
Cross-Cultural Variations in Predictors of Life Satisfaction: Perspectives From Needs and Values

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The authors tested for cross-cultural difference in predictors of life satisfaction. In Study 1 (39 nations, N = 54,446), they found that financial satisfaction was more strongly associated with life satisfaction in poorer nations, whereas home life satisfaction was more strongly related to life satisfaction in wealthy nations. In Study 2 (39 nations, N = 6,782), the authors found that satisfaction with esteem needs (e.g., the self and freedom) predicted global life satisfaction more strongly among people in individualist nations than people in collectivist nations. The present investigation provides support for the needs and values-as-moderators model of subjective well-being at the cultural level. The need for theories that account for culture-specific as well as universal predictors of life satisfaction will be discussed.

What predicts people's life satisfaction? To answer this question, subjective well-being (SWB) researchers have investigated various demographic and personality variables, ranging from income, education, and marital status to self-esteem, optimism, extraversion, and neuroticism (see Myers & Diener, 1995, for a review). Prior research has shown that personality variables such as self-esteem, optimism, and frequent positive emotional experiences predict one's level of life satisfaction (e.g., Diener, 1996; Diener, Suh, Lucas, & Smith, 1999; Lucas, Diener, & Suh, 1996). The initial evidence for the importance of personal domains, however, mostly came from studies in the United States and other Western nations. It is possible that the centrality of internal attributes found in previous studies is unique to individualist cultures. Recent cross-cultural research has provided preliminary evidence for such culture-specific correlates of SWB. For example, Kwan, Bond, and Singelis (1997) found that relationship harmony was a more important predictor of

life satisfaction in Hong Kong than in the United States. Similarly, Suh, Diener, Oishi, and Triandis (1998) found that norms for life satisfaction (e.g., How satisfied should the ideal person be with his or her life?) were more strongly associated with the level of life satisfaction in collectivist nations than in individualist nations. It appears, therefore, that standards for life satisfaction judgments vary across cultures and that such cross-cultural variations are systematically related to salient cultural values. The purpose of the present study is to identify sources of systematic cross-cultural differences in correlates of SWB from the perspectives of the need-gratification (Maslow, 1970; Veenhoven, 1991) and the value-as-a-moderator models (Oishi, Diener, Suh, & Lucas, 1999).

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The Need-Gratification Models of SWB

Maslow (1970) proposed a need-gratification theory of well-being, stating that the “degree of basic need gratification is positively correlated with degree of psychological health” (p. 67). In his hierarchical organization of basic needs, physiological needs (e.g., food, thirst) are most basic, followed by safety needs (e.g., security, protection), love needs (e.g., affection, belongingness), esteem needs (e.g., self-respect, freedom), and idiosyncratic self-actualization needs at the top of the hierarchy. Maslow postulates that higher needs become salient as lower needs are gratified. Higher need gratification is also assumed to produce more profound happiness than is lower need gratification (Maslow, 1970, p. 99).

Although this theory is usually tested at the individual level, Maslow (1970) suggests that higher needs depend on outside conditions such as “familial, economic, political, education, etc.” (p. 99) to make them possible. Because people in poorer nations often suffer from a lack of financial security and adequate housing, physiological and safety needs are more salient in these nations than in wealthy nations. Similarly, because people’s physiological and safety needs are more often met in wealthy nations, love and esteem needs are more likely to be salient concerns for people in wealthy nations than in poor nations. Taken together, Maslow’s need-gratification theory predicts that (a) people in wealthier nations tend to be more satisfied with their lives and (b) people in wealthier nations tend to base their life satis-

faction judgments on the level of gratification of higher needs. People in poorer nations should tend to base their life satisfaction judgments on the level of gratification of more basic needs.

Veenhoven (1991) tested these hypotheses based on Maslow’s (1970) theory with data gathered in 22 nations between 1975 and 1985 (e.g., the World Value Survey I and the biannual Eurobarometer surveys; see Veenhoven, 1992, for details). Consistent with the first hypothesis, Veenhoven (1991) found that the mean life satisfaction of the nation was significantly positively correlated with the gross national product (GNP) per capita of the nation ($r = .84$). In addition, Veenhoven tested the second hypothesis, examining the correlation between individuals’ income and life satisfaction within nations. He found that the correlation between individual’s income and life satisfaction was higher in poorer nations than in rich nations ($r = -.35$). Presumably, income is related to safety needs. Thus, Veenhoven’s finding is consistent with the second hypothesis based on Maslow’s theory: When making life satisfaction judgments, people in poorer nations weigh their income more heavily than do people in wealthier nations.

Diener and Diener (1995) also examined the second hypothesis based on Maslow’s (1970) theory among college students from 31 nations. Consistent with Veenhoven (1991), Diener and Diener (1995) found that the size of within-nation correlation between financial satisfaction and life satisfaction was negatively correlated with the income per person of the nation ($r_s = -.36$ for women, $-.32$ for men). That is, people in poorer nations based their life satisfaction judgments more heavily on financial satisfaction than did people in wealthier nations.

In sum, Maslow’s (1970) need-gratification theory accounts for variation in predictors of life satisfaction across nations that differ in affluence. This theory does not, however, provide any variation in predictors of life satisfaction among equally wealthy nations. According to Maslow’s theory, esteem needs are equally salient in nations A and B so long as these nations provide living conditions that satisfy physiological and safety needs to the same extent.

The Value-as-a-Moderator Model of SWB

In the present investigation, we seek to extend Maslow’s (1970) need-gratification theory by applying the value-as-a-moderator model of SWB (Oishi et al., 1999) to the cultural level. The fundamental postulate of this model is that when making life satisfaction judgments, individuals weigh value-congruent domain satisfactions more heavily than value-incongruent domain satisfactions. Oishi et al. (in press) tested this model through intra-individual (i.e., a daily diary study) and

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inter-individual level analyses of life satisfaction judgments. For example, satisfaction with grades was a strong predictor of life satisfaction among individuals who valued achievement, whereas satisfaction with friends was a major predictor among individuals who valued benevolence. This study suggests that even among individuals whose physiological and safety needs are approximately equally gratified, there are considerable individual differences in the salience of esteem and love needs.

In addition, recent research suggests notable cross-cultural differences in the importance of esteem needs, even among nations that are equally wealthy (Schwartz, 1994; Triandis, 1995). The value-as-a-moderator model of SWB postulates that predictors of life satisfaction vary across cultures, depending on salient cultural values. There is some evidence in support of this model at the cultural level. For instance, Diener and Diener (1995) found that the strength of association between satisfaction with the self and life satisfaction was significantly stronger in individualist nations than in collectivist nations ($r = .53$). In brief, the value-as-a-moderator model adds a culture-specific dimension to Maslow's universalistic need model of well-being.

Overview

We conducted two studies to investigate cross-cultural differences in correlates of SWB. In Study 1, we assessed job satisfaction, financial satisfaction, and home satisfaction in 39 nations. Job satisfaction and financial satisfaction represent safety needs, whereas home life satisfaction represents love needs. Based on Maslow's (1970) theory, we predict that financial and job satisfaction will be stronger predictors of life satisfaction in poorer nations than in wealthier nations. Conversely, we predict that home life satisfaction will be a stronger predictor of life satisfaction in wealthier nations than in poorer nations. In Study 2, we extend the list of satisfaction domains to the self and freedom. This will allow us to examine the value-as-a-moderator model as well as Maslow's need-gratification model of SWB. Based on the value-as-a-moderator model, we predict that the gratification of esteem needs, such as self-respect and freedom, will be more strongly associated with the level of life satisfaction in individualist cultures, in which self-esteem and autonomy are valued, than in collectivist cultures, in which self-criticism and interdependency are valued (see Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997; Markus & Kitayama, 1991; Schwartz, 1994; Triandis, 1989, 1996, for cross-cultural differences in values, goals, and self-concept).

Our studies extend earlier research (e.g., Diener & Diener, 1995; Kwan et al., 1997; Suh et al., 1998; Veenhoven, 1991) in several important ways. First, prior studies used a simple correlational analysis of within-nation cor-

relation coefficients. Researchers computed correlation coefficients within each nation and then computed correlations between the size of the correlation and national characteristics (e.g., the GNP or the level of individualism). This procedure neglects differential reliability of within-nation correlation coefficients. For instance, in Diener and Diener (1995), the number of participants in each nation ranged from 29 to 985. The correlation coefficient computed in Cameroon (29 subjects) will be necessarily less reliable than the correlation coefficient computed in Canada (985 participants). Yet, these coefficients were treated as if they were equally reliable. Thus, the obtained correlation at the culture level was likely to be biased in prior research.

To address the issue of differential reliability, we use hierarchical linear modeling (HLM) (Bryk & Raudenbush, 1992) to test multilevel interactions. The HLM analysis yields a better estimate of multilevel interactions, such as the interaction between the GNP of the nation and financial satisfaction in predicting life satisfaction (see Results for details). Thus, differential reliability across nations should not be a problem in the present studies.

Second, our studies also improve on previous research by including two large samples (one adult and one college student sample) from many nations. Finally, previous cross-cultural findings (e.g., Diener & Diener, 1995; Suh et al., 1998; Veenhoven, 1991) were explained either in terms of affluence or the level of individualism-collectivism. Yet, no study tested the unique contribution of each of these highly correlated factors. In the present article, we test the effect of individualism-collectivism on cross-national variations in predictors of life satisfaction, controlling for the effect of wealth (and vice versa).

STUDY 1

Study 1 is based on data collected by the World Values Study Group (1994). The data consist of responses from 54,446 participants from 39 nations, varying considerably in standard of living. The diversity in wealth and the level of individualism of the nations provide us with a rare opportunity to test the role of wealth and individualism in the strength of the relation between satisfaction with safety (i.e., finances and job) and love needs (i.e., home life) and global life satisfaction.

Method

Participants. The World Value Survey (WVS) II data were collected between 1990 and 1993 in 43 societies representing almost 70% of the world's population. This study covered a large range of economic, political, geographical, and cultural variation. The sampling universe consisted of all adult citizens age 18 or older. In most

TABLE 1: World Values Survey II: Gross National Product, Mean Financial Satisfaction, Job Satisfaction, Home Life Satisfaction, and Life Satisfaction

<i>Nation</i>	<i>N</i>	<i>GNP</i>	<i>IC</i>	<i>FS</i>	<i>JS</i>	<i>HS</i>	<i>LS</i>
Nigeria	1,001	290	3.00	5.51 (2.75)	7.48 (2.33)	7.50 (2.38)	6.59 (2.62)
India	2,500	330	4.40	6.36 (2.42)	7.03 (2.34)	7.24 (2.17)	6.70 (2.28)
China	1,000	370	2.00	6.12 (2.54)	7.01 (2.42)	7.80 (2.04)	7.29 (2.10)
Romania	1,103	1,340	5.00	5.05 (2.40)	6.56 (2.29)	6.83 (2.23)	5.88 (2.33)
Turkey	1,030	1,820	3.85	5.09 (2.10)	5.72 (2.48)	6.70 (2.30)	6.41 (2.45)
Poland	938	1,830	5.00	5.07 (2.49)	8.25 (2.21)	8.56 (2.01)	6.64 (2.35)
Bulgaria	1,034	1,840	5.00	4.28 (2.25)	6.20 (2.33)	6.22 (2.29)	5.03 (2.29)
Chile	1,500	2,160	4.15	5.91 (2.49)	7.63 (2.29)	8.32 (2.09)	7.55 (2.21)
Czech-Slovak	1,396	2,450	7.00	5.02 (2.54)	6.78 (2.27)	7.31 (2.30)	6.30 (2.15)
S. Africa	2,736	2,530	5.75	5.46 (3.02)	7.45 (2.48)	7.42 (2.71)	6.72 (2.71)
Hungary	999	2,710	4.00	5.19 (2.56)	7.22 (2.36)	7.74 (2.42)	6.03 (2.45)
Argentina	1,002	2,780	4.80	5.31 (2.48)	7.63 (2.17)	7.91 (2.12)	7.25 (2.03)
Mexico	1,531	2,870	4.00	6.15 (2.47)	7.66 (2.11)	7.58 (2.14)	7.41 (2.16)
Brazil	1,780	2,920	3.90	5.51 (2.76)	7.52 (2.40)	8.25 (2.14)	7.37 (2.40)
Belarus	1,015	3,110	4.00	5.02 (2.42)	6.10 (2.37)	6.48 (2.66)	5.52 (2.24)
Russia	1,961	3,220	6.00	4.98 (2.56)	6.28 (2.49)	6.71 (2.64)	5.37 (2.40)
Latvia	903	3,410	4.00	4.21 (2.60)	6.45 (2.49)	5.89 (2.48)	5.70 (2.44)
Estonia	1,008	3,830	4.00	5.01 (2.57)	6.66 (2.36)	6.13 (2.22)	6.00 (2.13)
Portugal	1,185	5,620	3.85	5.94 (2.49)	7.42 (2.26)	8.07 (2.04)	7.07 (2.10)
Ireland	1,000	10,780	6.00	6.75 (2.37)	7.81 (2.00)	8.54 (1.72)	7.88 (1.92)
Spain	4,147	12,460	5.55	6.23 (2.01)	6.99 (2.10)	7.63 (1.83)	7.15 (1.90)
Britain	1,484	16,750	8.95	6.45 (2.59)	7.42 (2.06)	8.22 (1.86)	7.49 (1.93)
Netherlands	1,017	18,560	8.50	7.50 (2.00)	7.48 (1.67)	8.17 (1.47)	7.77 (1.58)
Italy	2,010	18,580	6.80	7.00 (2.17)	7.29 (2.08)	7.83 (1.97)	7.30 (2.06)
Belgium	2,792	19,300	7.25	7.21 (2.12)	7.79 (1.82)	8.07 (1.81)	7.60 (1.89)
France	1,002	20,600	7.05	5.94 (2.16)	6.78 (1.97)	7.44 (2.01)	6.78 (1.98)
Canada	1,730	21,260	8.50	7.13 (2.28)	7.88 (1.77)	8.41 (1.70)	7.89 (1.73)
United States	1,839	22,560	9.55	6.86 (2.41)	7.85 (1.88)	8.41 (1.81)	7.73 (1.83)
Iceland	702	22,580	7.00	6.29 (2.43)	7.86 (1.74)	8.26 (1.63)	8.02 (1.60)
West Germany	2,101	23,650	7.35	6.74 (2.20)	7.14 (1.78)	7.45 (1.93)	7.22 (1.92)
Denmark	1,030	23,660	7.70	7.22 (2.48)	8.24 (1.66)	8.69 (1.64)	8.16 (1.89)
Norway	1,239	24,160	6.95	6.67 (2.35)	7.88 (1.76)	7.97 (1.71)	7.68 (1.77)
Finland	588	24,400	7.15	6.60 (2.29)	7.56 (2.03)	8.00 (1.98)	7.68 (1.88)
Sweden	1,047	25,490	7.55	6.98 (2.39)	8.08 (1.79)	8.46 (1.68)	7.96 (1.74)
Japan	1,001	26,920	4.30	6.03 (2.09)	7.66 (2.31)	6.94 (1.80)	6.53 (1.75)
Switzerland	1,400	33,510	7.90	8.21 (2.05)	8.40 (1.88)	8.60 (1.78)	8.36 (1.75)
East Germany	1,336	—	6.00	5.94 (2.28)	6.75 (2.11)	7.43 (1.96)	6.72 (1.97)
North Ireland	340	—	5.00	6.67 (2.38)	7.85 (1.89)	8.71 (1.50)	7.88 (1.81)
Slovenia	1,035	—	5.00	4.67 (2.42)	7.21 (2.15)	7.37 (2.15)	6.29 (2.21)

NOTE: The numbers in parentheses represent standard deviation. Gross national product (GNP) per capita was based on data in 1991 in U.S. dollars. IC = individualism-collectivism. FS = mean financial satisfaction (10-point scale). JS = mean job satisfaction (10-point-scale). HS = mean home life satisfaction (10-point-scale). LS = 10-point global life satisfaction item.

nations, selection was made by quota sampling; quotas were assigned based on sex, age, occupation, and region, using the census data as a guide to the distribution of each group in the population. This sampling method ensured that the obtained samples included all socioeconomic groups and properly represented the composites of the population in respective nations with minimum error margins. In Eastern Europe, surveys were carried out by the respective national academies of sciences or university-based institutes. Surveys in other countries were carried out by professional survey organizations, most of whom were members of the Gallup chain (see World Values Study Group, 1994, for details). The

analyses in Study 1 were based on the responses from 54,446 participants from 39 nations (see Table 1). The data from Lithuania ($n = 1,000$) and South Korea ($n = 1,250$) were excluded because the participants were not presented the financial satisfaction item. The data from Austria ($n = 1460$) were excluded prior to the analysis because of irregularity in coding of certain responses. The data from Moscow ($n = 1012$), which were included in addition to the data from Russia in the original data set, were not used in the following analyses because Moscow is a city, not a nation. The median sample size was 1,027 per nation. The mean age of the respondents was 41.9, with a standard deviation of 16.5.

Measures and ratings. Global life satisfaction was measured by a single item: "All things considered, how satisfied are you with your life as a whole these days?" The respondents answered the question using a 10-point scale ranging from 1 (*dissatisfied*) to 10 (*satisfied*). Financial satisfaction was measured by asking "How satisfied are you with the financial situation of your household?" The respondents answered it by using the same 10-point scale used in the global life satisfaction item. Using the same format, satisfaction with job and satisfaction with home life also were asked. GNP per capita for each nation was taken from the *World Atlas* (World Bank, 1992). To be consistent with the period of data collection, we used the GNP per capita in 1991. We obtained the individualism-collectivism ratings for each nation, when possible, by averaging the ratings of two leading experts in the field: Geert Hofstede (1980) and Harry Triandis (personal communication, February 1996). Triandis rated the degree of individualism-collectivism of the 39 nations on a scale ranging from 1 (*most collectivist*) to 10 (*most individualist*). Hofstede's individualism-collectivism scores were converted to a 10-point scale compatible with Triandis's ratings. The correlation between the GNP per capita and the individualism-collectivism rating was .75 in this sample.

Results and Discussion

We tested our hypotheses using the HLM/2L program (Bryk, Raudenbush, & Congdon, 1994). The two-level analysis of the HLM is conceptually equivalent to multiple regression analyses at two levels. In the present study, at Level 1, life satisfaction was predicted from domain satisfaction for each nation. At Level 2, the within-nation regression slopes that indicate the degree of association between domain satisfaction and life satisfaction were predicted from cultural level variables such as the GNP and the level of individualism. The aggregated correlation approach used in prior studies (Diener & Diener, 1995; Suh et al., 1998; Veenhoven, 1991) neglects the Level 1 error in estimating Level 2 coefficients, which leads to aggregation bias and measurement error. HLM analysis takes into account errors at both levels and thereby provides more precise estimates of the multilevel interactions.

First, reliability estimates of the Level 1 regression coefficients were computed for each nation and then averaged over all nations. The reliability of the Level 1 regression coefficient is in principle the proportion of sample variance to the total variance (i.e., sample variance + error variance). The precision of estimation of regression coefficients depends both on the sample size and on the variability of the predictor variables (see Bryk & Raudenbush, 1992, for details). The reliability estimates in the present study were .98 for the intercept

TABLE 2: Hierarchical Linear Modeling Analysis in Study 1

<i>Fixed Effects</i>	<i>Coefficients</i>	<i>SE</i>	<i>T ratio</i>
Slope for financial satisfaction			
Intercept	0.35	0.01	25.47***
Gross national product (GNP)	-0.00	0.00	-2.51*
Individualism	0.00	0.00	0.28
Slope for job satisfaction			
Intercept	0.35	0.01	27.61***
GNP	-0.00	0.00	-1.08
Individualism	-0.00	0.00	-0.88
Slope for home life satisfaction			
Intercept	0.50	0.01	37.29***
GNP	0.00	0.00	2.32*
Individualism	-0.00	0.00	-1.43

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

(here, life satisfaction), .88 for the Level 1 regression coefficient of financial satisfaction, .84 for job satisfaction, and .84 for home life satisfaction.

Hypothesis testing. Table 2 shows the intercepts and slopes for the Level 2 analyses. Intercepts that are significantly greater than zero indicate that the relation between domain satisfaction and life satisfaction was, on average, positive. Fixed effects of the GNP and individualism-collectivism indicate the degree to which cross-cultural differences in the size of Level 1 slopes were accounted for by the GNP and the level of individualism. The intercept for financial satisfaction shows that, on average, financial satisfaction was positively associated with life satisfaction. Consistent with our hypothesis, the slope of financial satisfaction was significantly larger in poorer nations, as indicated by significantly negative Level 2 regression coefficients. The slope of financial satisfaction was not, however, related to the level of individualism. The second panel of Table 2 shows that job satisfaction was, on average, positively associated with life satisfaction across nations. The slope of job satisfaction was not, however, related to the GNP or the level of individualism. That is, inconsistent with our hypothesis, job satisfaction was not significantly more strongly associated with life satisfaction in poorer nations. Finally, the bottom panel of Table 2 indicates that home life satisfaction was, on average, positively associated with life satisfaction across nations. Consistent with Maslow's hypothesis, the slope of home life satisfaction in predicting life satisfaction was significantly stronger in wealthier nations. The level of individualism was not related to the size of slope of home life satisfaction.

In sum, the present analyses supported two of the three hypotheses based on Maslow's (1970) need-gratification model of well-being. In poor nations, financial satisfaction plays an important role in determining overall life satisfaction, presumably because safety needs such as security and stability are not as well satisfied as in

wealthy nations. On the other hand, in wealthy nations, home life satisfaction appears to play a more central role in overall life satisfaction. This could be because in these societies physiological and safety needs are mostly met and love and belongingness needs are more salient concerns. Finally, job satisfaction could serve different meanings across cultures. In poor nations, aspects of job related to safety needs such as pay and benefit may be more important criteria for job satisfaction. In wealthy nations, on the other hand, aspects of job related to self-actualization (e.g., how much one can express one's ability and talent through the job) could be more important criteria for job satisfaction. It appears that job serves different needs across cultures. That is, job satisfaction was an equally strong predictor of life satisfaction across cultures, perhaps due to the multiple functions of jobs.

Limitations of Study 1. Study 1 extended previous studies (e.g., Diener & Diener, 1995; Kwan et al., 1997; Veenhoven, 1991) in terms of data analytic strategy. Samples in this study also were nationally representative and included various age, occupational, and socioeconomic groups. Furthermore, we included a much larger and more diverse set of countries than in previous research. These factors make the present findings more generalizable than previous studies. Because of the primary focus of the WVS II on values and attitudes, however, the number of domains compatible with our research purpose was limited to financial satisfaction, job satisfaction, and home life satisfaction. Accordingly, we could not examine the relation between satisfaction with esteem needs and global life satisfaction across nations in Study 1.

STUDY 2

We conducted Study 2 to address the limitations of Study 1. Instead of using the single item scales used in Study 1, we used the 5-item Satisfaction With Life Scale (SWLS). In addition, we extended Study 1 by including satisfaction items relevant to esteem needs such as the "self" and "freedom" as well as satisfaction items relevant to physiological and safety needs such as "finances," "food," and "housing." Maslow (1970) defined esteem needs as needs or desires for self-esteem, independence, and freedom (see p. 45 for full descriptions of the esteem needs). Recent cross-cultural studies (e.g., Kitayama et al., 1997) indicate that the independent aspect of the self is salient in individualist cultures, whereas the inter-dependent aspect of the self is salient in collectivist cultures. Therefore, questions about the self might prime different aspects of the self across cultures. When asked how satisfied they are with the self, however, the question is similar to one of the Rosenberg (1965) Self-Esteem Scale items that assesses the independent aspect of the self: "On the whole, I am satisfied with myself."

That is, in this context, the question seems to focus on the independent aspect of the self. Given the salience of the independent self in individualist nations, the value-as-a-moderator model of SWB predicts that satisfaction with esteem needs will be more strongly associated with global life satisfaction in individualist nations than in collectivist nations.

Method

Participants. The participants were 6,782 college students from 39 countries (2,625 males, 4,118 females, and 39 unspecified). Although college students are not representative of each nation's population, by using college students, we were able to obtain many samples from diverse cultures. One advantage of using college students is that age and socioeconomic status (SES) are somewhat controlled because most participants are approximately the same age and are from similar socioeconomic backgrounds. The 39 nations and their respective sample sizes are shown in Table 3. These nations represent a diverse selection: 2 nations from North America, 4 from South America, 14 from Asia, 13 from Europe, and 5 from Africa. Of the participants, 84% were between the ages of 18 and 25, and 10% of the participants were between 26 and 35 years old. Due to missing items, the number of participants differed slightly across analyses.

Measures and Ratings

Global life satisfaction. Global life satisfaction, or cognitive assessment of life as a whole, was measured by the SWLS (Diener, Emmons, Larsen, & Griffin, 1985). The SWLS consists of five statements, to which respondents are asked to indicate their degree of agreement using a 7-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The total SWLS score ranges from 7 to 35. The SWLS has adequate psychometric properties (see Pavot & Diener, 1993) and has demonstrated validity among Korean (Suh, 1994), mainland Chinese (Shao, 1993), and Russian samples (Balatsky & Diener, 1993).

Domain satisfactions. We chose three domains representing safety needs (food, housing, and finances) and two domains representing esteem needs (the self and your freedom). The participants answered how satisfied they were with each of the five domains of their lives using a 7-point scale ranging from 1 (*extremely dissatisfied*) to 4 (*neutral*) to 7 (*extremely satisfied*).

Income. The participants were asked to indicate their family's annual income in U.S. dollars using a 10-point scale: 1 (0-400), 2 (401-1,000), 3 (1,001-2,000), 4 (2,001-4,000), 5 (4,001-6,000), 6 (6,001-8,000), 7 (8,000-10,000), 8 (10,001-25,000), 9 (25,001-50,000), and 10 (50,001 and greater).

TABLE 3: Predicting the SWLS From Satisfaction With Finances, Foods, Housing, the Self, and Freedom in Study 2: Unstandardized Simple Regression Coefficients Within-Nation

Nation	N	Income	IC	Simple Regression Coefficients Within-Nation				
				FS	Housing	Foods	Self	Freedom
Low income								
Lithuania	101	2.99	4.00	1.62	1.72	.90	1.38	1.62
China	558	3.65	2.00	1.01	.73	.85	.81	.60
Estonia	119	3.85	4.00	.97	1.59	.74*	1.58	.77*
Ghana	118	4.20	3.00	1.68	1.61	1.21	.99**	1.68
Indonesia	90	4.22	2.20	1.81	1.46	.98*	1.99	.82**
Nepal	99	4.30	3.00	.83	.67*	.47**	1.05	.76
Nigeria	244	4.33	3.00	1.81	1.26	1.67	2.17	.94
Turkey	100	4.60	3.85	1.03	.80	.90	1.33	.20**
India	93	4.76	4.00	1.44	1.29	1.63	1.42	1.55
Egypt	120	4.78	4.40	2.95	2.89	3.45	3.19	2.94
Tanzania	96	4.95	3.00	1.44	.94*	-.03**	-.87**	-.54**
Zimbabwe	109	5.12	3.00	2.19	1.44	.95*	.95**	.79*
Hungary	74	5.30	6.00	1.66	1.14	.78**	2.38	1.14
Medium income								
Singapore	131	5.42	3.50	2.15	1.45	1.50	2.44	.81*
Brazil	112	5.66	3.90	1.40	1.00	.01**	1.51	1.06
Bahrain	124	5.85	3.00	1.37	1.15	.62**	.87	1.06
Pakistan	155	5.86	2.20	.87	1.25	1.15	1.70	1.07
Denmark	91	6.12	7.70	.79	1.10*	.81**	1.99	1.78
Peru	129	6.15	2.80	1.65	1.32	.95	2.29	.65*
Hong Kong	142	6.30	4.75	1.82	.75*	1.82	2.39	1.60
Guam	186	6.33	5.00	1.87	1.70	.93	1.63	1.20
South Africa	373	6.41	5.75	1.91	1.23	1.68	2.34	1.49
Slovenia	50	6.90	5.00	2.26	1.45	1.89	2.90	2.63
Colombia	100	6.95	2.15	1.17	1.60	1.48	2.81	1.06
Germany	108	7.22	7.35	1.38	.62**	.46**	2.64	1.38
Austria	164	7.26	6.75	1.50	1.20	1.14	1.89	.96*
High income								
Spain	327	7.33	5.55	1.24	1.03	1.25	2.20	1.04
Portugal	139	7.37	3.85	1.45	1.65	1.66	1.98	1.90
Greece	129	7.44	5.25	.58**	1.35	.41**	2.04	.76**
Korea	277	7.66	2.40	2.13	1.63	.72	2.39	1.35
Taiwan	533	7.66	3.85	1.27	2.13	2.28	2.47	1.03
Argentina	90	7.76	4.80	.05**	.76*	.35**	1.28	-.27**
Puerto Rico	87	7.92	7.00	2.53	2.21	1.21	3.08	2.52
Italy	289	8.04	6.80	1.23	1.31	.61*	2.58	1.23
Finland	91	8.33	7.15	1.74	1.68	1.55	2.72	3.30
Australia	292	8.52	9.00	1.86	2.08	1.71	2.81	2.14
Japan	200	8.62	4.30	1.86	1.40	.43**	2.63	1.80
United States	443	9.15	9.55	1.47	1.32	.69	3.02	1.31
Norway	99	9.18	6.95	2.01	.99*	2.45	3.09	3.15

NOTE: SWLS = Satisfaction With Life Scale. IC = individualism-collectivism. FS = mean financial satisfaction (10-point scale). IC rating denotes the individualism-collectivism ratings given by Triandis (personal communication, February 1996) and Hofstede (1980). *denotes nonsignificance at $\alpha = .01$. **denotes nonsignificance at $\alpha = .05$.

Individualism-collectivism ratings. We assessed the level of individualism in the same manner as Study 1.

Procedure. The original questionnaire was constructed by Ed Diener in English. This questionnaire was then translated into Spanish, Japanese, Korean, and Chinese by bilingual individuals. Bilingual individuals other than those who engaged in the initial translation next translated the non-English versions of the questionnaire back to English. Ratings made of the back translations

indicated that they showed an excellent fit to the original English version (Shao, 1997). In other nations, local collaborators translated the English version to the local language. The data were collected in university classrooms by local collaborators.

Results and Discussion

Satisfaction with the physiological and safety needs. Table 3 indicates the number of participants, the mean family

income, individualism-collectivism ratings, and unstandardized simple regression coefficients predicting the SWLS from each domain satisfaction.

We first examined Maslow's hypothesis. We tested whether the strength of the relation between satisfaction with safety needs and life satisfaction would be stronger in poorer nations. As in Study 1, we performed a two-level analysis of HLM using the HLM/2L program (Bryk et al., 1994). At Level 1 (i.e., within-nation level), this procedure is equivalent to predicting the SWLS from satisfaction with finances, foods, and housing. At Level 2 (i.e., national level), HLM tests whether there were significant differences in regression slopes across nations. If differences exist, HLM detects whether levels of the mean family income or individualism-collectivism can account for the cross-national differences. The correlation between the individualism-collectivism ratings and the mean family income in the 39 nations was .64 ($p < .01$).

First, the reliability estimates in Study 2 were .94 for the intercept (here, the SWLS), .69 for the regression coefficient of satisfaction with foods, .58 for the regression coefficient of satisfaction with finances, and .53 for the regression coefficient of satisfaction with housing.

We summarize the results of the HLM analysis in Table 4. Unlike in Study 1, the slope of financial satisfaction did not vary across nations, either in terms of the mean family income or the levels of individualism. Similarly, the slope of satisfaction with food did not vary across nations. Likewise, the slope of satisfaction with housing did not differ across nations, either in terms of the mean family income or the level of individualism. In brief, Maslow's hypothesis was not supported in Study 2. In other words, satisfaction with safety needs was a significant predictor of life satisfaction even in very wealthy nations (also see regression coefficients in Table 3). Samples in Study 2, however, consist solely of college students. Even in poor nations, college students are likely to have enough food and adequate housing. Therefore, it is plausible that cross-cultural differences in the gratification of safety needs in college samples were not as vast as in Study 1, which in turn suppressed cross-cultural differences in the importance of satisfaction with safety needs.

Satisfaction with esteem needs. Next, we tested cross-national variability in the link between satisfaction with esteem needs and life satisfaction, again using the HLM/2L program (Bryk et al., 1994). The reliability estimates were .74 for satisfaction with the self and .64 for satisfaction with freedom. Replicating Diener and Diener (1995), the strength of association between satisfaction with the self and life satisfaction was significantly stronger in individualist nations. However, the size of this association also was significantly related to the mean

TABLE 4: Hierarchical Linear Model Analysis: Predicting Variations in the Slopes From Individualism-Collectivism Ratings and the Mean Family Income

<i>Fixed Effects</i>	<i>Coefficients</i>	<i>SE</i>	<i>T ratio</i>
Model for finance: SWLS slopes			
Separate entry			
Individualism	0.03	.04	0.81
Mean family income	0.05	.05	0.13
Simultaneous entry			
Individualism	0.04	.06	0.74
Mean family income	-0.01	.07	-0.21
Model for housing: SWLS slopes			
Separate entry			
Individualism	0.03	.04	0.79
Mean family income	0.05	.04	1.21
Simultaneous entry			
Individualism	-0.01	.05	-0.17
Mean family income	0.07	.06	1.19
Model for food: SWLS slopes			
Separate entry			
Individualism	0.03	.06	0.49
Mean family income	-0.03	.06	-0.50
Simultaneous entry			
Individualism	0.02	.08	0.27
Mean family income	0.01	.09	0.16
Model for self: SWLS slopes			
Separate entry			
Individualism	0.16	.05	2.92**
Mean family income	0.29	.06	4.84**
Simultaneous entry			
Individualism	0.11	.07	1.65*
Mean family income	0.20	.08	2.67**
Model for freedom: SWLS slopes			
Separate entry			
Individualism	0.09	.05	1.76*
Mean family income	0.13	.06	2.24**
Simultaneous entry			
Individualism	0.11	.07	1.54
Mean family income	0.06	.08	0.74

NOTE: SWLS = Satisfaction With Life Scale.

* $p < .05$. ** $p < .01$. A one-tailed test was used because the direction was predicted.

family income. That is, the association between satisfaction with the self and life satisfaction was significantly stronger in wealthier nations. It should be further noted that levels of individualism significantly predicted the strength of the association, controlling for the mean family income of the nation (see the simultaneous entry in Table 4). Similarly, the mean family income significantly predicted the scale of the association between satisfaction with the self and life satisfaction, controlling for the levels of individualism. Thus, extending Diener and Diener (1995), the size of the association between satisfaction with the self and life satisfaction varies across nations, depending on both individualism-collectivism and affluence. The more individualist the nation is, the stronger the association. Also, the wealthier the nation,

the stronger the association between satisfaction with the self and life satisfaction.

With regard to satisfaction with freedom, the strength of association between satisfaction with freedom and life satisfaction was significantly stronger in individualist nations than in collectivist nations (see the separate entry in Table 4). Likewise, the association was stronger in wealthier nations than in less wealthy nations. Controlling for the levels of individualism, however, the mean family income did not predict the cross-national variation in the strength of the association between satisfaction with freedom and life satisfaction (see the simultaneous entry in Table 4). On the other hand, controlling for the mean family income, individualism marginally significantly predicted variations in the slope of satisfaction with freedom.

In sum, consistent with Maslow's (1970) hypothesis, satisfaction with esteem needs was a stronger predictor of life satisfaction in wealthy nations than in poor nations. Furthermore, controlling for the level of the mean family income, the size of the association between satisfaction with individualistic domains and life satisfaction was consistently larger in individualist nations than in collectivist nations. Although esteem needs are more salient concerns in wealthier nations, self-esteem and satisfaction with one's freedom play a more central role in determining the level of life satisfaction in individualist societies than in collectivist societies.

GENERAL DISCUSSION

In the present research, we examined sources of systematic cross-cultural differences in correlates of SWB. Based on Maslow's (1970) need-gratification theory and the value-as-a-moderator model of SWB (Oishi et al., 1999), we tested the roles of culture and economy in predictors of life satisfaction. Consistent with Maslow's theory, satisfaction with safety needs tended to be more strongly associated with global life satisfaction in poorer nations, whereas satisfaction with higher needs, such as love and esteem needs, tended to be stronger predictors of life satisfaction in wealthy nations. Furthermore, consistent with the value-as-a-moderator model, when making life satisfaction judgments, people in individualist nations tended to weigh satisfaction with esteem needs more heavily than did people in collectivist nations. Together, the present findings indicate that predictors of life satisfaction differ across cultures, depending on salient needs and values.

Toward a Comprehensive Theory of SWB

Maslow's (1970) need-gratification theory of well-being suggests that predictors of life satisfaction shift from lower needs to higher needs as lower needs are

gratified. Maslow's theory was formulated to explain ontological shifts in an individual's life. We applied his theory to phenomena at the cultural level. The present findings suggest that there is a universal process such that when individuals' lower needs are not met, satisfaction with these domains is a primary predictor of life satisfaction. When individuals' lower needs are met, on the other hand, their life satisfaction is better predicted from satisfaction with higher needs such as love and esteem needs. It is important to note, however, that we found that the importance of esteem needs was stronger in individualist cultures than in collectivist cultures. Thus, although there seem to be universal shifts in predictors of life satisfaction as needs are gratified, once lower needs are met, there is more cross-cultural variation in the degree to which the higher needs relate to overall life satisfaction. Maslow's need-gratification theory does not account for cross-cultural differences in correlates of SWB among equally wealthy nations.

This has an important implication for existing theories of SWB in general. For example, Deci and Ryan's (1985; Ryan, Sheldon, Kasser, & Deci, 1996) self-determination theory of SWB is based on Maslow's (1970) universal need-gratification theory. These researchers assume that progress toward so-called intrinsic goals such as self-acceptance, competence, and community involvement is the only path to happiness. Recent studies in the United States provide support for the self-determination theory of SWB (e.g., Sheldon & Kasser, 1999; Sheldon, Ryan, & Reis, 1996). Cross-cultural variation in the importance of satisfaction with the self and freedom found in this study, however, raises a question as to the universality of such a claim. Does attainment of these intrinsic goals also lead to a sense of happiness in collectivist cultures as much as in individualist cultures? Cross-cultural researchers have long recognized that the types of goals that people pursue differ across cultures (e.g., Markus & Kitayama, 1991; Schwartz, 1994; Triandis, 1995, 1996). In interdependent cultures, the goals that individuals pursue are often shared by in-group members. In these cultures, achieving one's goals also means meeting parental and familial expectations (e.g., Radhakrishnan & Chan, 1997). According to the self-determination theory, however, this form of motivation is considered extrinsic. Thus, the progress toward this type of goals should not lead to a sense of well-being.

Whereas the self-determination theory of SWB (Deci & Ryan, 1985; Ryan et al., 1996) posits universally desirable goals, other goal researchers recognize the importance of individual differences in the types of goals that individuals pursue. In a series of longitudinal studies, Brunstein (1993; Brunstein, Schultheiss, & Grassmann, 1998)

found that the degree of progress in domains that are consistent with individuals' goals and needs predicted changes in emotional well-being over time. For individuals with high need for power, for instance, the degree of progress toward power-related goals was indicative of changes in emotional well-being, whereas for individuals with high need for affiliation, the degree of progress toward affiliation-related goals was associated with changes in well-being. Likewise, Diener and Fujita (1995) found that the degree of association between resources and life satisfaction was moderated by individuals' goals. That is, resources (e.g., intelligence, athletic ability) were related to the level of life satisfaction only when they were relevant to goals. Similarly, Oishi et al. (1999) found that satisfaction with value-congruent domains was more strongly associated with global life satisfaction than was satisfaction with value-incongruent domains. In sum, these studies highlight individual differences in desired needs and values and suggest that the way in which individuals gain a sense of satisfaction differs across individuals as a function of salient needs and values. Although the value-as-a-moderator model of SWB (Oishi et al., in press) was not tested at the cultural level before, the present findings indicate that the process involving SWB is captured better with the theories that take into account both individual and cross-cultural differences in desired goals, needs, and values.

Previous cross-cultural studies found important cross-cultural differences in self-concept (e.g., Campbell et al., 1996), self-enhancement (e.g., Heine & Lehman, 1995, 1997; Kitayama et al., 1997), and SWB (Diener & Diener, 1995; Suh et al., 1998). However, sources of systematic differences were not rigorously examined in prior research. The present findings suggest that Maslow's (1970) need-gratification theory provides systematic predictions and explanations for cross-national differences in correlates of SWB in terms of living conditions and material wealth. Furthermore, the value-as-a-moderator model extends Maslow's theory and provides predictions and explanations for cross-cultural differences in terms of goals and values.

Limitations, Alternative Explanations, and Future Directions

Before closing, some limitations of the present studies should be mentioned. First, we used only self-report questionnaires. The differential levels of association between financial satisfaction and global life satisfaction could be due to cross-cultural differences in social desirability. That is, it is possible that in poorer nations, placing more importance on financial satisfaction is more accepted than in wealthy nations and that the difference in social desirability may have generated the cross-

cultural differences in the degree of association between financial satisfaction and life satisfaction. To address this issue, it is necessary to employ a multimethod approach that includes peer reports.

Second, one might argue that the cross-cultural difference obtained in the present studies could be due to different variability in domain satisfaction across cultures. For instance, if financial satisfaction is more homogeneous in wealthier nations (i.e., restricted range), the association between financial satisfaction and life satisfaction should be smaller in wealthier nations than in poorer nations. As shown in Table 1, however, standard deviations were similar across cultures. Furthermore, given that we employed the HLM analysis, which takes into account differential reliability estimates of Level 1 regression coefficients, this explanation is unlikely to account for the obtained cross-cultural differences. Similarly, one may argue that cross-cultural variations in correlates of life satisfaction may be due to ceiling or floor effects. As shown in Table 1, however, the mean domain satisfactions ranged mostly from 5 to 8 in 10-point scales. Coupled with the small standard deviations (which mostly ranged from 1.50 to 2.00), at least 68% of the observations ($-1 SD$ to $+1 SD$) in each sample fell well within this range of the scale. Thus, the restriction-of-range effects due to the floor or ceiling effects are unlikely to have caused serious artifacts in our analyses.

Finally, the present studies as well as most previous cross-cultural studies of SWB are cross-sectional rather than longitudinal. To detect the influence of the economy and levels of individualism-collectivism in predictors of life satisfaction, it also will be important to document within-nation changes over time. Many countries have recently experienced rapid economic growth and Westernization. Researchers should investigate the possible effects of societal changes in the predictors of life satisfaction in the future.

CONCLUSION

The present studies indicate that people are satisfied with their lives to the extent that their needs and values are satisfied. As predicted by Maslow (1970), there is a shift in predictors of life satisfaction from satisfaction with safety needs to satisfaction with love and esteem needs as the lower needs are gratified. More important, however, we found that the degree to which satisfaction with esteem needs predicts global life satisfaction varies across cultures, depending on salient cultural values. The present findings suggest that universalist theories of SWB (Maslow, 1970; Ryan et al., 1996) need to be supplemented with the theories that account for cross-cultural differences in values. In conclusion, the fundamental

question in SWB research (i.e., "What predicts people's life satisfaction?") can be answered by combining the perspectives of need-gratification theory (Maslow, 1970) and the value-as-a-moderator model of SWB (Oishi et al., 1999).

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