

## MEASURING HAPPINESS WITH A SINGLE-ITEM SCALE

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AHMED M. ABDEL-KHALEK  
*Kuwait University, Kuwait*

In this study we examined the accuracy of measuring happiness by a single item (Do you feel happy in general?) answered on an 11-point scale (0-10). Its temporal stability was 0.86. The correlations between the single item and both the Oxford Happiness Inventory (OHI; Argyle, Martin, & Lu, 1995; Hills & Argyle, 1998) and the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985; Pavot & Diener, 1993) were highly significant and positive, denoting good concurrent validity. Moreover, the single item had a good convergent validity because it was highly and positively correlated with optimism, hope, self-esteem, positive affect, extraversion, and self-ratings of both physical and mental health. Furthermore, the divergent validity of the single item has been adequately demonstrated through its significant and negative correlations with anxiety, pessimism, negative affect, and insomnia. It was concluded that measuring happiness by a single item is reliable, valid, and viable in community surveys as well as in cross-cultural comparisons.

*Keywords:* happiness, assessment, single-item scale, reliability, validity.

In the last quarter of a century there has been a surge of interest in, and a plethora of studies on, positive psychology. Foremost among these are studies on happiness, well-being, satisfaction, hope, and optimism (Myers & Diener, 1995). The general objective in the current investigation was to explore the accuracy of a single-item scale to assess happiness.

One may ask: What is happiness? Veenhoven (1995) defined *happiness* or *life satisfaction* as the degree to which one judges the quality of one's life favorably

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Ahmed M. Abdel-Khalek, Department of Psychology, Kuwait University, Kuwait.

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Please address correspondence and reprint requests to: Ahmed Abdel-Khalek, Department of Psychology, College of Social Sciences, University of Kuwait, PO Box 68168 Kaifan 71962, Kuwait. Email: [ahmedkuniv@hotmail.com](mailto:ahmedkuniv@hotmail.com)

(p. 34). Based on Veenhoven's view (1994), the two constructs of happiness and life satisfaction, have been used synonymously in the present investigation. However, Cummins (1998) maintained that "while happiness and satisfaction may indeed form part of a subjective well-being construct, it is heuristically useful to measure and analyze them separately" (p. 308).

In the last 25 years, the research activity on happiness has been prolific. On the basis of the World Database of Happiness (Veenhoven, 2002), 3,300 studies are available up to March 2003. In this field the assessment issue is a central one. The measuring devices for happiness contain at least two kinds of tools.

First, there are multiple-item scales, questionnaires, and inventories of happiness. The following tools are mere examples: the Oxford Happiness Inventory (OHI; Argyle, Martin, & Lu, 1995; Hills & Argyle, 1998), the Depression-Happiness Scale (Lewis, McCollam, & Joseph, 2001; McGreal & Joseph, 1993), and the Memorial University of Newfoundland Scale of Happiness (Kozma & Stones, 1980). These scales, and others, contain multiple items, most frequently from 10 to 30 items.

Secondly, a plethora of happiness researchers have used single-item self-rating scales (see e.g., Abdel-Khalek, 2004a), with different options, mainly the Likert scale which offers 5- or 7-choice points. However, the number of choice points can vary from 2 to 100. Cummins and Gullone (2000) detailed the history – and examined thoroughly the psychometric properties – of the 5-point Likert scales for measuring subjective quality of life. They criticized the Likert format mainly because it is not sufficiently sensitive, and naming its categories detracts from the interval nature of the derived data. The authors gave justifications for the use of 10-point, end-defined scales.

Multiple-item scales often involve items that tap qualities slightly different from happiness in the strict sense of the overall enjoyment of one's life as a whole. One of the reasons to prefer single items is that people can easily see whether they fit this concept or not. Such face validity testing is hardly possible with multiple-item scales (Veenhoven, 2002, section 3.3).

Recently, there has emerged an extensive body of empirical work dealing with validating short psychological tests and scales by reducing them to a single item (Abdel-Khalek, 1998b, 2001). In personality and psychopathology assessment, a number of psychometrically oriented papers have been published investigating the length of the scale. Merrens and Richards (1973) concluded that the short form of personality inventory yielded more favorable evaluations. Burisch (1984, 1997) maintained that short scales were as valid on the average as long scales, and lengthening a scale beyond some point could actually weaken its validity.

A host of studies in this field were aimed at measuring happiness in the general population. The single item is more economical for large-scale community surveys, and for research projects in which the participant time is very

limited. Cummins (1995) maintained that “if researchers are interested only in an overall life satisfaction score, there seems little benefit in asking respondents multiple questions; it seems that a single question can yield reliable and valid data” (p. 196).

There have been several previous studies aimed at assessing happiness using a single-item scale. However, to the best of our knowledge, Arabic studies are lacking. So, it was desirable to replicate this pattern in another (Arab) cultural context.

The aim in the present research was to examine the temporal reliability, and concurrent, convergent, and divergent validity of a self-rating single-item which set out to measure happiness in the Arab context.

## METHOD

### PARTICIPANTS

The present report incorporates four studies. Each study used different sample(s) as follows:

- (a) To estimate the descriptive statistics and the concurrent validity of the single item, a sample of 1,412 individuals was recruited. This sample consisted of three subsamples made up of both males and females: (I) secondary school students, (II) university undergraduates, and (III) government employees (see Table 1 for their numbers and ages).
- (b) To estimate the test-retest reliability of the single-item self-rating scale of happiness, a sample of 71 university undergraduates was used (20 males, and 51 females). Their ages ranged between 18 and 23.
- (c) The third study aimed at testing the convergent validity of the single item against other scales. It used 190 (95 males and 95 females) undergraduates. Their ages ranged from 19 to 26.
- (d) To estimate the divergent validity of the single item, 319 (127 males and 192 females) undergraduates were recruited. Their ages ranged between 18 and 24.

### QUESTIONNAIRES AND RATING SCALES

***The Self-Rating of Happiness*** A single self-rating scale was used to assess happiness on the basis of the following question: “Do you feel happy in general?”. Following this question a series of numbers from 0 to 10 was written horizontally on one line with equal intervals. The research participants were instructed: (a) to imagine their global estimation and general feelings (not their present states), (b) taking note that 0 is the minimum, and that 10 is the maximum score, and (c) to circle a number which best seems to describe their feelings.

The single-item self-rating scale of happiness was used along with three groups of assessment instruments as follows:

To estimate the concurrent validity of the single item, two scales were used:

- (1) The Oxford Happiness Inventory (OHI; Argyle et al., 1995; Hills & Argyle, 1998). It consists of 29 items,
- (2) The Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985; Pavot & Diener, 1993). It consists of 5 items to be answered according to a 7-point Likert scale.

To estimate the convergent validity of the single item, seven scales and rating scales were used as follows:

- (1) The optimism subscale of the Arabic Scale of Optimism and Pessimism (Abdel-Khalek, 1996, 1998a). It contains 15 statements that are answered on a 5-point Likert scale.
- (2) The Hope Scale (Snyder et al., 1991). It contains four items tapping pathways, 4 items tapping agency, as well as a total score. Each item is answered on a 4-point Likert scale. The total score was used in the current study.
- (3) The Self-Esteem Scale (Rosenberg, 1965). The scale consists of 10 items requiring the respondent to report directly feelings about the self. The 5-point Likert-style response format was used in the present study.
- (4) The Positive Affect Scale. This consists of five items of the Affect Balance Scale by Bradburn (1969). He described his scale as reflecting happiness or general psychological well-being (McDowell & Newell, 1996, p. 191). Each item was answered on a 3-point Likert scale.
- (5) The Extraversion subscale of the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975) in its Arabic form (Abdel-Khalek & Eysenck, 1983) which consists of 20 Yes/No questions.
- (6) The Self-Rating of Physical Health.
- (7) The Self-Rating of Mental Health.

The method of constructing the last-mentioned two rating scales is typical of those used in the development of the single item to assess happiness previously explained.

To estimate the divergent validity of the single-item for assessing happiness, the following six scales and variables were used:

- (1) The Kuwait University Anxiety Scale (KUAS; Abdel-Khalek, 2000). This consists of 20 brief items answered on a 4-point Likert-type scale.
- (2) The Pessimism subscale of the Arabic Scale of Optimism and Pessimism (Abdel-Khalek, 1996, 1998a). It contains 15 statements that are answered on a 5-point Likert-type scale.
- (3) The Negative Affect is a subscale of the Affect Balance Scale by Bradburn (1969). It was designed to indicate negative psychological reactions to daily life events.

- (4) The Insomnia Scale (Abdel-Khalek, 2004b). Twelve items are answered on a 5-point scale. This scale is composed of two factors, that is, difficulty in initiating and maintaining sleep, and consequences of insomnia.
- (5) Using hypnotics.
- (6) Alcohol consumption.

The last-mentioned two variables were assessed based on direct questions answered on a 3-point scale, *no*, *some*, and *yes*.

It is important to note that the Arabic versions of the aforementioned scales and variables were used. Their reliabilities ranged from acceptable to good (see Tables 3 and 4 below).

### PROCEDURE

As mentioned above, the present report comprises four separate studies. Regardless of the test-retest study, in the other three studies the single-item self-rating scale of happiness was administered along with these scales and variables. Administration of the scales was carried out in group sessions in all the studies except with the government employees in the second study, for which there were individual sessions. Responses to the scales were made anonymously. All participants volunteered for the study after its purpose had been briefly explained and assurances made that anonymity would be maintained.

## RESULTS

Table 1 contains the descriptive statistics of the single-item self-rating of happiness. The salient result in this table is the sex-related differences between all the three groups, in which males had significantly higher mean scores than did their female counterparts.

**TABLE 1**  
DESCRIPTIVE STATISTICS OF THE SINGLE-ITEM (0-10) SELF-RATING OF HAPPINESS IN SIX KUWAITI GROUPS

Sample	Gender	<i>n</i>	Age		Self-rating of happiness		
			<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i>
Secondary School Students	M	240	16.13	1.30	6.83	2.44	3.74**
	F	232	16.20	1.18	5.89	2.92	
University Undergraduates	M	250	20.61	2.07	7.36	2.09	4.83**
	F	253	19.89	1.78	6.40	2.40	
Government Employees	M	227	36.97	9.20	7.00	2.01	3.03*
	F	210	32.92	6.93	6.34	2.47	

Note: \*  $p < .01$ , two-tailed \*\*  $p < .001$ , two-tailed

The one week test-retest reliability of the single-item self-rating scale of happiness was 0.86 ( $N = 71$ ), denoting high temporal stability. As shown in Table 2, the Pearson correlation coefficients between the single item to assess happiness and both the OHI and Satisfaction with Life Scale among the six samples ranged from 0.56 to 0.70 with a median of 0.63, and ranged between 0.45 and 0.63, with a median of 0.58, respectively. All the correlations were highly significant and positive.

**TABLE 2**  
**CONCURRENT VALIDITY OF THE SINGLE-ITEM SELF-RATING SCALE OF HAPPINESS**  
**IN SIX GROUPS ( $N = 1,412$ )**

Sample	Gender	<i>N</i>	Correlations*	
			OHI	SWLS
Secondary School Students	M	240	.56	.45
	F	232	.60	.63
University Undergraduates	M	250	.69	.55
	F	253	.63	.62
Government Employees	M	227	.64	.55
	F	210	.70	.61
<i>Mdn</i>			.63	.58

*Note:* OHI = Oxford Happiness Inventory. SWLS = Satisfaction with Life Scale.

\*  $p < .001$ , two-tailed.

Table 3 contains the Pearson correlations between the single item to assess happiness and the positive traits, that is, optimism, hope, self-esteem, positive affect, extraversion, and self-ratings of both physical and mental health. All the correlations were highly significant and positive. Based on the combined group of males and females, these correlations ranged between 0.34 and 0.70. The highest correlations of the single item to assess happiness were with the self-rating of mental health and optimism, respectively, whereas the lowest correlations were with the positive affect and extraversion, respectively. However, all correlations were significant, denoting convergent validity of the single item.

The Pearson correlations between the single item to assess happiness and negative traits (anxiety, pessimism, negative affect, and insomnia), and negative habits (using hypnotics and alcohol consumption) are set out in Table 4. All the correlations are negative, and all of them are significant except for the variable “using hypnotics” in females. On the basis of the combined group of males and females, the significant correlations ranged from -0.13/-0.50. The highest correlations of the single item to assess happiness occurred with anxiety, negative affect, and pessimism, respectively, whereas the lowest correlations occurred with using hypnotics, and alcohol consumption, respectively. All of these correlations,

however, were significant in the combined male and female group, denoting the divergent validity of the single item to assess happiness.

**TABLE 3**  
ALPHA RELIABILITIES, AND CONVERGENT VALIDITY OF THE SINGLE-ITEM SELF-RATING SCALE OF HAPPINESS AMONG MALE ( $N=95$ ) AND FEMALE ( $N=95$ ) UNDERGRADUATES

Scales	$r_{11}^{\dagger}$	Correlations*		
		Males	Females	All
Optimism	.94	.61	.41	.52
Hope	.68	.40	.42	.41
Self-esteem	.78	.45	.44	.44
Positive affect	.55	.37	.32	.34
Extraversion	.78	.35	.43	.38
Self-rating of physical health	.77	.44	.43	.43
Self-rating of mental health	.77	.73	.67	.70

Note: \*  $p < .001$ , two-tailed.

$\dagger$  Note: All the reliabilities are Cronbach's alphas except the self-rating of physical health and mental health (1-week retest).

**TABLE 4**  
ALPHA RELIABILITIES, AND DIVERGENT VALIDITY OF THE SINGLE-ITEM SELF-RATING SCALE OF HAPPINESS AMONG MALE ( $N=127$ ) AND FEMALE ( $N=192$ ) UNDERGRADUATES

Scales	$r_{11}^{\dagger}$	Correlations*		
		Males	Females	All
Anxiety	.92	-.44**	-.54**	-.50**
Pessimism	.93	-.34**	-.51**	-.45**
Negative affect	.70	-.52**	-.47**	-.49**
Insomnia	.86	-.41**	-.39**	-.40**
Using hypnotics	.81	-.28**	-.01	-.13*
Alcohol consumption	.66	-.19*	-.16*	-.15**

Note: \*  $p < .05$ , two-tailed; \*\*  $p < .001$ , two-tailed.

$\dagger$  All the reliabilities are Cronbach's alphas except using hypnotics and alcohol consumption (1-week retest).

## DISCUSSION

The series of investigations have succeeded in fulfilling the objectives of the study. In sum, the self-rating scale of happiness based on a single item has good temporal stability and concurrent, convergent, and divergent validity.

It is particularly noteworthy that the significant sex-related differences in the single item for the assessment of happiness (see Table 1) were compatible with

the results reached by the OHI as it was administered to the same six samples ( $N = 1,412$ ) (Abdel-Khalek et al., 2003). This result may be considered as indirect evidence of validity.

As for the reliability of the single item (i.e., 0.86), it can be considered as denoting high temporal stability. Nunnally (1978) and Kline (1998) have suggested that reliabilities approaching 0.70 or higher are acceptable for research. This test-retest reliability is high and corroborates the trait-like nature of the score. The median of the correlations between the single item and the OHI was 0.63, and with the Satisfaction with Life Scale it was 0.58 denoting concurrent validity of the single item. It is particularly noteworthy that these results were based on three groups ( $N = 1,412$ ), different in age (from  $M = 16$  to  $M = 37$  approximately), occupation (secondary school students, undergraduates, and government employees), and gender (males and females), in addition to the large size of each sample ( $N = 200+$ ). In all these aspects, the present results were promising.

Furthermore, the significant and positive correlations between the single item to assess happiness and what were called the *positive traits* may be considered as good evidence of convergent validity. These positive traits include optimism, hope, self-esteem, positive affect, extraversion, and self-rating of physical and mental health.

By the same token, the results of the present investigation (see Table 4) confirmed the divergent validity of the single item. It was significantly and negatively correlated with questionnaires assessing anxiety, pessimism, negative affect, and insomnia. Notwithstanding that the single item had negative correlations with “using hypnotics” and “alcohol consumption”, these were the lowest correlations, perhaps because of the very low frequency of the use of hypnotics and alcohol found in this sample of young undergraduates from Kuwait, a country which prohibits alcohol use and where religion plays such an important role.

The results related to convergent and divergent validation of the single-item self-rating scale of happiness are congruent with previous findings (see e.g., Brebner, 1998; Brebner, Donaldson, Kirby, & Ward, 1995; Cammock, Joseph, & Lewis, 1994; Diener, Sandvik, Pavot, & Fujita, 1992; Francis, Brown, Lester, & Philipchalk, 1998; Furnham & Cheng, 1997, 1999; Ramanaiah, Detwiler, & Byraven, 1997).

It is important to compare the findings gained in the current study with results obtained from earlier studies in which multiple-item scales were used. Argyle et al. (1995) reported the correlations of the OHI with different scales. They reported the following correlations: 0.54 with a Current Mood Scale for Happy, 0.32 with the Bradburn Positive Affect Scale, 0.45 with the percentage of time



happy, 0.57 with the Life Satisfaction Index, 0.60 with a Positive Life Events Questionnaire, -0.52 with the Beck Depression Inventory, -0.32 with the Bradburn Negative Affect Scale, from -0.39 to -0.47 with Neuroticism, from 0.43 to 0.55 with Extraversion. In sum, the aforementioned results approximate those of the present findings.

On the basis of the present findings, it appears that the single-item self-rating scale of happiness is viable in large-scale research projects and community surveys as well as in cross-cultural comparisons.

Despite these promising results, the use of the single item in the field of happiness studies must be viewed within the limitations inherent in its nature. The most obvious limitation is that it is impossible either to examine its internal consistency or to apply factorial analysis procedures to its scores per se.

## REFERENCES

- Abdel-Khalek, A. M. (1996). *Manual for the Arabic Scale of Optimism and Pessimism* [In Arabic]. Alexandria, Egypt: Dar Al-Ma'rifa Al-Jamiyah.
- Abdel-Khalek, A. M. (1998a). Optimism and physical health: A factorial study [In Arabic]. *Journal of the Social Sciences*, Kuwait University, **26**, 45-62.
- Abdel-Khalek, A. M. (1998b). Single-versus multi-item scales in measuring death anxiety. *Death Studies*, **22**, 763-772.
- Abdel-Khalek, A. M. (2000). The Kuwait University Anxiety Scale: Psychometric properties. *Psychological Reports*, **87**, 478-492.
- Abdel-Khalek, A. M. (2001). A short version of the Beck Depression Inventory without omission of clinical indicators. *European Journal of Psychological Assessment*, **17**, 233-240.
- Abdel-Khalek, A. M. (2004a). Happiness among Kuwaiti college students. *Journal of Happiness Studies*, **5**, 93-97.
- Abdel-Khalek, A. M. (2004b). Prevalence of reported insomnia and its consequences in a survey of 5,044 adolescents in Kuwait. *Sleep*, **27**, 726-731.
- Abdel-Khalek, A. M., Al-Shatty, T. S., Al-Theeb, S. A., Abbas, S. H., Yousef, S. Y., Al-Thweiny, N. M., et al. (2003). Happiness in Kuwaiti samples [In Arabic]. *Derajat Nafsiyah [Psychological Studies]*, **13**, 581-612.
- Abdel-Khalek, A. M., & Eysenck, S. B. G. (1983). A cross-cultural study of personality: Egypt and England. *Research in Behavior and Personality*, **3**, 215-226.
- Argyle, M., Martin, M., & Lu, L. (1995). Testing for stress and happiness: The role of social and cognitive factors. In C. D. Spielberger & I. G. Sarason (Eds.), *Stress and emotion* (Vol. 15, pp. 173-187). Washington, DC: Taylor & Francis.
- Bradburn, N. M. (1969). *The structure of psychological well-being*. Chicago: Aldine.
- Brebner, J. (1998). Happiness and personality. *Personality and Individual Differences*, **25**, 279-296.
- Brebner, J., Donaldson, J., Kirby, N., & Ward, L. (1995). Relationships between happiness and personality. *Personality and Individual Differences*, **19**, 251-258.
- Burisch, M. (1984). You don't always get what you pay for: Measuring depression with short and simple versus long and sophisticated scales. *Journal of Research in Personality*, **18**, 81-98.
- Burisch, M. (1997). Test length and validity revisited. *European Journal of Personality*, **11**, 303-315.

- Cammock, T., Joseph, S., & Lewis, C. A. (1994). Personality correlates of scores on the Depression-Happiness Scale. *Psychological Reports*, **75**, 1649-1650.
- Cummins, R. A. (1995). On the trail of the gold standard for subjective well-being. *Social Indicators Research*, **35**, 179-200.
- Cummins, R. A. (1998). The second approximation to an international standard for life satisfaction. *Social Indicators Research*, **43**, 307-334.
- Cummins, R. A., & Gullone, E. (2000). Why we should not use 5-point Likert scales: The case for subjective quality of life measurements. *Proceedings, Second International Conference on Quality of Life in Cities* (pp. 74-93) - Singapore: National University of Singapore.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, **49**, 71-75.
- Diener, E., Sandvik, E., Pavot, W., & Fujita, F. (1992). Extraversion and subjective well-being in a US national probability sample. *Journal of Research in Personality*, **26**, 205-215.
- Eysenck, H. J., & Eysenck, S. B. G. (1975). *Manual for the Eysenck Personality Questionnaire*. London: Hodder & Stoughton.
- Francis, L. J., Brown, L. B., Lester, D., & Philipchalk, R. (1998). Happiness as stable extraversion: A cross-cultural examination of the reliability and validity of the Oxford Happiness Inventory among students in the UK, USA, Australia, and Canada. *Personality and Individual Differences*, **24**, 167-171.
- Furnham, A., & Cheng, H. (1997). Personality and happiness. *Psychological Reports*, **80**, 761-762.
- Furnham, A., & Cheng, H. (1999). Personality as predictor of mental health and happiness in the East and West. *Personality and Individual Differences*, **27**, 395-403.
- Hills, P., & Argyle, M. (1998). Positive moods derived from leisure and their relation to happiness and personality. *Personality and Individual Differences*, **25**, 523-535.
- Kline, P. (1998). *The new psychometrics: Science, psychology, and psychometrics*. London: Routledge.
- Kozma, A., & Stones, M. J. (1980). The measurement of happiness: Development of the Memorial University of Newfoundland Scale of Happiness (MUNS). *Journal of Gerontology*, **35**, 906-912.
- Lewis, C. A., McCollam, P., & Joseph, S. (2001). Convergent validity of the Depression-Happiness Scale with the Memorial University of Newfoundland Scale of Happiness. *Psychological Reports*, **88**, 471-472.
- McDowell, I., & Newell, C. (1996). *Measuring health: A guide to rating scales and questionnaires* (2nd ed.). New York: Oxford University Press.
- McGreal, R., & Joseph, S. (1993). The Depression-Happiness Scale. *Psychological Reports*, **73**, 1279-1282.
- Merrens, M. R., & Richards, W. S. (1973). Length of personality inventory and the evaluation of a generalized personality interpretation. *Journal of Personality Assessment*, **37**, 83-85.
- Myers, D. G., & Diener, E. (1995). Who is happy? *Psychological Science*, **6**, 10-19.
- Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Pavot, W., & Diener, E. (1993). Review of the Satisfaction with Life Scale. *Psychological Assessment*, **5**, 164-172.
- Ramanaiah, N. V., Detwiler, F. R. J., & Byraven, A. (1997). Life satisfaction and the five-factor model of personality. *Psychological Reports*, **80**, 1208-1210.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., et al. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, **60**, 570-585.

- SPSS, Inc. (1990). *Statistical data analysis*. Chicago, IL: Author.
- Veenhoven, R. (1994). Is happiness a trait? *Social Indicators Research*, **32**, 101-160.
- Veenhoven, R. (1995). The cross-national pattern of happiness: Test of predictions implied in three theories of happiness. *Social Indicators Research*, **34**, 33-68.
- Veenhoven, R. (2002). World Database of Happiness, Correlational Findings, subject code H. 5.2.1.1. Last revision 1-4-2002, Erasmus University Rotterdam, Faculty of Social Sciences, The Netherlands. Retrieved from <http://www.eur.nl/fsw/research/happiness.html>

