LIFE-SATISFACTION IS MORE A MATTER OF FEELING -WELL THAN HAVING-WHAT-YOU-WANT
Tests of Veenhoven's theory [4]

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ABSTRACT
When assessing how satisfied we are with our life as a whole, we draw on two sources of information: a) how well we feel most of the time; b) to what extent life has brought us what we want from it. The sub-appraisals are referred to as components of happiness. Although it is generally agreed that both affective and cognitive appraisals are involved, there is difference in opinion as to their relative weight in our overall evaluation of life. This difference is related to the debate on the nature of happiness; need-theory predicts a greater weight for affective experience, while comparison theory predicts greater weight for perceived success in meeting wants. This issue was investigated in two studies among the working age population in Finland in 2012 and 2016. Research questions were answered affirmatively, which fits the theory that judgments of life satisfaction draw first on affective experience.

Keywords
life-satisfaction; feelings; wants; Veenhoven's theory; need-theory; comparison theory; happiness; contentment; affect level; life evaluation; development; Finland.

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1   INTRODUCTION

1.1 Notions 'happiness'

The debate on what is a good life is longstanding and in this discourse the word 'happiness' is used to denote different meanings. According to Haybron (2011) the two main meanings of the word are: 1) 'a life that goes well for the person leading it' and 2) 'a pleasurable state of mind'. The first notion is central in classic philosophy, while the second prevails in contemporary happiness studies, in happiness economics in particular. A similar distinction made today is between 'eudaimonic' and 'hedonic' happiness. Here the term 'eudaimonic' happiness is used to refer to a broad set of desirable psychological characteristics, such as meaning, self-actualization, and commitment to socially shared values (e.g. Forgeard, Jayawickreme, Kern & Seligman 2011). This notion overlaps largely with concepts of 'positive mental health' as described by Jahoda (1958). 'Hedonic' happiness covers mere subjective enjoyment of one's life and does not include notions of proper living (DellaFave et. al 2011: chapter 1).

Life satisfaction

In this paper we focus on 'hedonic' happiness, that is, how much one likes the life one lives. This is also called 'life-satisfaction' and defined as 'the overall evaluation of one's own life as-a-whole'. For a detailed delineation of this concept, see Veenhoven, 1984, 2015).

Subjective satisfaction with life does not necessarily imply living up to a set of objective criteria for a good life; one can feel good while behaving inadequately. Take the fairy tale of 'Happy Hans', who lost his heritage to swindlers, but remained satisfied with ever less what was left to him. Although eudaimonic and hedonic happiness can differ in theory, empirical research typically shows strong correlations between subjective enjoyment of life and various objective indicators of human thriving (e.g. Henderson & Knight 2012). This correspondence fits the theory that hedonic experience serves as a biological compass for the process of adaptation; what *feels* good typically *is* good for an organism (e.g. Grinde 2002). Humans are no exception to this, but their ability to think allows additional orientation and helps them to identify false affective signals.

Variants of life satisfaction

Several scholars distinguish between kinds of hedonic happiness and a common distinction is made between 'emotional' and 'cognitive' happiness[i].

Emotional happiness is how well one feels most of the time and this aspect is emphasized by Kahneman, Sarin & Wakker (1997). Emotional happiness is measured using mood questionnaires, such as Bradburn's (1969) Affect Balance Scale and the Experience Sampling Methods (ESM), as advocated by Kahneman & Krueger (2006). Some scholars see positive and negative affect as separate variants of happiness, e.g. Busseri & Salvada (2011).

Cognitive happiness

Is the perceived gap between the realities of one's life and the ideal life and this kind of happiness is emphasized by Michalos (1985) in his 'Multiple Discrepancies Theory'. This variant is measured using single questions such as the Cantril 'Ladder' to rate where one's life stands between the 'worst' and the 'best possible life', and multiple questions on the degree to which one's life is bringing what one wants from it (e.g. Sears and Barbee 1977).

Several studies have shown that these two kinds of happiness are related but not the same; the inter-correlations are positive but modest and their correlation with other factors often differ in strength, such as the correlations of these happiness variants with income (e.g. Kahneman & Deaton 2010).

1.2 Veenhoven's theory of happiness

A slightly different view on variants of life-satisfaction was introduced by Veenhoven in his book 'Conditions of Happiness' (1984) and elaborated in the 2009 paper 'How do we assess how happy we are?'. Rather than splitting the concept of happiness into different *kinds* of happiness, Veenhoven maintains the notion of *overall happiness*, which he defines as 'overall appreciation of one's life as a whole'.

Conception of 'components' of happiness

In Veenhoven's view: when making this overall judgment of life, we draw on two sources of information: 1) how well we feel most of the time and 2) to what extent we perceive that our life-as-it-is is meeting our ideas of how-life-should-be. These sub-appraisals are referred to as 'components' of happiness; the first is an affective component called *hedonic level of affect* and the second a cognitive component called *contentment.* Veenhoven holds that these components reflect different mental processes, which have slightly different functions and determinants. Precise definitions are provided in Veenhoven 1984 chapter 2/3 and Veenhoven 2015).

This conceptual distinction is at the basis of Veenhoven's (2016a) World Database of Happiness, in which accepted measures of happiness are classified as tapping either overall happiness (O), the affective component (A) or the cognitive component (C).

Some measures of happiness do not fit anyone of these three conceptual categories, for instance the much used 'Satisfaction With Life Scale' (Diener et al. 1985), most items of which address 'overall happiness' (e.g. I am satisfied with my life), however one item taps contentment (So far, I have gotten the important things I want in life). Such indicators are classified as 'mixed' (M) in the 'Collection of Happiness Measures' of the World Database of Happiness. The many research findings stored in the World Database of Happiness can be sorted on the measure used to determine happiness. This provides an easy overview of the differences in research results obtained for the three kinds of happiness distinguished by Veenhoven.

Place of this conceptualization in Veenhoven's theory of mental drivers of happiness

The conceptual distinction between 1) overall happiness, 2) an affective component and 3) a cognitive component, is central in the theory of happiness, which Veenhoven has developed over the years (Veenhoven 1991, 1995, 2009). Veenhoven theorizes that hedonic level of affect reflects gratification of universal

human needs, while contentment indicates how an individual's life fits with culturally variable standards of a good life. Veenhoven holds that contentment may be relative, while hedonic level is not.

In Veenhoven's view, affective experience is linked to the gratification of human *needs*, which he sees as vital requirements for functioning, without which we cannot survive. Such needs include eating, bonding, sex and exercise. Meeting these needs is guided by affective signals, both specific feelings, such as hunger, and meta-signals, such as mood. Feeling good signals that one's needs are currently being met, while feeling bad tells us that something is missing from our life at the moment. Human needs are part of human nature and as such universal. They are largely shared with other mammals, such as non-human primates. Typically, we are not conscious of our needs, but feel affected when a need is not met.

Veenhoven (2009) distinguishes needs from *wants*, which he sees as our conscious ideas of desirable states. Wants, unlike needs, are a product of thinking and draw as such on human culture. Though many of our wants root in needs, we sometimes want things that go against our needs, e.g. to be celibate, or we fail to want things that will gratify our unconscious needs, e.g. we seek comfort instead of a challenge. Wants will differ in their functionality for meeting needs and cultures can differ in the functionality of the wants they promote; for example, a warrior culture is likely to go against many innate human needs, those of safety in particular, and will thereby make most of its members feel bad, even if they lead a heroic life.

View that the affective component dominates
The relative weight of the two components of happiness in an overall evaluation of life will vary across persons and situations, but Veenhoven holds that the affective component will mostly dominate. In his view, we 'infer' our life-satisfaction on the basis of how we feel most of the time, rather than 'calculate' it by comparing our aspirations and achievements.
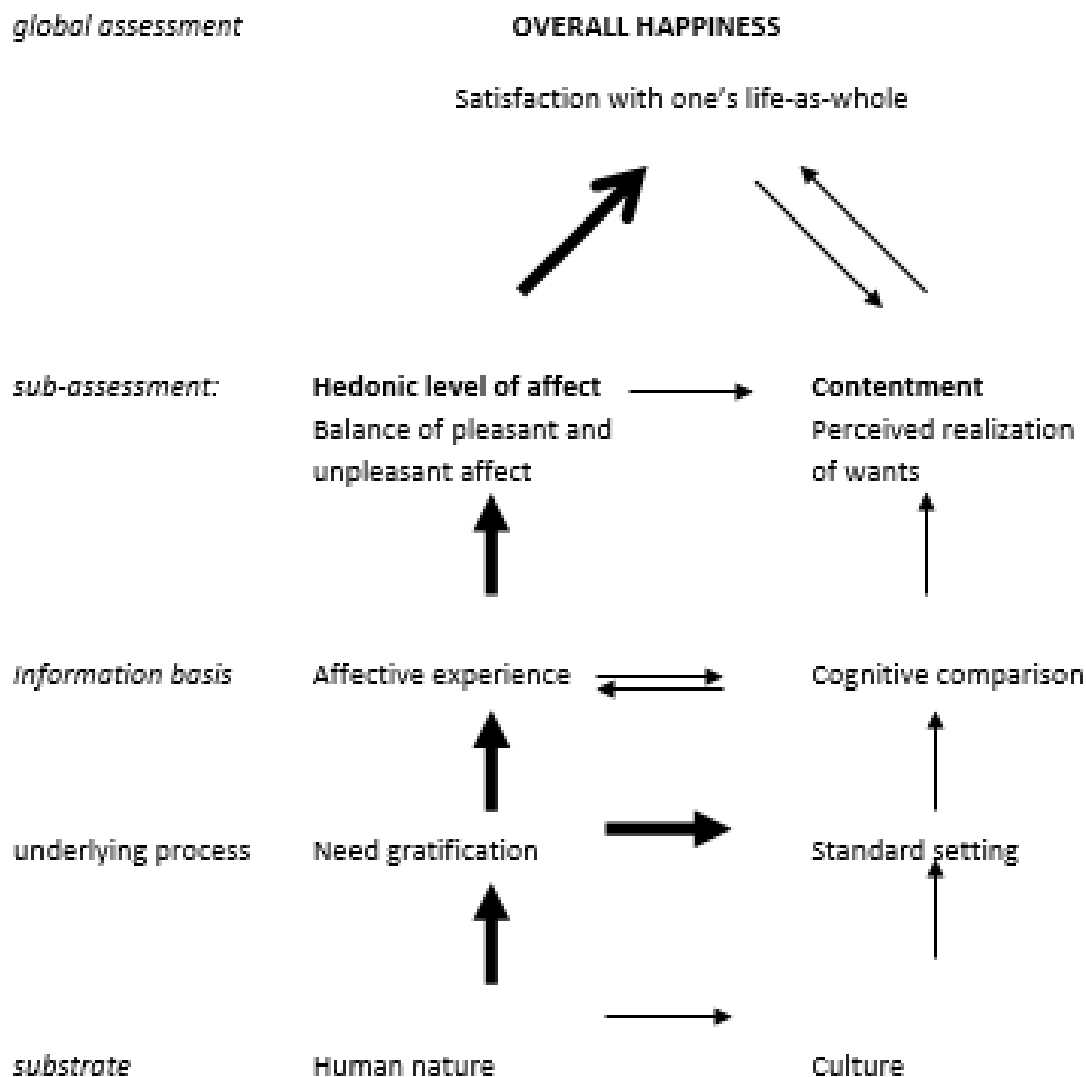
One reason for this, is that inference on the basis of affect is easy, it requires little more than bringing a latent experience in the forefront of one's mind. The cognitive calculation of getting what one wants is beset with problems, such as weighing their relative importance of wants and criteria for success in meeting them. A related reason is that many humans are incapable of making these kinds of mental calculations, e.g. young children or those with severe mental disability, but they still have a notion of how happy they are.

Another indication for the domination of the affective component when assessing life satisfaction, is found in the empirical support for the two theories of happiness. Needs theory predicts that conditions for happiness are typically universal, while comparison theory predicts cultural variation; the available cross-national findings show more similarity than differences in correlates of happiness (Veenhoven 2010). Likewise, several implications of the cognitive theory of happiness are not supported by the data, such as the implication that happiness is relative (Veenhoven 1991, 1995).

Veenhoven (2009) from a functional- adaptive perspective argues that gratification of innate needs is more important for human flourishing, and subsequent survival, than meeting learned wants. In this context, he notes that affect is the better predictor of health and survival. Taking an evolutionary perspective Veenhoven notes that the affective compass is much older and he theorizes that the human cognitive orientation system developed as an addition, and not as a replacement for affective orientation, as research on the 'primacy of affect' has demonstrated (Zajonc 1984).

A schematic representation of Veenhoven's theory of how we assess how happy we are is presented in figure 1. In this paper, we assess the empirical support for this theory.

Figure 1
Veenhoven's theory of how we assess how happy we are.

global assessment   **OVERALL HAPPINESS**

Satisfaction with one's life-as-whole

sub-assessment: **Hedonic level of affect** ⟶ **Contentment**
Balance of pleasant and   Perceived realization
unpleasant affect   of wants

Information basis   Affective experience ⇄ Cognitive comparison

underlying process   Need gratification ⟶ Standard setting

substrate   Human nature   Culture

Source: Veenhoven (2009)

1.3   Earlier research

Empirical evidence for this particular distinction between overall happiness and two components and for the theory behind it is scarce yet[ii]. The issue has been explicitly addressed in only two studies at the macro level of nations, and there are scattered indications of such a distinction from several studies at the micro level of individuals.

Macro level

Brulé and Veenhoven (2013) assessed whether configurations of hedonic level and contentment differ across nations. They used the Gallup World Poll that involved data on both components of happiness in 133 nations around 2008. The average hedonic level in nations was measured using responses to 14 questions on how one had felt yesterday, from which they constructed an affect balance score (average positive affect minus average negative affect). Average contentment in nations was measured using the Cantril ladder scale (Cantril 1965), on which respondents rated their present life between the 'best possible' and 'worst possible'. The analysis revealed sizable differences in correspondence between these indicators of hedonic level and contentment. Though average affect and contentment go hand in hand in most countries (r = +0.48), there is also a cluster of nations in which people are contented but feel bad (e.g. in former communist countries) and several clusters of nations where people feel good but are discontented (e.g. Latin America).

Using the same dataset, Rojas and Veenhoven (2013) tested the theory that overall happiness in nations depends more on how well citizens feel than on how contented they are. This was disproven, they found a stronger correlation between average life satisfaction and contentment in nations (+0.85), than that between average life satisfaction and affect balance (+0.51). However, this difference in strength of the correlation may be caused by variation in measurement: the ratings of life-satisfaction and contentment were made on identical scales, while affect was measured using multiple questions on whether-or-not one had felt particular emotions the day before.

Micro level

The micro data of the Gallup World Poll have not yet been made free available and to our knowledge, no other micro level study has involved measures of overall happiness and its two components, leaving us to make do with comparisons of correlations between pairs of these three variants of happiness in different studies.

Correlations have been assessed in many micro level studies (e.g. Suh, Diener, Oishi, Triandis 1998; Kuppens, Realo & Diener 2008; Heinonen, Aro, Aalto & Uutela 2004), in fact too many to mention them all in this review. Those wishing to look in more detail at this data can go to the World Database of Happiness, as the results of all these studies are incorporated in this extensive collection (Veenhoven 2016a). This 'findings archive' presents a systematic classification of measures of

happiness based on the above-described distinction between overall happiness (O), the hedonic level of affect (A) and contentment (C). Observed correlations between scores on measures of that kind are listed in the findings report 'Happiness: Correspondence of different measures' (Veenhoven 2016b), In June 2011 this report contained nearly 200 such findings. Rojas and Veenhoven (2013) summarized these data as follows:

"Most of these findings concern correspondence of responses to questions about different kinds of happiness by the same individuals. Of these findings, seven are about similarity between scores on measures of hedonic level (A) and on measures of contentment (C): the average correlation is +0.45. A similar average (+0.44) appears in 35 findings on correspondence between scores on measures of contentment (C) and overall happiness (O). Lastly 147 findings are about the correspondence between hedonic level of affect (A) and overall happiness (O); the average correlation is slightly larger in this case, r = +0.48. So no difference at first sight.

Yet, the correlation between scores on measures of hedonic level (A) and of overall happiness (O) is probably an underestimation of the true correspondence of these happiness variants. One reason is that most measures of hedonic level are based on recent affective experience (the last two weeks, today), which is more variable than satisfaction with life as a whole. A second reason is that the response format is quite different; most measures of hedonic level are multiple-item affect-balance-scales, while overall happiness is typically measured using single questions. Consequently, we see a larger correlation in the eight studies that measured both hedonic level (A) and overall happiness (O) with similar single questions on how one generally feels; r = +0.63 in that case."

 So far, earlier research has supported the conceptual difference between overall happiness and its two components, but found no support for the theory that the affective component dominates in our overall evaluations of life. Differences in how these variants of happiness have been measured are likely to have clouded the view of their interrelations.

1.4   Research questions

In this study we focused on the under-researched micro level of how individuals assess how happy they are and addressed the following five questions:

1   Do people recognize the difference between hedonic level of affect and contentment?
       Hypothesis: yes.

2   Can the two components of happiness taken together predict overall happiness better than each does separately?

> *Hypothesis: yes.*

3   Which of the two components of happiness, affective or cognitive, is most closely related to overall happiness?
Hypothesis: the affective component.

4   Is the affective component directly related to overall happiness or indirectly through the cognitive component?
Hypothesis: yes, directly related

5   Do the two components of happiness draw on different determinants?
Hypothesis: yes. Contentment will be better related to success in meeting the common standards of a good life, such as income, while hedonic level will relate more strongly to manifestations of thriving, such as physical health and social participation.

2   METHOD

Two survey studies among the working age population of Finland were used. We added some items to the questionnaires that allow us to find answers to our research questions. Finland ranks high in most international comparisons of the quality of life (Saari 2011, Kainulainen 2014) and Finland belongs to a cluster of nations where both hedonic affect and contentment are at a high level (Rojas and Veenhoven 2013, 426).

WEBE survey
We started using the survey on "Wellbeing and social cohesion in an unequal society" (WEBE), which is part of a project funded by the Academy of Finland. The WEBE survey covers 44 topics among which are: wellbeing, social relations, social capital, negative life events and attitudes towards society.

      The survey is well suited for an analysis of possible differences in correlates of the three happiness variants, since it uses several measures of well-being, both objective and subjective. Objective measures of well-being concerned present living circumstances as well as earlier negative life events. The subjective measures used were: the Affect Balance Scale, the Personal Wellbeing Index (International Wellbeing Group 2006) and the Flourishing Scale (Diener at al. 2009).

      We added four questions to the standard questionnaire: one question on awareness of the difference between overall happiness and its components and one question on each of the three happiness variants separately, using identical response formats.

TITA survey

A further set of three questions was added in the spring 2016 to the Finnish survey 'Tackling Inequalities in Time of Austerity' (TITA). As with the WEBE study, TITA respondents were asked to rate the three variants of happiness using an identical response format. The wording of the questions was deliberately different from that used for the WEBE questions; this was done to check whether the correlation found in the earlier WEBE data might have been affected by our phrasing of the added questions.

2.1   Respondents

The respondents were all people of working age (20-64) people living in Finland. Restricting to this age group had the advantage that most respondents would have a good command of language, which is required for understanding the questions we added.

The WEBE data was gathered using a postal survey, with the possibility to answer electronically, during the spring 2012. The sample was a simple random sample drawn by the Population Registration Centre of Finland, 5000 people were approached. The overall response rate was 38% (N = 1886). Most of the answers (81%) were sent through the normal post and 15% via electronic media. The response rate was similar to that of other recent postal surveys in Finland (see Sarpila, Räsänen, Erola, Kekki & Pitkänen 2010). The TITA data was collected via telephone interviews. Sampling, data collection and weighting of the data was done by TNS Gallup (http://www.tnsglobal.com/). Data (N=2534) represents Finnish population from 18-79 years, the number of 20 to 64 years aged was 1890.

The data appear to be representative of the Finnish population with respect to geographic, socio-economic and demographic distributions. A weight variable was used to correct for a small differences in age and sex, within the sample. The weighted and unweighted data for the WEBE survey are shown in table 1. Note: the weighted data was used in the analysis.

2.2   Measures

Four questions on happiness were included in the 2012 WEBE survey and variants of three of these were included in the 2016 TITA survey. The first survey question was about difference between the components of happiness and served to provide data for answering research question 1. The next three survey questions were about the degree of happiness and served to answer the research questions 2, 3, 4 and 5. The latter survey questions were designed to reflect the three variants of happiness depicted in the upper half of scheme 1.

All of the questions used were initially formulated in English and then translated into Finnish. In the WEBE survey, one person translated the questions and the translations were evaluated twice by the project group, who settled on the

final phrasing in Finnish. For the 2016 TITA survey the questions were translated back into English twice, to determine if there had been translation drift from the original English text.

Question on awareness of the difference between contentment and affect
Some people get all they want in life, but do not feel very well. There are also people who want much more in life, but mostly feel quite fine. How about you? Which of the statements below fits you best?

a. So far, I have got most of the things I want from life, but I do not feel very happy most of the time.
b. I want more from life than I have got so far, but I feel quite happy most of the time.
c. So far, I have got most of the things I want from life, and I feel quite happy most of the time.
d. I want more from life than I have got so far, and I do not feel very happy most of the time.
e. Don't know

Question on Overall Happiness (O): Life Satisfaction
WEBE: Taking all things together, how satisfied or dissatisfied are you with your life as a whole these days?
TITA: Life has its plusses and minuses, how do these balance in your life? Taking all together would you say you are with your life as a whole these days?

0: dissatisfied
:
10: satisfied

Question on Affect (A): Feeling good
WEBE: Does life these days mostly give you a pleasant or unpleasant feeling?
TITA: We all experience good and bad feelings, how do these weigh up in your case? How is your average mood these days?

0: mostly unpleasant
:

10: mostly pleasant

Questions on contentment (C): Getting what you want
WEBE: How successful have you been in getting the things you want from life? Think of your aspirations in fields such as work, family and lifestyle.
TITA: Please think of what you want from life; how much of these wants have been met in your life these days?

Table 1
Sample characteristics (N = 1883) compared to Finnish population (Data WEBE survey)

Variable	Breakdown	Sample		Population %	Average overall happiness
		Unweighted %	Weighted %		
Gender					
	Male	43.7	49.2	50.5	7,57
	Female	56.3	50.8	49.5	7,78
Age					
	20–24	6.2	11.7	10.7	7,64
	25–29	8.6	10.6	10.7	7,58
	30–34	8.4	10.0	10.8	7,87
	35–39	7.7	9.6	10.3	7,71
	40–44	8.6	9.8	10.2	7,67
	45–49	12.1	11.5	11.7	7,74
	50–54	12.7	11.6	11.6	7,76
	55–59	15.2	12.0	11.9	7,32
	60–65	22.1	15.0	12.2	7,75
Marital status					
	Married (registered)	51.6	47.1	46.1	7,99
	Cohabiting	17.9	19.8		7,84
	Not married	17.5	22.5	40.2	7,12
	Divorced	10.8	9.1	12.3	7,18
	Widowed	2.2	1.6	1.3	6,91
Household					
	Single	21.9	21.7	21.5	7,15
	Single parent	3.8	3.6	4.8	7,27
	A pair without children	28.1	27.4	29.1	7,76
	A pair with children	41.0	39.6	33.7	8,06
	Living with parents	1.9	3.9	5.2	6,79
Education					
	Primary school	20.2	16.9	18.3	7,36
	Secondary school or			47.4	7,31
	Vocational	48.9	52.2		7,68
	University or Polytechnic	29.9	31.1	34.2	7,96
Socio-economic Status					
	Student	6.5	9.4	6.9	7,52
	Retired	14.4	10.5	10.6	7,12
	Unemployed	7.6	7.5	7.9	6,51
	Blue-collar	33.7	34.9	21.1	7,76
	Lower white-collar	11.1	10.1	25.6	7,97
	Upper white-collar	15.0	14.8	14.3	8,11
	Entrepreneur	7.0	7.0	6.1	7,93
	Farmer	1.2	1.2	1.6	7,63
	Other	3.4	4.7	3.7	7,99

0: Life falls short of my wants

:

10: I have got more than I ever dreamed of

2.3   Analysis

To analyze the responses to these questions we used IBM SPSS Statistics 21 statistical software and computed structured equation models with IBM Amos 21.

Research question 1 was whether respondents could distinguish between the two components of happiness. To that end, we first consider the non-responses to the set of questions (option 'e'). Next, we determine whether divergent combinations are reported (options 'a' and 'b') or if both components are typically seen as two sides of the same coin (options 'c' and 'd').

Research question 2 was whether the two components of happiness together provide a better prediction of happiness than when used separately. This hypothesis was tested by comparing the Coefficients of Determination (R^2) in a regression analysis.

Research question 3 was whether overall happiness has a stronger correlation with our measure of affect than with our measure of contentment. This hypothesis was also tested by comparing the R^2s.

Research question 4 was whether affect relates to overall happiness directly (as depicted by the bold arrow in the left top of Figure 1) or if its effect is mediated by contentment (as depicted by the right pointing arrow in the top of Figure 1), which would contradict the theory. We tested that using SEM analysis.

Research question 5 was whether the two components of happiness draw on different determinants and this hypothesis was tested comparing bi-variate correlation coefficients between these two happiness variants and background variables such as the respondents' relations to other people and their position in society.

3   RESULTS

Below we answer our research questions one by one. These analyses support all our hypotheses.

3.1   People do recognize the difference between components of happiness

People are aware of the difference between the two components of happiness; In the WEBE study 1802 respondents out of 1883 answered the question which of the four possible combinations of affect and contentment applied to them. Only 4% of respondents did not answer this question, indicating that the distinction between an

affective and a cognitive component of happiness made sense to most of the respondents.

Of the respondents who answered the question, 39% reported a parallel between the hedonic affect level and contentment, most of these rated themselves high on both components (28%) and less were low on both components (11%). Interestingly, 60% of the respondents reported that the components of happiness were not in line in their case. The most common pattern of difference (51%) was that respondents wanted more from life than they had, but felt pleasant most of the time; the least common combination was high contentment with low affect (see table 2).

Table 2
Responses to question on the difference between affective and cognitive component of happiness

Some people get all they want in their life but do not feel very well. There are also people who want much more in life than but mostly feel quite fine. How about you? Which of the statements below fits you best?	N	Valid %	%
a. So far, I have got most of the things I want from life, but I do not feel very happy most of the time	183	10,5	10,0
b. I want more of life than I have got so far, but I feel quite happy most of the time	916	50,8	48,6
c. So far, I have got most of the things I want from life, and I feel quite happy most of the time	503	27,9	26,7
d. I want more from life than I have got so far, and I do not feel very happy most of the time	195	10,8	10,4
e. No answer	81		4,3
All	1883	100	100

Data: WEBE survey

3.2 Together, the components predict overall happiness better than each does separately

Answering research questions 2 to 5 required that we first acknowledge the distribution of responses to the question on overall happiness and its components in

both surveys. Observed means and standard deviations are presented on table 3.

Using the same 0-10 response scale, respondents rated their overall happiness highest (WEBE: M = 7.67; TITA: M = 8.15) and their hedonic level of affect lowest (M = 6.93; 7.91). The average ratings of contentment lay in between the two other happiness variants (M = 7.15; 7.55). Variance of contentment was the biggest (SD = 1.93, 1,49) and of overall life satisfaction the smallest (SD = 1.71, 1,33), with variance in hedonic level (SD 1.79, 1,33) close to variance in overall life satisfaction. Though the level of affect was lower than the level of contentment, its variance was smaller.

All averages were higher and standard deviations smaller for the TITA data than for the WEBE data, possibly because of differences in the data collection method: the TITA data was collected using a telephone interview and the WEBE data was gathered mostly by mail. According to DeLeeuw (1992) replies received from postal questionnaires are more reliable and especially as regards personal matters. Face-to-face interviews elicit more information, but are more vulnerable for social desirability bias, which may have inflated TITA responses to questions on happiness somewhat.

Having a lower average score of the hedonic level than on overall happiness and contentment is a pattern commonly seen in developed nations (Veenhoven 2016). A possible explanation is that we are more aware of the former than of the latter and that ratings of overall happiness and contentment are therefore more vulnerable to the various distortions described in Kahneman (2006). Whatever the case, this small difference in average scores between the three happiness variants will not influence their inter-correlations.

Inspection of the inter-correlations between the variants of happiness shows that the two components of happiness explain more variance in overall happiness when taken together, than each did separately (see table 4). Hedonic affect level explained 55% of the variance in overall happiness, contentment 46%, while both components together explained 63% of the variance (r=.67; Tolerance=0,595; VIF=1,681). The difference between one predictor model and two predictor model was significant, whatever the order of predictors.

These results were in line with the above-observed greater variance of contentment, which suggests that contentment depends more on shifting aspirations and reference behaviour. The difference in variance with affect level also indicated that hedonic affect and contentment are not just two sides of the same coin, but different phenomena that contribute independently to overall happiness.

Table 3
Distribution of responses on questions about life satisfaction, affect and contentment

Concept	*Measure*	*Response pattern*	
	Single question answered on a 0-10 scale.	*Mean*	*Standard deviation*
Overall happiness	WEBE: Taking all things together, how satisfied or dissatisfied are you with your life as a whole these days?	7.67	1.71
	TITA: Life has its plusses and minuses, how do these balance in your life? Taking all together would you say you are with your life as a whole these days…	8.15	1.33
Affective component	WEBE: Does life these days mostly give you a pleasant or unpleasant feeling?	6.93	1.79
	TITA: We all experience good and bad feelings, how do these weigh up in your case? How is your average mood these days…?	7.91	1.33
Cognitive component	WEBE: How successful have you been in getting the things you want from life? Think of your aspirations in fields such as work, family and lifestyle.	7.15	1.93
	TITA: Please think of what you want from life; how much of these wants have been met in your life these days?	7.55	1.49

Table 4 Explained variance in overall happiness by its components.

	Affective component A		*Cognitive component C*		*Both components A + C*	
	WEBE	TITA	WEBE	TITA	WEBE	TITA
R^2	0.55	0.48	0.46	0.34	0.63	0.54
R^2 when adding C or A	0.63	0.54	0.63	0.54		
R^2 change	0.07	0.06	0.17	0.10		
F	341.8	267.7	822.4	853.2		
p	.000	.000	.000	.000		

3.3   The affective component dominates in the overall evaluation of life

The regression analysis reported on table 4 also shows that overall happiness depends more on how well people feel most of the time (R^2 = 0.55; 0.48) than it does on the perceived difference between what one wants from life and what one has got (R^2 = 0.46; 0.34). The change of R^2 was bigger when the affective component was added than when the cognitive component was added (F= 822.4 vs. 341.8; 853.2 vs. 267.7). This indicates that the affective component of happiness is the stronger predictor of overall happiness.

      The above pattern was reproduced in a subgroups analysis on the WEBE data (see table 5). Hedonic affect correlated more with overall happiness than contentment in every subgroup of gender, level of education (mostly), socioeconomic status (blue collar, upper white-collar), experiences of personal negative life events, one's subjective position in society and the degree to which a person is materialistic (low or high scores). Discrepancies in correlations varied from 0.1 to 0.16. Among the less educated and within some age groups the differences in correlation were small and not statistically significant.

      For the highly satisfied subgroup, contentment was a slightly better predictor of overall satisfaction with life than the hedonic level of affect. The difference in correlation was small (-0.1) and not statistically significant, but in the opposite direction to the other groups. A possible explanation for this is that cognitive accommodation was involved, high ratings of life satisfaction (ratings 9 and 10) being boosted by a lowering wants. If this is the case, the lower correlation with affect level could mean that a lowering of aspirations had given rise to less gratification of needs.

3.4   The affective component of happiness links directly to overall happiness

The arrows in the top-part of Figure 1 suggest independent effects of the two components of happiness on overall happiness (upwards pointing arrows) and a marginal indirect effect of the affective component through the cognitive component (horizontal right pointing arrow). We checked this theory using the Structural Equation Method (SEM). The results are shown in figure 2. Again, the affect level was a strong predictor of overall happiness. Some part of its effect goes through contentment, which reduces the effect of Hedonic level of affect in WEBE (z=15.8; p<.000) and in TITA (z=13.1; p<.000). The connections between the two components of overall happiness were equal in the two different data sets collected in different years (2012 and 2016), which strongly suggests that both components of happiness have their own main effects on overall happiness.

Table 5
Correlations of the hedonic level of affect (A) and contentment (C) with overall happiness (O) and the gap between A and C.

|		A	C	A–C	n	Fisher's Z	p<
Overall satisfaction with life		0.74	0.68			3.68	.000
Hedonic level of affect			0.64				
Gender	Male	0.75	0.69	+0.07	914	2.67	.007
	Female	0.73	0.66	+0.07	942	2.94	.003
Age group	20—24	0.81	0.73	+0.09	218	2.06	.039
	25—29	0.71	0.57	+0.14	198	2.37	.018
	30—34	0.75	0.72	+0.03	187	0.63	.529
	35—39	0.80	0.78	+0.02	179	0.50	.617
	40—49	0.76	0.70	+0.06	402	1.82	.069
	50—59	0.71	0.65	+0.05	432	1.64	.101
	60—64	0.68	0.67	+0.01	248	0.2	.842
Education	Primary school	0.68	0.64	+0.04	314	0.88	.379
	Secondary school	0.84	0.75	+0.09	226	2.62	.009
	Vocational school	0.74	0.67	+0.07	743	2.69	.007
	University of Applied Sciences	0.76	0.60	+0.16	234	3.29	.001
	University	0.74	0.68	+0.06	344	1.58	.114
Socioeconomic status	Student	0.82	0.74	+0.09	174	1.91	.056
	Retired	0.76	0.67	+0.10	195	1.82	.069
	Unemployed	0.77	0.71	+0.06	139	1.1	.271
	Blue-collar	0.69	0.62	+0.07	647	2.21	.027
	Lower white-collar	0.73	0.69	+0.04	187	0.77	.441
	Upper white-collar	0.71	0.59	+0.12	274	2.44	.015
	Entrepreneur	0.76	0.73	+0.02	129	0.54	.589
	Farmer	0.75	0.60	+0.15	21	0.84	.401
Personally experienced (2+) negative life events	No	0.70	0.65	+0.05	1470	2.49	.013
	Yes	0.77	0.68	+0.10	413	2.74	.006
Feeling of being below average population (>3)	No	0.70	0.59	+0.11	1350	4.92	.000
	Yes	0.75	0.70	+0.05	490	1.65	.099
Materialism	1-3.50	0.69	0.57	+0.12	575	3.39	.001
	3.51-4.99	0.75	0.71	+0.04	760	1.67	.095
	5.00-7	0.76	0.69	+0.07	514	2.37	.018
Satisfaction level	Low (<8)	0.70	0.54	+0.16	533	4.28	.000
	High (>7)	0.36	0.37	-0.01	1308	-0.29	.772

Data: WEBE survey

Figure 2
Connections in a mediator model.

WEBE data
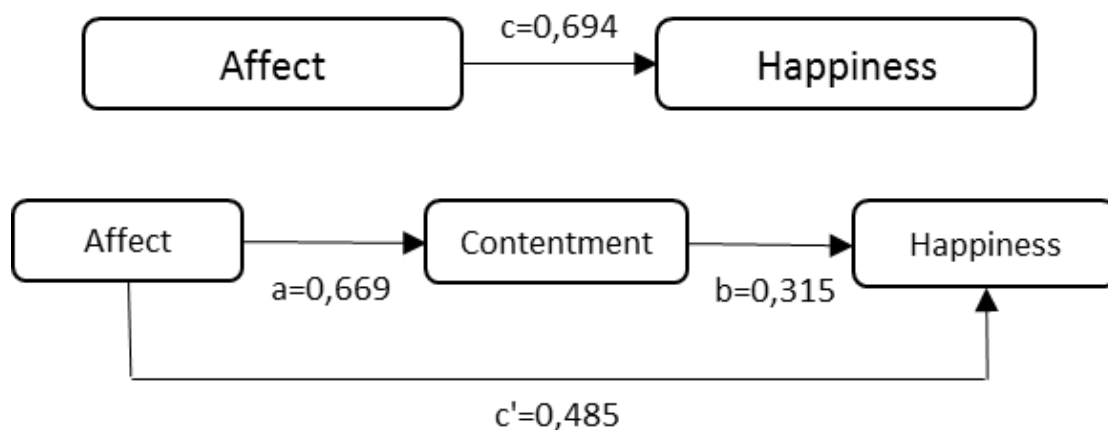
TITA data
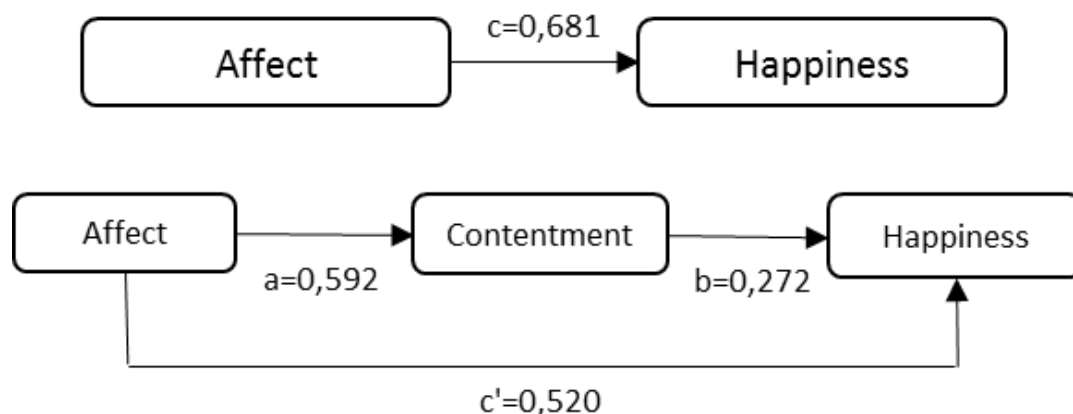
3.5 The components do not draw from the same ground

According to Veenhoven's (2009) theory, the affective component of happiness (hedonic level of affect) is rooted in the gratification of universal human *needs*, while the cognitive component (contentment) depends on fit with culturally variable *wants*. In this context, we assumed that social contact is a typical universal human need, whereas income aspiration and satisfaction with one's social position depend more on culturally variable standards of a good life. On that basis, we predicted that hedonic affect will correlate more strongly with social bonds and contentment more strongly with income and status satisfaction.

From table 6 it can be seen that contentment correlated more with positional issues than the hedonic level of affect did. Conversely, hedonic level of affect was found to correlate more strongly with human relations than contentment did. Some exceptions are found: marital status, e-mailing with friends and evaluations of friendship within neighbourhood were slightly more correlated with contentment than the hedonic level of affect. Less than half of the differences in correlation were statistically significant in this sample.

Table 6
Correlation of hedonic affect (A) and contentment (C) with societal position and relationships

		Affect A	Contentment C	A-C	N	Fisher's Z	p<
Marital status	Marital status (single, cohabited, married)	0,18	0,29	-0,11	1865	-3,56	.000
During the last 12 months please tell how often you have felt yourself…	Lonely (reversed)	0,45	0,39	0,06	1852	2,22	.027
How often you keep in contact with your relatives that do not live in a same apartment?	Meet friends f-to-f	0,11	0,06	0,05	1846	1,53	.126
	Call friends	0,13	0,11	0,01	1835	0,61	.542
	Email or chat friends	0,09	0,03	0,06	1814	1,81	.070
Please estimate what is your possibility to get help from your people nearby when needed.	No one takes care of you if something happens (reversed)	0,44	0,49	-0,05	1883	-1,96	.05
	No one helps you in practice if you need help (reversed)	0,52	0,42	0,10	1883	3,94	.000
	No one discus with you on personal issues (reversed)	0,30	0,20	0,10	1883	3,27	.001
	No one gives money if needed (reversed)	0,22	0,21	0,01	1883	0,32	.749
People in the neighborhood where I live…	are helpful	0,30	0,25	0,04	1850	1,64	.101
	live along peacefully	0,31	0,26	0,05	1849	1,65	.099
	treat each other fairly	0,32	0,27	0,05	1847	1,66	.097
	would help us if someone in the family was ill	0,30	0,26	0,04	1827	1,31	.190
	engage in community volunteering	0,25	0,23	0,02	1835	0,64	.522
	trust local government officials	0,28	0,21	0,07	1839	2,26	.024
Can one trust people or there cannot be too careful in relations with other people.	Do you trust people	0,37	0,29	0,09	1857	2,74	.006
Do you think that in generally speaking people try to use you or people act as a fairy way	People misuse you (reversed)	0,38	0,32	0,07	1852	2,08	.038
Do you think most of the people are helpful or do you think people think only their own best?	People are helpful	0,35	0,25	0,09	1854	3,35	.001
	My health is worse than others (reversed)	0,33	0,27	0,06	1826	1,99	.047
Income	Netincome (n=1100)	0,11	0,13	-0,02	1100	-0,48	.631
	Net income (n=1100; controlled by age)	0,10	0,13	-0,02	1100	-0,71	.478
	Enough incomes to cover expend.	0,28	0,31	-0,03	1677	-0,95	.342
	Enough incomes to cover expend. (controlled by age)	0,26	0,29	-0,03	1677	-0,94	.347
Societal position	Position (self ranked) within hierarchy of society	0,50	0,57	-0,07	1863	-3	.003
	Satisfaction with own societal position (SSP)	0,48	0,51	-0,04	1855	-1,21	.226
	Student: SSP	0,53	0,53	0,00	174	0	1.0
	Retired: SSP	0,57	0,61	-0,04	195	-0,6	.549
	Unemployed: SSP	0,45	0,55	-0,10	139	-1,1	.271
	Blue-collar: SSP	0,40	0,41	-0,01	647	-0,21	.834
	Lower white-collar: SSP	0,50	0,44	0,06	187	0,74	.459
	Upper white-collar: SSP	0,38	0,49	-0,11	274	-1,58	.114
	Entrepreneur: SSP	0,40	0,45	-0,05	129	-0,48	.631
	Farmer:SSP	0,48	0,74	-0,26	21	-1,28	.201

4   ROBUSTNESS CHECKS

So far, the analyses supported our hypotheses. Below we report some further checks**.**

4.1   Correspondence with happy/rich

In table 2 we answered research question 1 on differences between 'feeling well' and 'getting what you want in life' and concluded that people do recognize the difference between the components of happiness as put forward in Veenhoven's theory. But could the responses be haphazard? If this is the case, there will be little correspondence with other reports of the respondents situations made in the WEBE interviews. We checked for this using a combination of responses on the question on life-satisfaction and a question on the respondent's financial situation.

Satisfaction with life (overall happiness) was split into two categories, above average (8-10), and average or below average (0–7). Financial situation was measured using the question "When all sources of your household income are taken into consideration, are you able to cover all of your normal expenses?" The response alternatives ranged from one to six: with great difficulty (1); with difficulty (2); with a little difficulty (3); fairly easily (4); easily (5); and very easily (6). Answers were split in two categories: those who had difficulties (1–3) and those who did not (4–6). Together this resulted in four types: unhappy-poor, unhappy-rich, happy-poor and happy-rich.

Unhappy-poor people were hypothesized to be more likely to have ticked option 'd' of life falling short of wants and feeling bad and this appears to be the case indeed (see table 7). Likewise, happy-rich people must more likely to tick option 'b', and this appears also to be the case. Multinomial Logistic Regression showed that the constructive measure (C^{iii}) was predicted by integrated measure (I) (Chi2 643,650, p<.000; Classification 60,7 %). Coefficient of Determination (Nagelkerke) was .334.

4.2   Alternative measure of contentment and overall happiness

We measured each of the three conceptual variants of happiness using a single survey question. This involved the risk that the results might be influenced by the wording of the question rather than the concepts they were designed to indicate. To rule out this possible source of error, we used using differently worded questions on the same topics for a robustness check.

Above we reported such a check of the findings obtained in the 2012 WEBE study by a replication in the 2016 TITA survey using differently phrased questions in the three happiness variants. Both surveys yielded similar results. See tables 3 and 4.

The 2012 WEBE study allowed an additional check; the questionnaire contained a further question on contentment, which read as follows: *How satisfied are you with what you are achieving in life?* (0: no satisfaction at all 10 completely satisfied). Responses to this question were highly correlated with the responses to the question on 'having what you want' we used to measure 'contentment'. Results were almost identical. Note: data not reported but available on request.

Table 7
Cross-tabulation of an integrated affect–contentment measure (I) and constructed measure (C) (sufficiency of income combined with overall satisfaction with life).

Some people get all they want in their life but do not feel very well. There are also people who want much more in life than but mostly feel quite fine. How about you? Which of the statements below fits you best?		"Unhappy poor"	"Unhappy rich"	"Happy poor"	"Happy rich"	All
a. So far, I have got most of the things I want from life, but I do not feel very happy most of the time	N	45	67	13	58	183
	%	16.3	**27.2**	4.2	6.1	10.2
b. I want more of life than I have got so far, but I feel quite happy most of the time	N	102	102	200	510	914
	%	37.0	41.5	**64.5**	53.3	51.1
c. So far, I have got most of the things I want from life, and I feel quite happy most of the time	N	10	19	87	382	498
	%	3.6	7.7	28.1	**39.9**	27.8
d. I want more from life than I have got so far, and I do not feel very happy most of the time	N	119	58	10	7	194
	%	**43.1**	23.6	3.2	0.7	10.8
	N	276	246	310	957	1789
	%	100	100	100	100	100

The 2012 WEBE questionnaire also involved Diener's (2010) Flourishing Scale (FS) and Cummins' (2013) Personal Wellbeing Index (PWI). We tested whether hedonic level of affect (A) and contentment (C) relate differently to these variables. Affect (A) was more strongly correlated to both variables than contentment (C), Beta's are respectively +.47 vs +.29 and +.43 vs +.38.

4.3   Direct effect of hedonic component on happiness
We used SEM analysis to check whether the affective component relates directly to overall happiness rather than indirectly through contentment in section 3.4. In addition, we tested such moderating effect in another way, dividing contentment into three categories: 0 to 6 (low contentment), 7 to 8 (average contentment) and 9 to10 (high contentment). Separate regression analysis was done on the resulting data. R^2s were: .480, .277, .389 and standardized coefficients: .694, .527 and .625. Based on previous findings and looking at figure 3 it seems that contentment is not a moderator between affect level and overall happiness.

5   DISCUSSION

5.1   Summary of results

According to Veenhoven's (2009) need-theory of happiness, hedonic affect typically dominates contentment in one's overall evaluation of one's life. Earlier attempts to verify this theory have had problems with incomparable response scales (cf. Section 1.3). These problems were met in the studies reported in this paper and the data now support the theory.

First, we inspected whether people recognized the difference between the hedonic level of affect and contentment. It appeared that they do.

Secondly, we tested the implication that the two components of happiness taken together predict overall happiness better than when used independently. Our hypothesis was confirmed in these data.

Thirdly, we tested the hypothesis that hedonic level dominates in the overall evaluation of life. We again found this to be true based on our data.

Fourthly, we inspected whether hedonic level affects overall happiness directly, rather than indirectly through contentment. Our data also supported this hypothesis.

Our fifth hypothesis dealt with differences in the determinants of both components of happiness. We found that contentment was more related to success in the common standards of a good life (such as income), while hedonic level related more strongly to manifestations of thriving (such as physical health and social participation).

Figure 3
Overall happiness by affect at three levels of contentment.
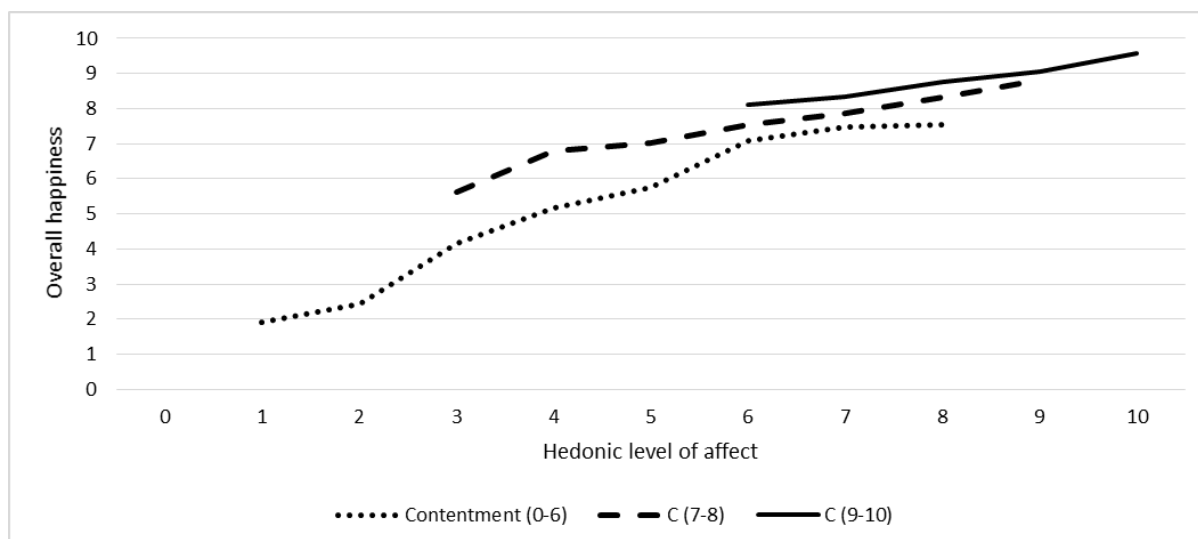
Data WEBE survey
Categories with less than ten observations rejected. GLM Univariate

We can now clearly state that our data support Veenhoven's (2009) theory of how we assess how happy we are. People can distinguish between how well they feel most of the time and to what extent they are getting what they want from life. Their overall evaluation of life depends more on the affective appraisal than on cognitive judgment.

5.2   Difference from earlier research

Rojas and Veenhoven (2013) worked with aggregated data and found that contentment was the strongest predictor of overall happiness. For the present analyses, we used individual level data. Another difference is how the three kinds of happiness were measured. These measures differed in time-frame and in the rating scales in the study of Rojas and Veenhoven, while the measures in this study differed only in the kind of happiness addressed.

Our results differ from the meta-analysis of individual level inter-correlations between variants of happiness presented in Rojas and Veenhoven (2013), who found little difference in correlation of the two components of happiness with overall happiness. Our results fit the results of the few studies reported in Rojas and Veenhoven in which comparable rating scales have been used (cf. Section 1.3).

5.3   Direction of causality

In search of an answer to the question of how people assess how happy they are, we assumed that our overall evaluations of our lives draw on sub-evaluations and thus made the assumption of a causal effect of the latter on the former. This assumption is depicted graphically by the upward pointed arrows in figure 1, and we have interpreted the observed correlations accordingly.

Yet reversed causality is also possible, an overall evaluation of one's life may influence how well one feels and how successful one thinks to be in getting what one wants. In the literature on the relationship between satisfaction with life-as-a-whole and satisfaction with life-domains this is known as the 'top-down' effect (e.g. Heady et al 1991).

One can imagine that overall happiness will colour our perceptions of success in meeting our wants, e.g. when dissatisfied with life, we will pay more attention to what we want and what we do not get. This effect is shown in the down-pointing arrow in figure 1 that moves from overall happiness to contentment. It is less likely that one's daily mood depends very much on our overall evaluation of our life, especially in view of the theory that affect prevails over cognition in judgments (Zajonc 1984). Accordingly, there is no down pointing arrow at the left-top of figure 1.

If reversed causality runs mainly from overall happiness to contentment, that would support our hypothesis that the overall evaluation of life draws more on hedonic level than on contentment, since the (lower) correlation between overall happiness and contentment reflects bi-directional effects, while the (stronger) correlation between overall happiness and hedonic level of affect indicates a uni-directional effect of the latter on the former.

As yet, there is no empirical evidence to support such top-down effects, not even for the existence of any such effect, nor for a greater effect of overall happiness on contentment than on hedonic level. Assessment of causality requires experimental studies, or at least good follow-up research, which is not easily done in this field. At first blush, reversed causality seems to have been demonstrated in a recent follow-up study by Busseri (2015), but a close reading of the paper shows that this study did not assess overall happiness; what Busseri denotes 'life-satisfaction' is what we denote 'contentment'. Busseri's 'life satisfaction' is measured using the Cantril ladder question. This is not just a matter of measurement, it is also one of conceptualization; 'overall happiness' does not exist in Busseri's 'three-partite structure of subjective wellbeing'[iv]. In our terms, Busseri has studied the relationships between the two components of happiness, but not with overall happiness.

5.4 Further research

For now the best available data to support Veenhoven's theory, to our knowledge, is that presented here. This is the first survey study that used questions on all three happiness variants that differ only in content, but are otherwise identical in format. This will not be the last word on this subject.

Further research should be done to consider alternative measures for the three happiness variants. One way to do this would be to explore the effect of using different keywords in survey questions, such 'happiness' instead of 'satisfaction with life' and 'mood' instead of 'feeling pleasant' and such variations should be tested in different languages.

Another option would be to apply different methods to assess the components of happiness, for example in the case of the hedonic level using repeated assessment of mood via experience sampling and, for the case of contentment, findings ways to assess specific wants and perceived success in realizing these. Yet that approach requires that the method effects be quantified and corrected for.

An alternative approach is meta-analysis of the many correlations between happiness variants, in which method effects are filtered away. The many findings gathered in the World Database of Happiness can be used for that purpose.

Furthermore, as discussed in section 5.3, there is the possibility of a top-down effect of overall happiness on both components of happiness. This issue needs to be addressed in future follow-up studies.

Lastly, this study should be replicated in other populations than working age people in Finland. Veenhoven's theory presumes universal validity. The earlier cross-national studies at the macro-level do support that view, but cross-national validity at the micro-level is not yet demonstrated.

6.0 CONCLUSIONS

People can distinguish between how well they feel most of the time and to what extent they are getting what they want from life. Their overall evaluation of life depends more on the affective appraisal than on cognitive judgment.

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END NOTES

[i] A related distinction is between affective and cognitive dimensions of 'subjective wellbeing' (SWB), which is a wider notion than the concept of 'happiness' at hand here. In that context affective wellbeing (AWB) is seen as mood level, while cognitive wellbeing (CWB) is often equated with life-satisfaction, e.g. by Busseri (2011, 2015) or includes satisfaction with domains of life (e.g. Luhmann (2012a and b)

[ii] Evidence for related distinctions in subjective wellbeing has been provided by e.g. Busseri & Salvada (2011) and by Luhmann et al. (2012a, b). Yet their notions of wellbeing differ from the concept of overall happiness used here.

[iii] In this context, the symbol 'C' does not stand for 'contentment' as elsewhere in this text.

[iv] This illustrates the difference in conceptualization of aspects of happiness discussed in section 1 of this paper. Busseri thinks of subjective wellbeing as a comprised construct, either a sum of parts or a statistical reflection of these. In the thinking of Veenhoven (2009), followed here, overall happiness is something more palpable; (how much one likes the life one lives), which can be measured as such.