = .44$ and $-.26$, respectively). Also Lucas et al. (1996) found that the correlations between life satisfaction and positive affect were always greater than correlations between life satisfaction and negative affect. However, these studies relied on simple correlations and therefore do not allow one to draw conclusions about the unique contributions of positive and negative emotions to life satisfaction. Therefore, in the present study, we directly examined the unique contribution of positive and negative emotions to life satisfaction judgments across nations.

Cultural Variables Moderating the Relation Between Positive and Negative Emotions and Life Satisfaction Across Nations

If the master motive of all human striving is of a purely hedonistic nature, the maximization of pleasure and the minimization of displeasure should be the universal experiential foundation of life satisfaction and SWB. This may not be equally the case in all cultures, however. SWB is inherently bound to the norms and values to which an individual adheres. As a consequence, it appears that the criteria for life satisfaction judgments vary across nations and that such differences among nations are related to dominant cultural values (Oishi, Diener, Lucas, & Suh, 1999).

Previous studies have shown that national culture can moderate the relation among the components of SWB (Diener et al., 2003). In a study by Suh and colleagues (1998), for instance, satisfaction with life was differentially related to affect balance (see also Schimmack, Radhakrishnan, et al., 2002) and to positive and negative emotions across nations. As another instance, findings by Schimmack, Oishi, & Diener (2002; see also Heine, Lehman, Markus, & Kitayama, 1999) suggested that frequencies of pleasant and unpleasant emotions are separate components of SWB and that national culture moderates the relation between pleasant and unpleasant emotions: The correlations were less negative in Asian cultures than in non-Asian cultures. Such results suggest that cultural factors can selectively influence different components of SWB. We therefore had a reasonable expectation that we would find that the relation between positive and negative emotions and life satisfaction is not uniform but varies across nations.

Also more recently, research by Tsai and colleagues (Tsai, Knutson, & Fung, 2006; Tsai, Miao, & Seppala, 2007) showed that culture influences ideal affect—the type of experiences one ideally wants to feel. In a similar sense, our study examined the possibility that national culture influences how emotional experiences are differentially valued in terms of what constitutes a good life and thus what kind of experiences contribute to the life satisfaction of people in different nations.

If the relation between positive and negative emotions and life satisfaction judgment indeed differs across nations, an important task lies in pinpointing those national or cultural characteristics that may shape or moderate these relations. Our hypotheses identified two cultural value dimensions that we expected to play a significant role in this respect: *individualism/collectivism* and *survival/self-expression*. These two dimensions seem to reflect the most robust and fundamental differences in cultural values that emerge using different measurement instruments and different types of samples or time periods (Hofstede, 2001; Inglehart & Oyserman, 2004). Moreover, previous studies have shown that both individualism and survival/self-expression value dimensions are related to life satisfaction both across and within nations (Diener, Diener, & Diener, 1995; Hofstede, 2001; Inglehart & Welzel, 2005). Therefore, it was reasonable to expect that these value dimensions would influence how nations differ in weighing the affective building blocks of what makes a good life. We will now outline our specific hypotheses about how these cultural variables moderate the relation between positive and negative emotions and life satisfaction judgments.

Individualism/Collectivism

Since Hofstede's (1980) groundbreaking study, the constructs of individualism and collectivism have received intense research attention, and this dimension has been shown to be highly relevant for SWB. In a study by Diener, Diener, and Diener (1995), individualism emerged as the strongest predictor of nation-level SWB across four surveys (for similar results, see e.g., Hofstede, 2001). Furthermore, in a number of studies, individualism/collectivism has emerged as an important cultural variable that moderates the factors influential for life satisfaction, such as self-esteem (Diener & Diener, 1995). Although the ability of the individualism/collectivism dimension to explain cross-cultural differences has recently been questioned by several researchers (e.g., Bond, 2002; Voronov & Singer, 2002), many studies have shown that it almost always explains the largest amount of variance when a sufficiently large set of nations is used (Georgas, Van de Vijver, & Berry, 2004; Hofstede, 2001; Schimmack, Oishi, & Diener, 2005).

Individualism places a high value on the freedom and happiness of the individual and generally stresses the self-directed, self-contained, and autonomous individual (Realo, Koido, Ceulemans, & Allik, 2002). In individualist nations, people predominantly construct their self-concept and regulate their behavior by focusing on their personal attributes (e.g., traits, abilities, motives, and values). Collectivism, on the other hand, denotes any of several kinds of social organization that ascribe central importance to the groups to which individuals belong (e.g., state, nation, ethnic or religious group, family; see Kagitçibasi, 1997; Realo, 2003; Triandis, 1995, for reviews). In collectivist nations, people predominantly focus on their relationships with significant others in constructing their self-concept (Markus & Kitayama, 1991; Triandis, 1995).

Consequently, it is reasonable to assume that emotional experiences may be more salient to individuals from individualist nations, and they may consequently perceive their own emotions as more diagnostic foundations for self-judgments than do individuals in collectivist nations. This was also hypothesized and found by Suh and colleagues (1998), demonstrating that emotions and life satisfaction correlated significantly more strongly in individualist than in collectivist nations (the finding was later replicated by Schimmack, Radhakristnan, et al., 2002, with a sample of five nations).

Yet, we hypothesized that this holds true for negative emotions in particular. In recent theorizing and research, Elliot, Chirkov, Kim, and Sheldon (2001) hypothesized that all persons desire to feel like a valuable member of society and that, in individualist nations, an emphasis on standing out and feeling good is prevalent, which suggests that people seek to promote positive experiences and avoid negative experiences. We hypothesized that as a consequence of these desires, people's satisfaction with life in individualist nations may be primarily concerned with avoiding the negative and minimizing unpleasant experiences in order to pursue the cultural ideal because negative experiences do not correspond to what an ideal member of such a society should embody. Yet, in collectivist nations, the emphasis is more on harmonious interpersonal relationships, to which the experience of especially negative emotions such as jealousy, anger, and shame may often be of secondary importance. Even more so, the pursuit of group har-

mony may carry the cost of experiencing such negative feelings. Negative experiences may therefore have a smaller impact on life satisfaction judgments in collectivist nations because avoiding such experiences is not what is primarily emphasized. In sum, we expected that negative emotions would be more negatively related to satisfaction with life in individualistic nations than in collectivistic nations. Note that we did not hypothesize that in individualist nations, negative emotions would be more strongly related to life satisfaction than positive emotions. Our hypothesis concerned the relative strength of the relation between negative emotion and life satisfaction in individualist versus collectivist nations; we made no claim concerning positive emotions.

Our hypothesis received preliminary support from Suh et al.'s (1998) findings showing that nations' levels of individualism correlated relatively more closely with the size of the negative affect and life satisfaction correlation ($r = -.59$ and $-.57$ for Study 1 and Study 2, respectively) than with the size of the positive affect and life satisfaction correlation ($r = .32$ for both studies). Yet, the authors did not offer a substantive explanation for their findings. Moreover, their analyses did not assess the independent role of positive and negative emotions in life satisfaction and did not take into account differences in reliabilities among nations (which will be discussed later), factors that stand in the way of firm conclusions in this respect.

Survival/Self-Expression

The other cultural variable that we expected to moderate the relation between emotions and life satisfaction was the survival/self-expression value dimension (Inglehart, 1997; Inglehart & Baker, 2000). Societies that stress self-expression values are characterized by high levels of economic and physical security, fostering a climate of trust and self-expression. People in those societies report good health, are enthusiastic about and aware of environmental protection issues, and have high levels of personal responsibility, political activity, tolerance of diversity, and SWB (Inglehart & Baker, 2000). Nations that stress self-expression values are more sensitive to human rights, aware of technological risks, and attentive to discrimination toward underprivileged groups. Societies high on survival are characterized by low economic and physical security and emphasize material values above other goals. They show low levels of interpersonal trust and SWB, report relatively poor health, have low levels of toleration of outgroups (foreigners, gays, and lesbians), and give low priority to environmental protection and gender equality (Inglehart & Oyserman, 2004). According to Inglehart and Welzel (2005), the extent to which self-expression values dominate survival values indicates a nation's level of socioeconomic development: low levels of socioeconomic development are related to low levels of education and information, and they enforce material restraints on people's choices.

Following this description, we hypothesized that individuals from societies that are located near the self-expression end of the dimension would value particularly positive experiences (including positive emotions) more in judging life satisfaction as compared with nations located near the survival end of this dimension. The latter may rather emphasize more material aspects of life as well as economic and physical security. Following regulatory focus theory (e.g., Förster, Higgins, & Idson, 1998; Higgins,

1997), we proposed that in those societies in which social, physical, and economic survival is perceived to be secure and people stress self-expression values, people are also more likely to be oriented toward a *promotion focus* rather than toward *prevention focus* (see also Inglehart & Oyserman, 2004). Because promotion focus has been related to a heightened attention and sensitivity to particularly positive emotions (Higgins, 1997), it is reasonable to assume that particularly positive emotions are weighted in satisfaction with life judgments in self-expression-valuing nations.

This hypothesis also follows Maslow's (1943) theory of human motivation. When basic physiological (e.g., food, sleep) and safety (e.g., protection, security) needs are fulfilled, the development and expression of the self (self-actualization) become important areas of personal investment. According to Maslow (1943), it is the pursuit and attainment of these higher needs that lead to positive feelings. As a result, positive events and experiences that follow from pursuing self-expression may become more salient aspects of one's life and consequently have a larger impact on how satisfied one is with one's life. In contrast, when people are struggling to survive, the experience of positive emotions, although pleasant, may be less relevant to life satisfaction. Instead, life satisfaction may primarily be derived from the fulfillment of basic daily needs such as food, shelter, health, and avoiding adversities in these areas, something that is not necessarily accompanied by positive emotional experiences (Maslow, 1943). This point is illustrated by research that shows that material or financial resources are related to happiness in poorer but not in richer nations (e.g., Oishi et al., 1999). The experience of positive emotions in such nations, although pleasant, may be less related to life satisfaction than in nations in which individuals can afford the pursuit of self-expression. When one is struggling to survive, satisfaction may primarily be derived from fulfilling basic needs, something that is not necessarily accompanied by positive emotional experiences (Maslow, 1943). To summarize, we expected the cultural value dimension of survival/self-expression to moderate specifically the relation between positive emotions and life satisfaction judgments, such that positive emotions would be more strongly related to life satisfaction in nations that value self-expression than in nations that are primarily concerned with survival.

It should be noted that the two nation-level value dimensions, individualism and survival/self-expression, have been found to be strongly related to each other (e.g., Hofstede, 2001), even to the point that it has been suggested that they tap a common dimension of cross-cultural variation—the drive toward broader human choice (Inglehart & Oyserman, 2004; Inglehart & Welzel, 2005). Yet, in line with Inglehart and Welzel (2005), we argue that survival/self-expression values measure something that “extends far beyond whether given cultures have an individualistic or collective outlook” (p. 137). Societies that score high on self-expression tend to also have high levels of gender equality, tolerance, and interpersonal trust. People in those countries are likely to act to protect the environment and to value the quality of life rather than physical security. Such elements demonstrate that this dimension goes beyond what is already conveyed in the dimension of individualism. In the present study, we wanted to provide further evidence of their discriminant validity by empirically examining whether the two dimensions differentially affect the affective building blocks of life satisfaction. In particular, we expected that individualism/collectivism would primarily moderate the role of

negative emotions, as we theorized that individualism focuses on avoiding negative experiences and that collectivism is more inclined to tolerate such experiences at the benefit of the group. In turn, we expected that survival/self-expression would primarily moderate the role of positive emotions because the pursuit of self-expression values stimulates positive experiences, whereas the struggle for survival may move positive experiences to the background. In the present study, we performed a direct empirical test of their discriminant validity by examining whether the cultural dimensions could uniquely and differentially moderate the role that positive and negative emotions play in life satisfaction judgments.

The Present Study

In this study, we set out to shed light on how a good life is related to experiencing positive and negative emotions in a large number of nations from around the globe. A hedonistic view of the good life would suggest that life satisfaction is uniformly positively related to positive emotions and negatively related to negative emotions. We believed that this perspective might be attenuated by cultural factors in that the relations between positive and negative emotions and life satisfaction may depend on how national culture differentially emphasizes and values such experiences, causing positive and negative emotions to be differentially weighted in their relation with life satisfaction. Moreover, we hypothesized that the cultural value dimensions of survival/self-expression and individualism/collectivism would moderate the relations between positive and negative emotions, respectively, because we expected these cultural dimensions to differentially affect the value placed on positive and negative experiences.

To address our research questions, we analyzed data on the self-reported frequency of emotional experiences and life satisfaction judgment taken from the International College Survey 2001 (ICS 2001; see Kuppens, Ceulemans, Timmerman, Diener, & Kim-Prieto, 2006). Our study went beyond earlier research in terms of using more diverse nations and a broader sampling of emotions. Moreover, our study provided a more stringent and extended investigation into the moderating role of cultural values in the relations between emotional experiences and life satisfaction as compared with previous studies, correcting for several potential problems that characterized previous research (e.g. Suh et al., 1998). First, we examined the unique contributions of positive and negative emotions to life satisfaction. Second, the use of multilevel regression models (i.e., mixed or hierarchical linear models; e.g., Snijders & Bosker, 1999) allowed us to correct for differences in reliability between nations that may otherwise affect the obtained relationships. The use of such techniques also allowed us to test cross-level interactions (see also Oishi et al., 1999; Schimmack, Oishi, & Diener, 2002) between the cultural variables at the country level and the components of SWB at the person level. Finally, we evaluated the independent contributions of individualism/collectivism and survival/self-expression on the size of the national associations between negative and positive emotions and life satisfaction. Given the conceptual relatedness of the two cultural dimensions, it was important for us to demonstrate their possible discriminant validity.

Method

Participants

Participants from 46 countries taking part in the ICS 2001 study were included in this study (data from one country, Egypt, were discarded because the correlations of life satisfaction judgments with both positive and negative emotions in that sample deviated more than 3 standard deviations from those in the total sample;

Kreft & de Leeuw, 1998). After deletion of participants who did not report their age or gender, the final sample consisted of 9,857 participants (5,949 women and 3,908 men) from 46 different nations (see Table 1): 6 countries from Africa (Cameroon, Ghana, Nigeria, South Africa, Uganda, and Zimbabwe), 3 from East Asia (China, Japan, and South Korea), 8 from South/Southeast Asia (Bangladesh, India, Indonesia, Malaysia, Nepal, Philippines, Singapore, and Thailand), 3 from the Middle East region (Iran, Ku-

Table 1

Number of Participants and Scores for Satisfaction With Life, Positive Emotions, Negative Emotions, Individualism/Collectivism, and Survival/Self-Expression for 46 Countries

Country	<i>n</i>	Person-level variable			Nation-level variable	
		SWL	PE	NE	IDV	Survival-SE
Australia	183	4.88	5.69	3.45	90	1.97
Austria	130	4.88	5.44	3.56	55	1.45
Bangladesh	101	4.46	5.13	4.39	20	-0.90
Belgium	119	4.90	5.55	3.25	75	1.17
Brazil	263	4.87	6.12	3.96	38	0.05
Bulgaria	130	4.10	4.85	3.33	30	-1.52
Cameroon	124	3.49	5.35	3.73	—	—
Canada	105	5.54	6.03	2.92	80	1.74
Chile	372	5.28	6.30	3.61	23	0.16
China	568	3.54	4.43	3.46	23	-0.62
Colombia	370	4.88	6.07	3.70	13	0.35
Croatia	150	4.58	5.20	3.43	33	0.33
Cyprus	98	4.51	5.16	4.10	—	—
Georgia	114	3.70	5.18	3.31	—	-1.32
Germany	157	4.88	5.34	3.48	67	0.50
Ghana	154	4.19	5.44	3.18	20	-0.03
Greece	222	4.54	4.81	3.50	35	0.61
Hungary	719	4.37	4.92	3.02	80	-1.23
India	133	4.12	5.35	3.40	48	-0.50
Indonesia	244	4.50	6.06	3.76	14	-0.41
Iran	200	3.90	4.81	4.25	41	-0.33
Italy	317	4.47	5.04	4.01	76	0.92
Japan	167	3.81	4.80	4.20	46	0.65
Kuwait	77	4.50	6.11	4.74	38	—
Malaysia	386	4.69	5.86	3.95	26	—
Mexico	344	4.99	6.70	3.68	30	0.56
Nepal	112	3.79	5.23	3.74	—	—
Netherlands	41	4.98	5.18	3.04	80	2.01
Nigeria	298	4.22	6.03	3.43	20	0.30
Philippines	203	4.56	6.24	4.03	32	-0.12
Poland	571	4.47	4.89	3.31	60	-0.57
Portugal	234	4.76	5.38	3.44	27	0.45
Republic of Korea	183	3.98	5.23	3.61	18	-0.44
Russia	107	4.44	4.99	3.37	39	-1.86
Singapore	90	4.04	4.99	4.20	20	—
Slovakia	110	4.26	4.99	3.66	52	-0.40
Slovenia	282	4.97	5.56	2.99	27	0.35
South Africa	32	5.00	6.28	3.22	65	-0.09
Spain	361	4.66	5.83	3.67	51	0.53
Switzerland	144	5.41	5.39	3.07	68	1.42
Thailand	201	3.93	5.56	3.99	20	—
Turkey	123	3.93	4.82	4.57	37	-0.36
Uganda	127	3.20	5.13	3.50	—	-0.48
United States	368	4.88	5.68	3.75	91	1.62
Venezuela	210	5.21	6.32	3.64	12	0.44
Zimbabwe	113	4.31	5.67	3.87	—	-1.33

Note. *N* = 9,857; SWL = the average score of life satisfaction; PE = the average frequency of positive emotions; NE = the average frequency of negative emotions; IDV = Hofstede's (2001, Exhibits A5.1, A5.2, and A5.3) index of individualism/collectivism; Survival-SE = Inglehart's (1997) index of survival/self-expression; survival-SE scores from Ronald Inglehart (J. Allik, personal communication, July 23, 2003).

wait, and Turkey), 18 from Europe (Austria, Belgium, Bulgaria, Croatia, Cyprus, Georgia, Germany, Greece, Hungary, Italy, Netherlands, Poland, Portugal, Russia, Slovakia, Slovenia, Spain, and Switzerland), 1 from Oceania (Australia), 3 from North America (Canada, Mexico, and United States), and 4 from South America (Brazil, Chile, Colombia, and Venezuela). One hundred and eighty-seven (2%) of the participants were under 18 years; 2,451 (25%) were 18–19 years; 3,421 (35%) were 20–21 years; 1,781 (18%) were 22–23 years; 865 (9%) were 24–25 years; 407 (4%) were 26–27 years; and 745 (8%) were 28 years or older.

Materials and Procedure

Person-Level Variables

For the ICS 2001 study, a questionnaire that included various scales and measures was constructed in English and translated to several other languages (i.e., Japanese, Korean, and Spanish) by the main initiators of the study. If needed, the local collaborators arranged for the questionnaire to be translated into their native language (and back-translated by some but not all collaborators). Following the decentering approach to translation in cross-cultural research—in which priority is given to adhering to meaning and familiarity instead of adhering to the source language (van de Vijver & Leung, 1997; Werner & Campbell, 1970)—the initiators of the study did not explicitly require a strict translation/back-translation procedure from the collaborators. Instead, they emphasized that the translation should preserve the original meaning of the materials as far as possible while at the same time using familiar terms in the native language. In each country, the participants received the ICS 2001 questionnaire instructions in the language of the college they attended. At the beginning of the questionnaire, the participants were asked to read each item carefully and to indicate their answer on a standard answer sheet. The participants were reminded that there are no right or wrong answers and were requested to be open and honest in their responses.

Satisfaction with life. Life satisfaction was assessed with the Satisfaction With Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985; Pavot & Diener, 1993). The scale consists of five items—examples being “In most ways, my life is close to my ideal,” “So far I have gotten the important things I want in life,” and “If I could live my life over, I would change almost nothing”—which are rated on a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The average score across the five items forms a score of life satisfaction. The within-country internal consistency reliabilities (Cronbach’s alpha) for the scale averaged .78 ($SD = .09$, range = .47). The possibility that associations found between this scale and the reported frequency of emotional experiences are due to content or item overlap can be ruled out because the SWLS items do not refer to emotional experience, nor do they contain words that refer to particular emotional experiences. Also, it is important to note that the items do not refer to specific life domains or areas of investment (such as religion, work, or family ties). The items only generically refer to how satisfied a person judges his or her life in terms of the person’s own criteria, leaving open which aspects of life may or may not contribute to this satisfaction (Pavot & Diener, 1993). This may especially be relevant in the context of cross-cultural research because such items referring to specific life domains may only be

relevant to the concept of life satisfaction in some but not all cultures. Moreover, the cross-cultural validity of the scale has been proven in previous research that confirmed culture-dependent relations between the scale and predictor variables (e.g., Kang, Shaver, Sue, Min, & Jing, 2003).

Frequency of experienced emotions. For a list of 14 emotions, participants were asked to rate how often they had felt each emotion in the last week. The list consists of the positive emotion labels *pleasant, happy, cheerful, pride, gratitude, and love* and of the negative emotion labels *sad, anger, unpleasant, guilt, shame, worry, stress, and jealousy*. The list of emotion terms was designed to cover a broad array of emotional experiences, including the major emotion categories proposed by Diener, Smith, and Fujita (1995) (i.e., love, joy, fear, anger, shame, and sadness). Recent research has shown that engaged and disengaged emotions can differently affect well-being depending on culture (Kitayama, Mesquita, & Karasawa, 2006). Therefore, it is important to underscore that the list of selected emotions includes both engaged (e.g., *gratitude, love, guilt, shame*) and disengaged (*pride, anger, jealousy*) positive and negative emotions, which ensures against the possibility that any found results can be attributed to the inclusion of exclusively engaged or disengaged emotion terms. Also, the list includes both high (e.g., *happy, cheerful, anger, stress*) and low (*gratitude, pleasant, sad*) arousal emotion terms (cf., Russell, 2003). For reasons similar to those listed earlier, this is important in light of the finding that cultures have been found to differ in their preference for low or high arousal states as their ideal affect (e.g., Tsai et al., 2006). Participants had to indicate the experienced frequency of each emotion on a 9-point scale ranging from 1 (*not at all*) to 9 (*all the time*). The average frequency of the positive and negative emotions was calculated as a measure of the frequency of experienced positive and negative emotions (see Table 1 for country scores). The within-country internal consistency reliabilities (Cronbach’s alpha) for the scale scores averaged .73 ($SD = .08$, range = .31) and .76 ($SD = .05$, range = .21) for positive and negative emotions, respectively.

Nation-Level Variables

Individualism versus collectivism. The index of individualism used was that of Hofstede (2001). The index refers to the degree to which individuals are integrated into groups and ranges from 0 (*most collectivistic*) to 100 (*most individualistic*). Overlapping data from both the ICS 2001 study and Hofstede’s index scores of individualism were available for 41 nations.

Survival versus self-expression values. The construction of nation scores of the survival/self-expression value dimension was based on a factor analysis of nation-level data from the 1990 World Values Survey and is described in Inglehart and Baker (2000). The actual scores were received from Ronald Inglehart (J. Allik, personal communication, July 23, 2003). Higher scores reflect higher levels of self-expression. Overlapping data from both the ICS 2001 study and the survival/self-expression scores were available for 39 nations.

Results

As an overview, Table 1 provides information on the average satisfaction with life, positive emotions, negative emotions, and

scores on the cultural variables for each country (when available). The correlation between Hofstede's individualism index and Inglehart's survival/self-expression value dimension was $r(36) = .51$, $p < .001$. All further analyses were performed by means of multilevel or hierarchical regression techniques using hierarchical linear modeling (Bryk & Raudenbush, 1992) in which the predictor variables at Level 1 were group-mean centered. Regarding the interrelations between the person-level variables, we estimated the overall within-country correlations of positive emotions, negative emotions, and satisfaction with life on the basis of the Level-1 variance estimates of a totally unconditional model predicting one variable and the Level-1 variance of a model in which this variable was regressed on a second variable (see Nezlek, 2001). The estimated correlations equaled $-.20$, $p < .001$, between positive and negative emotions and $.43$ and $-.28$, both $p < .001$, between life satisfaction and positive and negative emotions, respectively.

Regarding the first and second research questions, we evaluated the independent contributions of positive and negative emotions to life satisfaction and the existence of cultural variation therein. For this purpose, a multilevel model predicting life satisfaction on the basis of the frequency of positive and negative emotions at Level 1 (person level), allowing for random (nation-specific) intercept and slope values at Level 2 (nation level), was estimated using the data from all 46 countries (see Table 2). Because the predictors were group-mean centered, the value of the overall intercept (4.47) reflects the global level of life satisfaction at average levels of positive and negative emotions. The random component of the intercept ($SD = 0.52$) further indicates that this value varies significantly across nations. In terms of the relations between life satisfaction and emotional experience, the findings clearly show that both positive and negative emotions contribute independently to satisfaction with life: Positive emotions were positively and negative emotions were negatively related to life satisfaction. As can be seen from the coefficients, the contribution of positive emotions was almost twice as large as that of negative emotions. Moreover, a contrast analysis revealed that the magnitude of the contribution of positive emotions was significantly larger than that of negative emotions, $\chi^2(1, N = 46) = 43.62$, $p < .0001$. The results further clearly supported our expectation, however, that the contribution of positive and negative emotions to life satisfaction varied significantly across nations. This is indicated by the significant standard deviations for the slopes of positive and negative emotions with life satisfaction (see Table 2).

Table 2
Multilevel Model Predicting Satisfaction With Life by the Frequency of Positive and Negative Emotions

Variable	Fixed		Random	
	Coefficient	T ratio	SD	χ^2 value ^a
Intercept	4.47	58.45***	0.52	2054.93***
Positive emotions	0.31	25.21***	0.06	30.87***
Negative emotions	-0.18	-12.21***	0.08	45.58***

^a The χ^2 value is calculated as the difference between $-2\log$ likelihood (deviance) of a model including and a model excluding the random term; associated p values were calculated on the basis of a mixture χ^2 sampling distribution (Molenberghs & Verbeke, 2004).
*** $p < .001$

In light of our third research question, we examined the moderating role of individualism and survival/self-expression. Because combined information on these two variables was not available for 10 of the included nations (Cameroon, Cyprus, Georgia, Kuwait, Malaysia, Nepal, Portugal, Singapore, Thailand, and Zimbabwe), the analyses were performed on the basis of data from 8,410 participants from 36 nations. For the sake of comparison, the same analyses as reported earlier (without nation-level moderation) were performed on this subset of 36 nations, and the results proved to be highly similar, allowing for identical conclusions. In the next analysis, we entered both cultural dimensions as Level-2 predictors of the nation-specific intercept and slopes for positive and negative emotions (see Table 3). This was done simultaneously to take into account the overlap among both cultural variables. We hypothesized that individualism would moderate primarily the relation between life satisfaction and negative emotions and that survival/self-expression would moderate primarily the relation between positive emotions and life satisfaction. The results clearly confirm these expectations. Only individualism moderated the relation between negative emotions and life satisfaction: The more a national culture stresses individualistic values, the more adverse is the impact of negative emotions on life satisfaction. With respect to positive emotions, only survival/self-expression moderated their relation to satisfaction with life: The more a nation stresses self-expression values, the stronger the impact of positive emotions on the life satisfaction of its inhabitants.

The results also show that life satisfaction at average levels of positive and negative emotions (the intercept) is related to survival/self-expression. The more a culture values self-expression, the more satisfied its inhabitants are with their lives when experiencing their nation's average level of positive and negative emotions.

Discussion

The Relationship Between Satisfaction With Life and Positive and Negative Emotions

In judging how satisfied one is with one's life, people from across the world seem to take into account the frequency of their positive and negative affective experiences. The results from this study show that across nations the experience of positive emotions is related to life satisfaction judgments twice as strongly as the experience of negative emotions. This finding fits well with the principles of positive psychology (see Seligman, Steen, Park, & Peterson, 2005, for a review). According to the advocates of positive psychology (e.g., Seligman & Csikszentmihalyi, 2000; Seligman, Parks, & Steen, 2005), positive experience is an important route to greater happiness and life satisfaction. Thus, our findings based on data from 46 countries clearly show that to enhance life satisfaction, both Western and non-Western countries should adopt interventions that promote the experience of positive emotions (as compared with those that are solely aimed at avoiding negative emotional experiences).

The Moderating Impact of National Culture

As we expected, however, our findings also clearly indicate that national culture moderates how strongly positive and negative

Table 3
Multilevel Model Predicting Satisfaction With Life by the Frequency of Positive and Negative Emotions at Level 1 and Individualism and Survival/Self-Expression at Level 2

Variable	Fixed		Random	
	Coefficient	<i>T</i> ratio	<i>SD</i>	χ^2 value ^a
Intercept	4.52	30.71***	0.38	1096.83***
Individualism	0.00	0.06		
Survival/self-expression	0.30	4.33***		
Positive emotions	0.34	11.92***	0.06	17.38**
Individualism	-0.00	-0.97		
Survival/self-expression	0.03	2.56*		
Negative emotions	-0.12	-4.11***	0.07	20.28***
Individualism	-0.00	-2.11*		
Survival/self-expression	-0.03	-1.84		

^a The χ^2 value is calculated as the difference between $-2\log$ likelihood (deviance) of a model including and a model excluding the random term; associated *p* values were calculated on the basis of a mixture χ^2 sampling distribution (Molenberghs & Verbeke, 2004).

p* < .05. *p* < .01. ****p* < .001.

experiences are related to judgment of life satisfaction. This seems to indicate that the emphasis placed on positive and negative emotional experiences in life satisfaction judgment differs considerably across nations, depending on dominant cultural values. The fact that emotional experience seems to differentially impact life satisfaction across nations indicates that being satisfied with one's life may not mean the same from one nation to another. In other words, the maximization of pleasure and minimization of displeasure are not equally important in all nations but vary along with cultural values and characteristics.

First, although most people experience positive emotions more frequently than negative emotions (Watson, 2000), our results confirmed our hypothesis that people in individualist countries seem to have a heightened sensitivity to negative emotions (*negativity bias*; see reviews by Cacioppo & Berntson, 1994; Taylor, 1991) when it comes to making life satisfaction judgments. This suggests that individualist cultural values emphasize the minimization of displeasure and negative feelings for attaining satisfaction with life more as compared with collectivist cultural values. Moreover, these results provides a rigorous replication of Suh et al.'s (1998) finding that members of individualist nations place more importance on negative emotions in making life satisfaction judgments as compared with people in collectivist nations.

In line with the arguments put forward by Elliot and colleagues (2001), intolerance for negative emotional experiences may be rooted in the emphasis on feeling good, doing well, and standing out personally that characterizes an ideal member of individualist society. Negative experiences do not correspond to this ideal and may thus exert a larger impact on how satisfied one is with one's life for people from individualist nations as compared with those from collectivist nations. People from individualist nations may therefore try harder to ban personal negative experiences from their lives because their main concern is with retaining their independent, active, happy, and outgoing selves. In contrast, in collectivist nations, negative emotions seem to be less strongly related to life satisfaction judgments. In such countries, well-being may require not only personal feelings of happiness but also those

of self-criticism, suffering, and failure, or may require experiencing negative emotions in order to attain more highly valued ideals such as interpersonal harmony. Negative events may therefore not always be seen as totally bad or damaging as in individualist nations—as long as these events are perceived to evoke communion or positive experience such as sympathy or compassion from others (Kitayama & Markus, 2000). As a result, negative experiences may have less impact on life satisfaction in collectivist nations than in individualist ones. Our findings suggest that in collectivist nations, the minimization of negative affect is a less important basis for life satisfaction than it is in individualist nations.

When interpreting these results, it is important to keep in mind that our findings do not imply that negative emotions are more strongly related to life satisfaction than positive emotions in individualist nations. Positive emotions show a stronger overall relation with life satisfaction than do negative emotions, and this also holds true in individualist nations. However, negative emotions are more strongly related to life satisfaction in individualist nations than in collectivist ones.

Second, we hypothesized that Inglehart's cultural variable survival/self-expression would moderate the role of particularly positive emotions. Our results confirmed this hypothesis by demonstrating that in nations that emphasize self-expression values, positive emotional experiences are more strongly related to life satisfaction than in nations in which members are focused on daily survival. The results thus suggest that positive emotions affect satisfaction with life to a larger extent in societies in which people's basic physiological and safety needs are fulfilled and self-expression is stimulated. It seems that in societies in which survival values are the top priority—resources are scarce, people are facing existential threats, and their survival is uncertain—life satisfaction is derived less from the experience of positive emotions. The "good life" in those societies might depend more on other, perhaps more external factors, such as satisfaction with one's finances, for instance, which has indeed been found to be an important predictor of overall life satisfaction in nations with lower socioeconomic development (see Oishi et al., 1999). In contrast, when economic prosperity is achieved and survival is taken for granted, people can allow themselves to focus more on personal self-expression and self-actualization (Ryan & Deci, 2001), allowing them to benefit more from personal and especially positive experiences.

Our results demonstrate that the two cultural value dimensions, individualism and survival/self-expression, that have been found to be related in previous research (Hofstede, 2001; Inglehart & Oyserman, 2004) and that also showed a considerable correlation in our data had different moderating effects on the relation between emotions and life satisfaction judgments, depending on whether the emotions were positive or negative. In other words, our findings point to the discriminant validity of the two cultural dimensions. It seems that although both constructs may emphasize autonomous human choice (Inglehart & Welzel, 2005), they also tap different themes of cross-cultural variation in that they clearly seem to differentially emphasize positive and negative emotional experiences. Our finding thus provides additional evidence of their discriminant validity and complements previous arguments that the survival/self-expression value dimension may be more universalistic or egalitarian in its nature than individualism (see Hofstede, 2001; Schwartz, 2004; Wilson, 2005, for correlations between different value dimensions).

Limitations and Conclusions

A limitation of the present study may be the use of retrospective reports of the frequency of experienced emotions instead of online assessments. These ratings could be affected by memory biases. Yet, it is reasonable to assume that people consider the perceived amount of positive and negative emotions when judging life satisfaction instead of their actual experiences. Furthermore, our discussion of the results has tacitly followed a feelings-as-information perspective (e.g., Schwarz & Clore, 2007) that assumes that people's judgments are informed by their affective experiences. There are indeed good reasons to think that life satisfaction is informed by emotional experiences. For instance, experimental evidence has shown that positive and negative experiences influence satisfaction judgments (e.g., Schwarz & Clore, 1983). Furthermore, Schimmack, Radhakrishnan, et al. (2002) have shown that the influence of personality on life satisfaction is mediated by the judged frequency of positive and negative emotional experiences, which suggests a direction of influence going from emotions to life satisfaction judgments. Yet, given the correlational nature of our research, our results do not allow conclusions to be drawn about how emotional experiences and life satisfaction judgments are causally related.

The next possible limitation of the present study pertains to language and translation equivalence. Indeed, it is not straightforward to assume that the translation of, for instance, emotion words always yields equivalent meaning across languages (Mesquita & Frijda, 1992). Yet, it is unlikely that with the large number of nations (and languages) involved in the present study, our findings could be attributed to translation irregularities. If anything, translation inequivalence would have added random error to the data, something that should have acted against finding meaningful results across such a large sample of nations. Along similar lines, our results are limited to the scales used. Although the Satisfaction With Life Scale may contain relatively generic items (in terms of areas of investment), it can not be taken for granted that all items are equally appropriate for tapping this concept in different nations. For instance, an item such as "If I could live my life over, I would change almost nothing" may convey a particular (e.g., Western) perspective on life satisfaction and consequently may be less relevant to measure this concept in different nations. Likewise, the fact that the scale only includes positively formulated items may raise similar concerns and may skew it to a stronger relation with positive emotions. Despite these limitations, however, the scale has been widely and successfully used in previous cross-cultural research. A clear benefit of using this scale therefore is that it permits clear comparability with previous findings and therefore helps to extend prior work on the correlates of life satisfaction around the globe.

To summarize, how the experience of positive and negative emotions relates to the good life depends on the values that characterize one's society. Nations differ in how much they emphasize the minimization of displeasure to promote satisfaction with life—which was more the case in individualistic than in collectivistic nations—and nations differ in how much they emphasize the importance of pleasant experiences—which was more the case in nations that stress self-expression than in nations that focus on survival. The fact that positive and negative emotional experiences are differently related to life satisfaction in different nations suggests that the maximization of pleasure and minimiza-

tion of displeasure are not equally important across nations for determining the good life or, in other words, that the hedonistic ideal does not apply equally everywhere.

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