

GEOGRAPHY OF HAPPINESS

Components of happiness in 133 nations

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ABSTRACT

When appraising satisfaction with life-as-a-whole, we draw on two sources of information: 1) how well we feel most of the time and 2) to what extent life brings what we want of it. These sub-appraisals are referred to as 'components' of happiness; respectively *hedonic level of affect*, the affective component, and *contentment* the cognitive component. These components do not necessarily go together, one may feel fine but be discontented, or feel bad affectively, while being contented cognitively.

In this paper we explore how these appraisals of life combine in nations, drawing on data from the Gallup World Poll. The affective component is measured using an affect balance scale based on responses about yesterday's affective experiences. The cognitive component is measured using responses to a question about how close one's present life is to the ideal life one can imagine. Data is available for 133 nations for the years 2006 to 2009.

Scores on both components of happiness tend to go together: $r = +.48$, but the correlation is far from perfect and depends very much on the geographical area. Convergence and divergence of the two components are explored by dividing the scores into three categories; low, medium and high. This yields nine possible combinations, which all appear to exist, with the exception of the combination of low affect and high contentment. Of the eight existing combinations, 3 are congruous: low-low, middle-middle and high-high. Most of the nations fit in these congruent categories. Discordant combinations of low affect and medium contentment are found in Eastern Europe, while the reverse is observed in Southern Europe. Discordant combinations of higher affect than contentment appear in Latin America and Africa. Explanations for the discordant combinations are explored.

Keywords: Subjective well-being, happiness, cross-cultural, hedonic, contentment

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Introduction

Happiness has long been a subject of philosophical speculation, but in the second half of the 20th century, happiness became the subject of empirical research in the social sciences. Much of this research is focused on happiness in the sense of the subjective enjoyment of one's life-as-a-whole. This overall appraisal of life is seen to draw on two sources of information: 1) how well one feels most of the time and 2) to what extent one's wants are being met. These 'components' of happiness will be discussed in more detail in section 2.

To date (2011) some 3000 empirical studies on happiness have been done. Part of these compare happiness across nations. Landmark studies of this kind are reported by Cantril (1965), Inglehart (1977) and Diener et. al (2010). All this research on happiness in nations is stored in the World Database of Happiness (Veenhoven 2011a). Publications on this subject are listed in the Bibliography of Happiness² (Veenhoven, 2011b). Some 5000 distributional findings on happiness in nations are stored in the collection 'Happiness in Nations' (Veenhoven 2011c) and hundreds of findings on societal co-variants of happiness are in the collection 'Correlational Findings'³ (Veenhoven 2011d).

The main conclusions drawn from this research are: 1) average happiness differs widely across nations, 2) these differences are systematic and link to societal characteristics such as economic affluence and quality of government, 3) most of these differences are part of the modernity syndrome, 4) average happiness has gone up in most countries over the last 40 years, and 5) inequality of happiness within nations is going down (Veenhoven, 2005).

Cross national research on happiness has focussed on overall happiness and using mainly cognitively toned questions on 'life-satisfaction'. This is reflected in the above-mentioned collection 'Happiness in Nations' of the World Database of Happiness. Among the findings on average happiness in nations, only 8 % are based on measures of affect level⁴, and 12% on measures of contentment⁵. Up to now (2011) few studies have compared 'components' of happiness across nations.

² Subject section Dd01.02 of that bibliography contains about 300 titles about the prevalence of happiness in nations and subject section F contains some 500 publications on societal determinants of happiness

³ Subject sections N2 to N7

⁴ Focus code A in the collection Measures of Happiness of the World Database of Happiness (Veenhoven 2011e)

⁵ Focus code C

More data about affect level in nations has recently become available with the start of the Gallup World Poll in 2005, which also provides more information about contentment in nations. In this paper, we capitalize on this new data. We first discuss the difference between 'affective' and 'cognitive' appraisals of life. Next we present the available data on these components of happiness in 133 nations and explore the pattern of correspondence. We start with a closer look at the concept of happiness.

Happiness

The word 'happiness' is used in different meanings and we will first explain what meaning we address in this paper. We will then distinguish two 'components' of happiness and explain how these are measured.

Meanings of the word

In philosophy, the term 'happiness' is often used as an umbrella term to denote the good life in a broad sense. Yet the term is also for specific qualities of life. These latter meanings are charted in Scheme 1.

Scheme 1 about here

The top-left quadrant of scheme 1 represents the presence of good external living conditions; with the least livable conditions found in 'hell' and most livable conditions in 'paradise'. This definition is central in 'objective' conceptions of happiness, that is; notions of conditions in which humans will thrive. This notion is a favourite among policy makers.

The top-right quadrant denotes the inner qualities required for dealing with environmental conditions. This definition is central in the 'capability approach' and in the related notions of 'eudaimonic happiness'. This meaning is a favourite among educators and therapists.

The bottom-left quadrant denotes the effects of one's life on the environment, for instance how supportive one is to one's fellow humans and what one contributes to human culture. This rather intangible definition of happiness is a favourite among moralists.

All three these definitions of the word happiness concern an objective notion, and imply that one can be happy without knowing. In contrast the fourth definition is essentially subjective. The bottom-right quadrant of the scheme denotes quality of life in the eye of the beholder. Happiness in this definition is also called 'life satisfaction' or 'subjective well-being'.

Definition of happiness

In this paper we deal with that fourth definition of the word happiness. Happiness is defined as *the degree to which someone evaluates the overall quality of his or her present life-as-a-whole positively*. In other words, this is about how much one likes the life one lives. This definition is explained in more detail in Veenhoven (1984).

Components of happiness

When appraising how much we like the life we live, we seem to draw on two sources of information: 1) how well we feel generally, and 2) how well our life-as-it is compares to our standards of how-life-should-be. These sub-appraisals are seen as 'components' of happiness, respectively the *affective component* called 'hedonic level of affect' and the *cognitive component* called 'contentment'. This distinction is discussed in more detail in Veenhoven (2009), who also proposes a theory about difference in the determinants of these components. How these two components influence and define overall happiness is illustrated in Schema 2.

Scheme 2 about here

Hedonic level of affect: Like other animals, humans can feel good or bad, but unlike other animals, we can reflect on that experience, assess how well we feel most of the time and communicate this to others. This is the feeling-based part of happiness. Veenhoven assumes that affective experience draws on gratification of innate needs and infers on this basis that the determinants of hedonic happiness are universal (Veenhoven, 2010).

Contentment: Unlike other animals, humans can also appraise their life cognitively and compare their life as it is with how they want it to be. Wants are typically guided by common standards of the good life and in that sense, contentment is likely to be more culturally variable than affect level. This cognitive appraisal of life assumes intellectual capacity and for this reason this concept does not apply to people who lack this capacity, such as young children who cannot yet oversee their life-as-a-whole and thus can have no clear standards in mind.

Measures of happiness' components

Thus defined, happiness is something we have in mind, and such inner notions can only be assessed using questioning. Questions on happiness can be framed in many ways, directly or indirectly, using

single or multiple items. An overview of acceptable questions is available in the collection 'Measures of Happiness' of the World Database of Happiness (Veenhoven 2011e).

Measures of hedonic level of affect: There are several ways to ask people to assess how well they feel generally. One way is to invite to a general estimate, for instance with the question: 'How often have you felt happy during the past 6 weeks?' Questions of this kind are coded A-TH (Affect: Time Happy), in the collection of happiness measures. The same matter has also been addressed in the following series of three questions: 1) "What percentage of the time you were awake today did you feel happy?" 2) "What percentage of the time did you feel unhappy?" 3) "What percentage of the time did you feel neutral, neither happy nor unhappy?" Participants were told that the three percentages should add up to 100%.

A second method used to assess hedonic level is multi-moment assessment and this involves a series of repeated questions such as: "How happy do you feel right now?" Measures of this kind are coded A-ARE, (Affect: Average Repeated Estimate) in the collection 'Measures of Happiness'.

A third approach to assessing hedonic level is to ask first about various specific affects experienced in the recent past, both positive affects such as 'joy' and negative affects such as 'anger'. Next an 'affect balance score' is computed by subtracting reported negative affects from reported positive affects. Measures of this kind are coded A-AB (Affect: Affect Balance) in the collection Measures of Happiness. A common example is the PANAS scale (Watson et al., 1988). A variant of this latter method was used in this study.

Measures of contentment: Contentment can be measured using a global question, such as: "How successful are you in getting what you want from life?" (code C-RW, Contentment: Realize Wants).

A more sophisticated method to assess contentment involves three steps: 1) Respondents are asked to list the things they want from life. 2) They rate how successful they are in reaching each of these things. 3) The investigator computes the respondents average success in meeting their wants, eventually weighed by importance. Measures of this kind are coded C-ASG (Contentment: Average Success in Goals) in the collection 'Measures of Happiness'.

A variant of the above approach does not ask respondents for personal 'wants', but rather refers to notions of the good life. The first step is to ask people what they think of as the 'best possible life' and next what constitutes the 'worst possible life'. After priming the respondents with these open questions, they are presented with a ladder and asked to imagine that the top of the

ladder represents the best possible life that they just had described and that the bottom of the ladder represents their worst concept of the worst possible life. As a last step respondents are asked to rate their present life on the ladder, in some variants of this approach this is done after respondents have been asked to rate their life 5 years ago and how they envisage their life 5 years from now. This method is known as Cantril's (1965) 'ladder of life scale' and is coded C-BW (Contentment: Best Worst) in the collection 'Measures of Happiness'. In this study we used a simplified version of the method that involved only the last step.

Data

The Gallup Organization has been involved in cross-national surveys on happiness since the 1970s (Gallup, 1976). In 2005 Gallup started its 'World Poll', which involves yearly surveys in almost of all the countries of the world. Data are now available for 155 nations out of 200 for the years 2006 to 2009 (Gallup, 2009). In each country, about 1,000 people were interviewed. In the case of 22 countries of the 155⁶, data on at least one of the components is not available, which is the reason why we based our studies on 133 countries.

In some countries, repeated cross-sectional surveys were held in all the study years (2006, 2007, 2008, 2009) and in some countries data was collected only once in this period. When data on more than one year were available for a country, we took the average⁷. One might wonder about the stability over time of the results. The data on contentment and hedonic level of affect does not allow one to assess stability over time, but we know that overall happiness is stable over time within countries⁸; thus, it is very likely that its subcomponents, contentment and hedonic level of affect are stable over time.

The standard questionnaire of The Gallup World Poll contains questions on all three happiness variants: a question on overall life-satisfaction, a question on contentment and a series of questions on affect. The results of the Gallup World Poll are not freely available, but some of them can be accessed temporarily on the Gallup World View website

<https://worldview.gallup.com/>. Among these free data are the average responses in countries to

⁶ Surinam, Western Sahara, Guinea Bissau, Gabon, Lesotho, Swaziland, Somalia, Eritrea, Oman, Bhutan, North Korea, Papua new guinea, New Caledonia, Vanuatu, Fiji, Salomon Islands, Kiribati, Greenland, Hong Kong, Yemen, Guinea, South Georgia and the South Sandwich Islands.

⁷ The years and the size of the samples can be accessed at:
http://www.worlddatabaseofhappiness.eur.nl/hap_nat/desc_qt.php?qt=92

⁸ Trend report for Belgium, Denmark, France, Germany, Greece, Italy, Ireland, Japan, Luxemburg, the Netherlands, Spain, UK, USA are available at:
http://www.worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/TrendReport_AverageHappiness.pdf

the questions about affect and contentment. We kept track of these reports and entered the findings in our data file 'States of Nations' (Veenhoven, 2001).

Questions on hedonic level of affect

The Gallup World Poll contains 14 questions about how the respondent felt yesterday. The first eight are introduced with the following lead question:

"Did you experience the following feelings during a lot of the day yesterday? How about: (a) enjoyment, (b) physical pain, (c) worry, (d) sadness, (e) stress, (f) anger, (g) depression, (h) love.

Respondents were also asked: "Now please think about yesterday, from the morning until the end of the day. Think of where you were, what you were doing and how you felt:" (i) Did you feel well rested yesterday? (j) Did you smile or laugh a lot yesterday? (k) Did you learn or do something interesting yesterday? (l) Would you like to have more days just like yesterday? (m) Were you proud of something you did yesterday? (n) Were you treated with respect all day yesterday?"

Respondents can answer either 'yes' or 'no' to each of these questions. On its World View website Gallup reports the percentage 'yes' responses to each of these questions in the participating countries.

On this basis that we computed the average percentage of positive affects reported in each of the countries: $(a+h+i+j+k+l+m+n)/8$. Likewise, we computed the average percentage of negative affects reported: $(b+c+d+e+f+g)/6$. As a last step, we subtracted the former percentage from the latter. The resulting affect balance score denotes the degree to which positive affects outweigh negative affect. It appears that the sum is positive in all countries, which means the percentage of positive affects reported tends to be greater than the percentage of negative affects. The percentages range from 11 (Ethiopia) to 66 (Iceland). This variable is entered in the data file 'States of Nations'⁹.

The method above is not suited for measuring the hedonic level of affect of individuals, since yesterday's affect does not always correspond with the typical affect of the individual. Yet this method can be used to measure hedonic level in aggregates, such as nations, since individual variations balance out in big samples. No confidence interval is available for hedonic level of affect.

Question on contentment

⁹ HappinessYesterdayABS_2006.08.

The single question on contentment in the Gallup World Poll reads as follows: “Here is a picture of a ladder, suppose that the top represents the best possible life and the bottom the worst possible life. Where on this ladder would you place your current life?” (0 worst possible, 10 best possible). Average responses differ widely across nations, the highest average is observed in Denmark (8.0) and the lowest in Iraq (3.2). This data is stored in the data file ‘States of Nations’¹⁰.

Results

We plotted average affect against average contentment in nations and inspected the extent to which these components of happiness converged or diverged and if we could find any pattern in this mapping.

Correlation between average affect and contentment in nations

Not surprisingly, scores on the two components of happiness tend to go together, in countries where affect is low, contentment also tends to be low; $r = +.48$. This can be seen from the scatter plot presented in Scheme 3a. Of the 133 nations in this plot 40% fall on an interval close to the regression line, an interval which is plus or minus 5% of the range of affect balance. Yet one can see considerable deviations both above and below the regression line.

Scheme 3a about here

Clusters of combinations

We looked for similarities between countries that were close in the plot, and recognized two kinds of clusters, clusters of countries in specific geographical areas known to share a common culture, and clusters of countries which share a common fate. These clusters are circled in Scheme 3b.

Geographical clusters: Six geographical areas stand out in Scheme 3b: 1) Southern Europe countries, 2) Northern countries, i.e. Northern hemisphere countries plus Australia and New Zealand, composed of Anglo-Saxon, Germanic countries and Scandinavian countries, 3) former communist countries, 4) Latin America, 5) Africa and 6) Asia. These clusters cover most of the countries quite well, however, a few countries fall out of their geographical zone. Noticeable outliers include Spain, Portugal, Chile, Bolivia, Peru and Bulgaria.

¹⁰ HappinessBW11_2006.09

Common-fate clusters: A closer look at Scheme 3b reveals that there are also some clusters of nations that share a common fate. That is particularly the case for the two extreme clusters at the bottom-left and the top-right of the scattergram. The bottom-left cluster represents war-stricken countries, among which are Iraq and Iran. This is no surprise, since war is likely to bring down both affect and contentment. In the top-right cluster we see the most prosperous nations of this time, among which the USA. This is no surprise either since affluence is likely to add to the chance that people feel good and are contented. Some noticeable outliers in the latter cluster are Israel, Italy, France, Japan and Germany, where affect is lower than in most of the rich countries.

Scheme 3b about here

Correlation within clusters: We have seen that the general correlation is +.48 but there are large difference in terms of the homogeneity within the above-mentioned zones. The correlation coefficients in these parts of the world are presented on scheme 4. Arabic countries that are not already represented in the war-stricken zone are too scattered to be represented as a zone, and no regression was done for this zone.

Scheme 4 about here

Inter-zone correlation between the two components of happiness range from +.23 in Asia to +.82 in Northern countries. The correlation for Asia (+.23) is lower than the global correlation (+.48). The correlations for former communist countries, Southern Europe and Africa are more in line with the global correlation (+.38, +.43 and +.43). Relatively high correlations appear in the Northern countries (= .74) , war-stricken countries (= .78) and Latin America (+.81).

Concordance in combinations of affect and contentment in nations

In order to explore patterns of convergence and divergence, we divided the scores on both components of happiness into the tiers 'low', 'medium' and 'high'. This resulted in nine possible combinations, three of which were concordant, e.g. low affect – low contentment, and six of which were discordant, e.g. low affect – medium contentment.

Concordant combinations: Area's where affect and contentment go hand in hand are presented in Scheme 5a. The concordant combination 'low-low' was typical of countries where war reigns. The

concordant combination 'medium-medium' gathered most of the Asian countries whereas the 'high-high' combination was typical of rich countries, mostly Northern nations.

Scheme 5a about here

Discordant combinations: Areas where affect and contentment diverge are presented in Scheme 5b. The combination of low affect and medium contentment appeared to be typical for the former communist nations. The combination of medium affect and high contentment stood out in Southern Europe, while the reverse combination of medium affect and low contentment appeared to be characteristic of African countries. The combination of medium affect and low contentment was typical for Latin America. The combination of high affect and low contentment was seen in a few African countries, i.e. Kenya, Mali and Niger. There were no countries where low affect went together with high contentment.

Scheme 5b about here

Discussion

How can we explain this pattern of convergence and divergence for the two components of happiness? We will first interpret the pattern in the context of Veenhoven's theory of happiness and then hint at some further possible explanations.

Need theory

According to Veenhoven (2009) hedonic level of affect draws on the gratification of 'needs', which are vital requirements for survival, such as eating, bonding and exercise. Nature seems to have safeguarded the gratification of these functional requirements with affective signals such as hunger, love and zest. These separate signals generalize in the hedonic tone of mood and consequently good mood denotes that all needs are sufficiently met (Veenhoven, 2009). As such, good mood tells us that we are doing well.

'Needs' should not be equated with 'wants'. Needs are inborn and universal, while 'wants' are acquired and can vary across cultures. One may want things one does not need, or needs things one does not want. Such divergence occurs at the individual level, e.g. a priest who wants to forsake his need for sex, and at the societal level. A common criticism of western society is that it creates wants that do not fit real needs. Scitovsky argues that the products we buy do not satisfy

(Scitovsky, 1976). Likewise Lane argues that we want wealth while we need companionship (Lane, 2000).

Explanation of convergence: Above we have seen that affect and contentment go together in half of the nations (scheme 5a) and that few extreme discordant combinations exist (Scheme 5b). Seen in the context of this theory this means that we typically want what we need. If need gratification falls short in a country, people feel bad and are also discontented and if need are well met in the country, scores on both components of happiness are high.

Explanations for divergence: If the normal pattern is convergence, how can we explain the divergent cases? Let us first consider the case of the former communist nations where the level of affect is low, and contentment is medium. The low level of affect indicates deficient need gratification. This can be an echo of the communist past, which seems to have worked out negatively on intimate networks and to have reduced the capacity of individual to take control of their own lives, something which became crucial after the regime changes in the 1990s. Yet much has changed for the better in these countries and for that reason one can imagine that people do not rate their life as 'worst possible', but rather tick the middle of the contentment scale.

How about Africa, where affect is at the medium level, but contentment low? The medium level of affect indicates that need gratification is not too bad in these countries, possibly because there are seasoned survival strategies embedded in these cultures. Why then are people not equally contented? Probably because they have an awareness that life could be better and in particular that their material standard of living could be higher. The low contentment of Africans is then a matter of 'relative deprivation'. Possibly contentment would have been scored at the medium level if Africans were unaware of living conditions elsewhere.

Following this line, the pattern of high affect and medium contentment in Latin America would mean that human needs are fairly well met in Latin American societies, though life falls short on notions of how it could be. It is not easy to grasp why Latin American societies do so well with respect to need-gratification. It has been suggested that the need for social contact is well met in Latin culture, but it is difficult to prove that this really makes a difference. It is easier to understand why contentment is only at the medium level in Latin American countries, the high income inequality found in these countries is likely to foster a sense of relative deprivation in some individuals and across borders the salient example of the US is likely to do the same.

Explanation for absence of low-affect and high-contentment combination: As we have seen, the combination of high contentment-low affect balance was not found. In the context of this theory that can be interpreted as preponderance of needs over wants. When minimum gratification of needs is at risk, we feel so bad affectively that we cannot comfort ourselves with cognitive accommodation.

Possible cultural difference

Zimbardo & Boyd claim that people from different cultures have different time perceptions. People close to the equator tend to be more present-oriented, while people in the industrialized countries are more future-oriented. Zimbardo & Boyd suggest several reasons for this pattern, such as: the absence of seasonal changes does not press people to think about the future and food shortages are less of a problem in these equatorial countries since everything grows under the sun (Zimbardo and Boyd, 2008). If so, one can imagine that in the tropics people live more like Esopé's cricket than like the ant. Education trains the kids of the Northern countries to plan, in order to sow seeds for the future, thus delaying immediate gratifications for the benefit of future gratifications. The hedonists we were as kids are taught how to plan or organize and project ourselves into the future. Being more future-oriented, people in Northern societies work harder to achieve their goals to reduce the distance between their "life as it is" with their "life how they want it to be". In other words, a future-orientation is key to scoring high on the contentment scale. Possibly, future-oriented Northerners will feel less well than people from Latin America or Africa who are more present hedonist. Yet, being too present hedonist might prevent Southerners from planning and working to achieve their goals, thus resulting in less contentment. This may explain why people Africa and South America feel good without being contented.

Possible genetic difference

Though the human species is remarkably homogenous genetically, there are racial differences that are concentrated in particular areas. Next to easily visible differences such as height and colour of skin, research has identified several hidden genetic based differences such as susceptibility to particular diseases and an ability to digest certain foods. As for now, no simple gene or cascade of genes has been proved to be important for happiness and well being. However, between 35 and 50% of the time-specific variance in happiness measures has been proved to be genetic (Nes, 2010). Nishimura et al suggests that a common serotonin transporter polymorphism (5-HTTLPR) may have an impact on optimism among nations.

Nishimura et al (2009) have shown that, in particular that the LL genotype is found to be 2.5 times more frequent in the Brazilian population compared to that reported in the UK population. Although the impact of the distribution of the association of this variant with personality traits needs to be further validated, it would provide an interesting biological explanation for different nation groups being more or less optimistic. Research linking happiness and genetics is progressing and will possibly give us some further understanding, but, as for now, it is difficult to find further convincing explanations for this link.

The above explanations do not contradict each other, since the observed patterns are likely to result from multiple causes. Some of the explanations may even reinforce each other, such as when a genetic tendency in a population gives rise to 'cultural co-evolution' (Chiao and Blizinsky, 2010).

Conclusions

Life can be appraised on the basis of two sources of information: how well one feels and to what extent one perceives oneself to have what one wants. Ratings on these 'components of happiness' differ systematically across nations. As expected, affect and contentment go hand in hand in most cases, both are low in war stricken countries and both tend to be high in affluent nations. Yet there is also a cluster of nations in which people are fairly contented but feel bad, i.e. former communist countries, and several clusters of nations where people feel fairly good but a discontented, i.e Latin America. As yet we can only speculate about the reasons for these differences.

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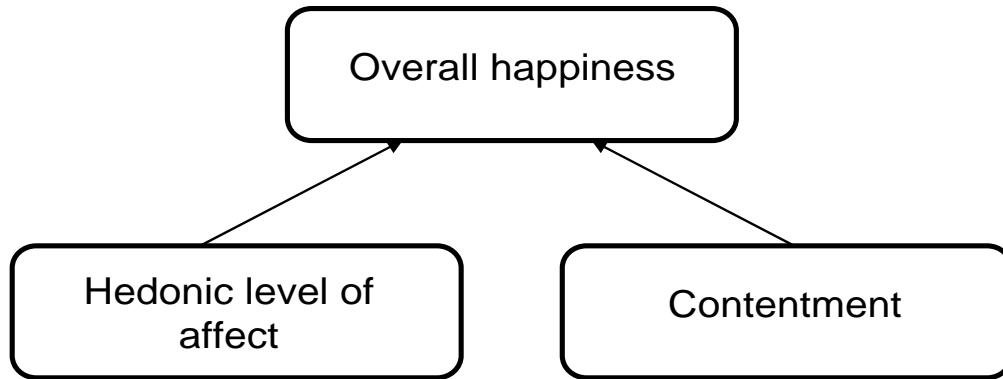
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Scheme 1: Four qualities of life

	<i>Outer qualities</i>	<i>Inner qualities</i>
<i>Life-chances</i>	Livability of environment	Life-ability of the person
<i>Life-results</i>	Utility of life	Satisfaction with life

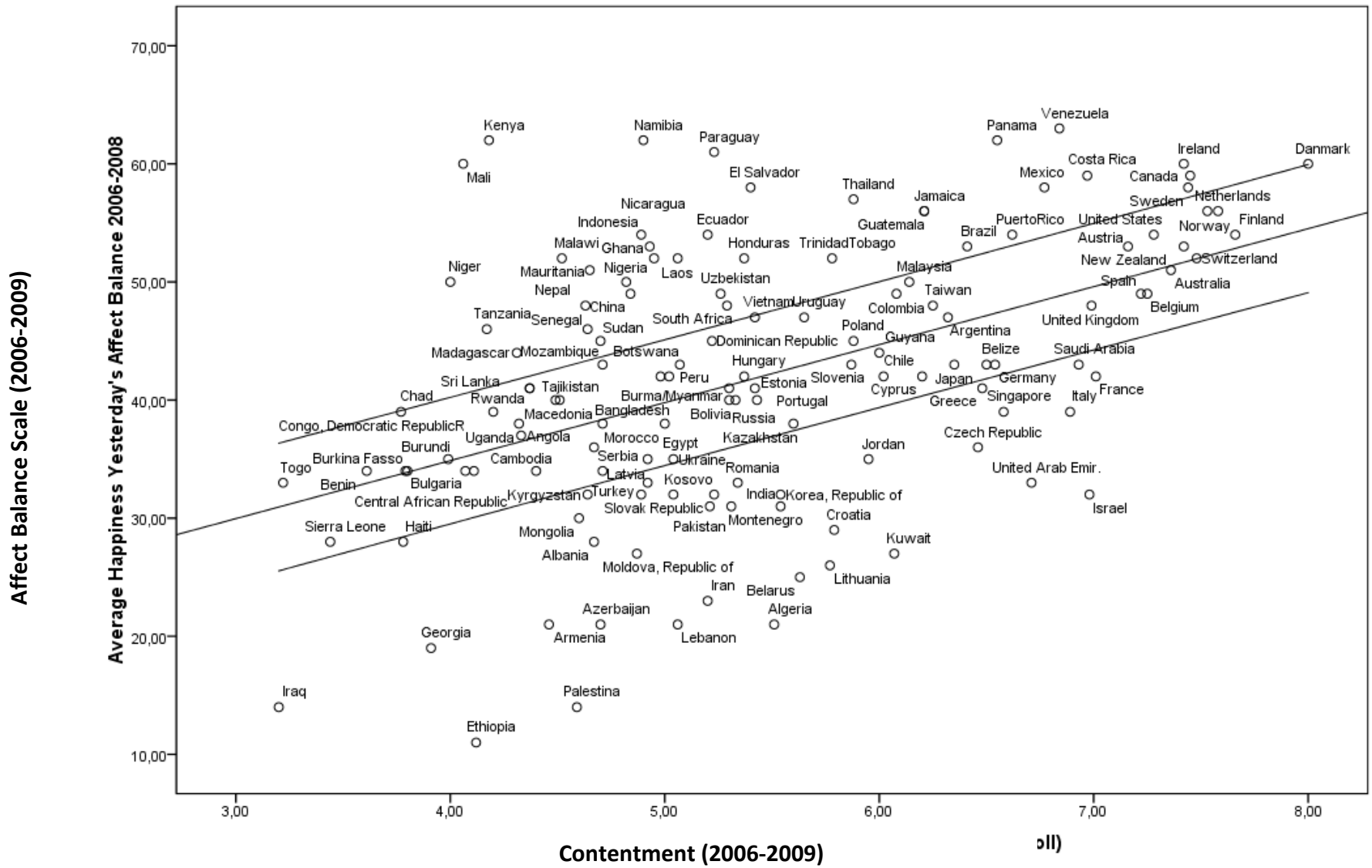
Source: Veenhoven 2000

Scheme 2: Overall happiness, i.e. life-satisfaction and its 'components'

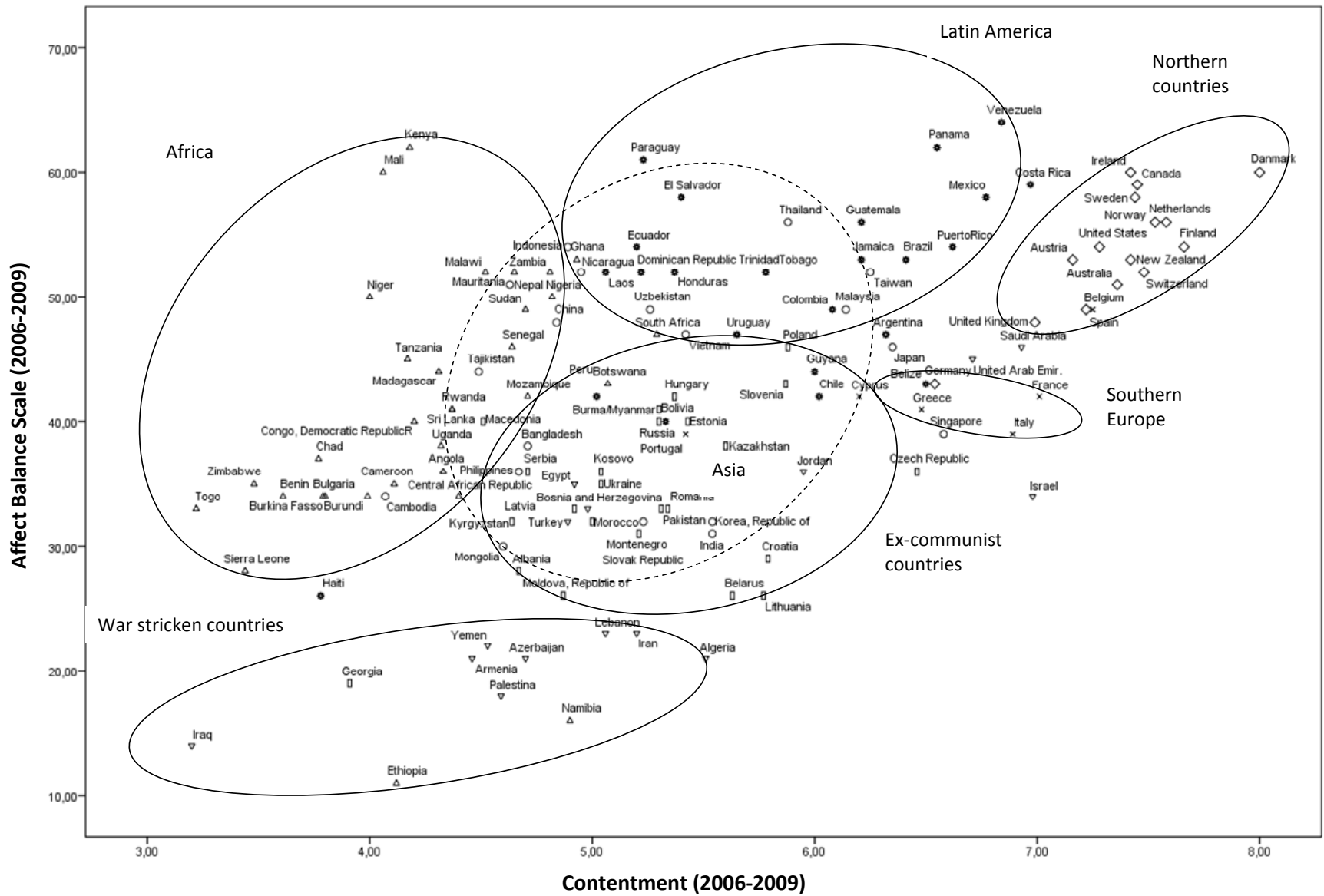


Source: Veenhoven 2009

Scheme 3a: Affect Balance by Contentment in 133 nations: Correlation



Scheme 3b: Affect balance by Contentment in 133 nations: Clusters



Scheme 4: Correlation of Affect Balance and Contentment in 7 parts of the world

Part of the world	N	Correlation
Africa	29	+ .43
Asia	25	+ .23
Ex-communist countries	20	+ .38
Latin America	22	+ .74
Northern countries	15	+ .82
Southern Europe	5	+ .43
War-stricken countries	10	+ .78
Other Arabic countries	7	-

Scheme 5a: Concordant combinations of Affect and Contentment in nations

		Hedonic level of affect		
		<i>Low</i>	<i>Medium</i>	<i>High</i>
Contentment	<i>High</i>			Northern nations
	<i>Medium</i>		Asia	
	<i>Low</i>	War-stricken countries		

Scheme 5b: Discordant combinations of Affect and Contentment in nations

		Hedonic level of affect		
		<i>Low</i>	<i>Medium</i>	<i>High</i>
Contentment	<i>High</i>		Southern Europe	
	<i>Medium</i>	Former communist		Latin America
	<i>low</i>		Africa	