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Veenhoven, R.

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HOW DO WE ASSESS HOW HAPPY WE ARE?
Tenets, implications and tenability of three theories

Ruut Veenhoven[1]

ABSTRACT
Utilitarian moral philosophy holds that we should aim at greater happiness for a greater number. Yet two theories about how we assess how happy we are imply that there is not much value in happiness and that happiness cannot de raised lastingly. These two theories are: (1) 'Set-point' theory, which holds that we are mentally programmed for a certain degree of happiness, and (2) 'Comparison' theory holding that happiness results from a rational mental calculus involving comparison with standard of the good life. An alternative mental theory that fit better with utilitarian creed is the (3) 'Affect' theory that happiness depends on unreasoned emotional experience, which reflects gratification of needs.

These theories are described, their theoretical plausibility is discussed and the empirical support evaluated. It is concluded that the first two theories fall short as a general explanation. Happiness seems to be inferred from how we feel in the first place. Hence there is no reality ground for rejecting the greatest happiness principle as a moral lead.

1 THE PROBLEM

Happiness is a highly valued in present day society. Not only do people aim at happiness in their own life but there is also growing support for the idea that we care for the happiness of other people and that governments should aim at creating greater happiness for a greater number of citizens (Bentham 1789). This classic philosophy is not only more accepted these days, but also more practicable, now that scientific research provides more view on the conditions for happiness (Veenhoven 2004).

In that context, happiness is commonly understood as *how much one likes the life one lives*, or more formally, the degree to which one evaluates one's life-as-a-whole positively. A central element in this definition is subjective 'evaluation' or 'liking' of life, also referred to as 'satisfaction' with life. These words refer to a mental state but leave some ambiguity about the precise nature of that state. How do we evaluate life? That question is differently answered in three theories.

Set-point theory sees the evaluation as a stable attitude towards life and focuses more on the mental processes that maintain this attitude than on the processes that have brought it about. Comparison theory sees evaluation rather as a continuous judgment process involving the comparison of perceptions of life-as-it-is with notions of how-life-

Correspondence: Prof. Dr. Ruut Veenhoven Erasmus University Rotterdam, Faculty of Social Sciences, P.O.B. 1738 3000 DR Rotterdam, Netherlands. www2.eur.nl/fsw/research/veenhoven

should be. Affect theory sees happiness also as a continuous mental process, but now as an appraisal of how well one feels usually.

These different *descriptive* theories of how we assess how happy we are have great implications for *prescriptive* theories of happiness. Set-point theory, and to a lesser extend also comparison theory, implies that there is little value in happiness and that there is also little chance of furthering happiness enduringly and this goes against the utilitarian tenet that we should aim at greater happiness for a greater number.

This begs the question whether these theories adequately reflect reality or not. Do they apply at all, and if so, do they apply equally well or do some apply more than others? Over the last 15 years I have addressed these questions in several publications (Veenhoven 1991, 1994, 1995, 1997). In this chapter I develop the argumentation further, linking up with an evolutionary perspective and take new empirical findings into consideration. I will also reflect on Cummins' (19??) recent 'homeostatic' theory of happiness.

Below I will start with a closer look at the concept of happiness and next review each of the above mentioned theories about how we assess how happy we are. Each of these theories I will be discussed in the following way. First I describe the main tenets and variations. I then discuss in more detail what moral implications these theories have. Next I will evaluate each of these views by considering their theoretical plausibility and the empirical support. I start with a precise definition of happiness.

2   CONCEPT OF HAPPINESS

The word happiness is used in different meanings that are often mixed up. To avoid such confusion, I will review the main connotations and select one of these, which I will analyze in more detail.

2.1   Meanings of the word
When used in a broad sense, the word happiness is synonymous with 'quality of life' or 'well-being'. In this meaning it denotes that life is good, but does not specify what is good about life. The word is also used in more specific ways, and these can be clarified with the help of the classification of qualities of life presented in Scheme 1.

2.1.1   *Four qualities of life*
This classification of meanings depends on two distinctions. Vertically there is a difference between chances for a good life and actual outcomes of life. Horizontally there is a distinction between 'external' and 'internal' qualities. Together, these distinctions mark four qualities of life, all of which have been denoted by the word 'happiness'.

Livability of the environment
The left top quadrant denotes the meaning of good living conditions. Often the terms 'quality-of-life' and 'wellbeing' are used in this particular meaning, especially in the writings of ecologists and sociologists. Economists sometimes use the term 'welfare' for this meaning. 'Livability' is a better word, because it refers explicitly to a characteristic of the

environment. Politicians and social reformers typically stress this quality of life and sometimes refer to it as happiness. I rather see it as a condition for happiness and <u>not</u> happiness as such. One can live in excellent circumstances but still be unhappy, because of an inability to reap the chances

Life-ability of the person
The right top quadrant denotes inner life-chances. That is: how well we are equipped to cope with the problems of life. This aspect of the good life is also known by different names. Especially doctors and psychologists also use the terms 'quality of life' and 'wellbeing' to denote this specific meaning. There are more names however. In biology the phenomenon is referred to as 'adaptive potential'. On other occasions it is denoted by the medical term 'health', in the medium variant of the word. Sen (1992) calls this quality of life variant 'capability'. I prefer the simple term 'life-ability', which contrasts elegantly with 'livability'. This quality of life is central in the thinking of therapists and educators. I also see this as a prerequisite for happiness and <u>not</u> as happiness itself. Even a perfect person will be unhappy when living in Hell.

Utility of life
The left bottom quadrant represents the notion that a good life must be good for something more than itself. This presumes some higher value, such as ecological preservation or cultural development. Moral advisors emphasize this quality of life. This usefulness of life has also been denoted with the word happiness, but again I do <u>not</u> follow that use of words. I my language one can lead a useful life but still be unhappy.

Satisfaction with life
Finally, the bottom right quadrant represents the inner outcomes of life. That is the quality in the eye of the beholder. As we deal with conscious humans, this quality boils down to subjective appreciation of life. This is commonly referred to by terms such as 'subjective wellbeing', 'life-satisfaction' and also 'happiness'. I follow that latter use of the word.

2.1.2 *Four kinds of satisfaction*
This brings us to the question of what 'satisfaction' is precisely. This is also a word with multiple meanings and again we can elucidate these meaning using a simple scheme. Scheme 2 is based on two distinctions; vertically between satisfaction with 'parts' of life versus satisfaction with life 'as-a-whole', and horizontally between 'passing' satisfaction and 'enduring' satisfaction. These two bi-partitions yield again a four-fold taxonomy.

Pleasures
Passing satisfaction with a part of life is called 'pleasure'. Pleasures can be sensoric, such as a glass of good wine, or mental, such as the reading of this text. The idea that we should maximize such satisfactions is called 'hedonism'. The term happiness is sometimes used in this sense and then denotes a particular pleasant experience. I do <u>not</u> use the term happiness for this matter.

Part-satisfactions
Enduring satisfaction with a part of life is referred to as 'part-satisfaction'. Such satisfactions can concern a domain of life, such as working-life, and aspects of life, such as its variety. Sometimes the word happiness is used for such part-satisfactions, in particular for satisfaction with one's career. I do <u>not</u> use the term happiness in this meaning

Peak-experience
Passing satisfaction can be about life-as-a-whole, in particular when the experience is intense, pervasive and 'oceanic'. This ecstatic kind of satisfaction is usually referred to as 'peak-experience' or 'bliss'. When poets write about happiness they usually describe an experience of this kind. Likewise religious writings use the word happiness often in the sense of a mystical ecstasis. Another word for this type of satisfaction is 'Enlightenment'. I do <u>not</u> use the term happiness in this sense.

Life-satisfaction
Enduring satisfaction with one's life-as-a-whole is called 'life-satisfaction' and also commonly referred to as 'happiness' and as 'subjective wellbeing. I <u>do</u> use the word happiness in this meaning, and will use it interchangeably with 'life-satisfaction'.

2.2 Definitions of happiness as life-satisfaction
This brings us to the question what 'life-satisfaction' is precisely. A review of the various definitions reveals that this concept is often linked to mental processes supposed to be involved, definitions of happiness reflecting theories of happiness.

Affective definitions
Several definitions depict happiness as an affective phenomenon. For instance Wessman & Ricks (1966: 240/1) wrote: "Happiness appears as an overall evaluation of the quality of the individual's own experience in the conduct of his vital affairs. As such, happiness represents a conception abstracted from the flux of affective life, indicating a decided balance or positive affectivity over long periods of time". In a similar vein Fordyce (1972:227) states "Happiness is a particular emotion. It is an overall evaluation made by the individual in accounting all his pleasant and unpleasant experiences in the recent past. These definitions are close to Jeremy Bentham's (1789) famous definition of happiness as 'the sum of pleasures and pains', which also involves the notion of an 'affect balance'. A contemporary variation on this theme is proposed by Daniel Kahneman's (2000) in the notion of 'objective happiness', which is the 'raw' affective experience that underlies the overall evaluation of life[2].

Cognitive definitions
Happiness is also defined as a cognitive phenomenon, that is, as the result of a deliberate evaluation process. In that vein McDowel & Newell (1987: 204) describe life-satisfaction as a "Personal assessment of one's condition compared to an external reference standard or to one's aspirations". Likewise, Shin & Johnson (1978: 478) defined life-satisfaction as a "global assessment of a person's quality of life according to his chosen criteria".

Some of the definitions in this line stress the active achievement of life goals (e.g. Annas, 2004), while others rather stress the absence of unfulfilled aspirations, e.g. Schmitz (1930: 234) who depicted happiness as: a ".. state of being without desires". In all conceptualizations happiness is deemed to be higher, the smaller the distance between standard and reality.

Attitudinal definitions
Happiness has also been depicted as a happy disposition and as a positive attitude towards life. In this line Lieberman (1970: 40) wrote ".. at some point in life. Before even the age of 18, an individual becomes geared to a certain stable level of satisfaction, which – within a rather broad range of environmental circumstances – he maintains throughout life. Some of these definitions of this kind stress the consistency in affective response, while others rather see it as a belief system.

Mixed definitions
Several definitions combine one or more of the above elements. For instance Diener defines Subjective Well-Being (SWB) as being satisfied with life (attitude), while feeling good (affect), in his own words: "Thus a person is said to have high SWB if she or he experiences life satisfaction and frequent joy, and only infrequently experiences unpleasant emotions such as sadness or anger. Contrariwise, a person is said to have low SWB if she or he is dissatisfied with life, experiences little joy and affection and frequently feels negative emotions such as anger or anxiety" (Diener et al 1997: 25). All three elements are involved in Chekola's (1974: 2002) definition of happiness as ".. realization of a life-plan and the absence of seriously felt dissatisfaction and an attitude of being displeased with or disliking one's life'. Likewise Sumner's (1997: 145/6) describes 'being happy' as "..having a certain kind of positive attitude toward your life, which in the fullest form has both a cognitive and an affective component. The cognitive aspect of happiness consists in a positive evaluation of your life, a judgment that at least on balance; it measures up favorably against your standard or expectations… The affective side of happiness consists in what we commonly call a sense of well-being, finding your life enriching or rewarding or feeling satisfied or fulfilled by it."

2.3   **My conceptualization of 'overall' happiness and 'components'**
In my own conceptualization of happiness similar distinctions are used, but in a more systematic way. I distinguish between 'overall' happiness and 'components' of happiness and assume that the latter function as 'sub- totals' in the overall evaluation of life.

Overall happiness
Overall happiness is defined as "the degree to which an individual judges the overall quality of his life-as-a-whole favorably" (Veenhoven 1984: 22-24). Thus defined happiness appears as an attitude towards one's own life, that has some stability of its own and that involve related feelings and beliefs. These feelings and beliefs are seen as 'components' of happiness.

Components of happiness
When evaluating their lives, people can use two more or less distinct sources of information: their affects and their thoughts. We can 'observe' that we feel fine most of the time, and we can also 'judge' that life seems to meet our (conscious) demands. These appraisals do not necessarily coincide. We may feel fine generally, but nevertheless be aware that we failed to realize our aspirations. Or we may have surpassed our aspirations, but nevertheless feel miserable. The relative weight in the overall evaluation is variable in principle; it is an empirical question to what extend one component dominates the other.

Hedonic level of affect
We experience different kinds of affects: feelings, emotions and moods and these experiences have different dimensions, such as active - inactive and pleasant - unpleasant. That latter dimension is called 'hedonic tone'. When we assess how well we feel we typically estimate the pleasantness in feelings, in emotions, as well as in moods. I call this 'hedonic level of affect' and this concept fits the above mentioned 'affective' definitions of happiness.

A person's average hedonic level of affect can be assessed over different periods of time: an hour, a week, a year as well as over a lifetime. The focus here is on 'current' hedonic level. This concept does not presume subjective awareness of that average level. One can feel good most of the time, without being fully aware of that. Therefore this concept can be applied to beings who cannot reflect on their own life, such as animals and little children.

Contentment
Unlike animals and little children most adults can also evaluate their life with the use of reason and compare life-as-it-is with notions of how one wants-life-to be. The degree to which an individual perceives his wants to be met is called 'contentment' and this concept equals the above mentioned 'cognitive' definitions of happiness.

This concept presupposes that the individual has developed some conscious wants and has formed an idea about their realization. The factual correctness of this idea is not at stake.

This conception of happiness as a 'trinity' is summarized in Scheme 3. It helps to place different theories about how we asses how happy we are.

3   **SET-POINT THEORIES OF HAPPINESS**

Set-point theories of happiness hold that we programmed to experience a certain degree of happiness, largely irrespective of how well we are doing. In this view happiness just happens to us.

3.1   **Variants**
A classic religious version of this theory is Devine predestination, God having decided that some people will be happy and others not, just as he foresees who will enter Heaven

and who will be dammed to Hell. Secular variants assume that happiness is geared by mental inclinations that are also beyond a person's control.

Genetic disposition
This variant holds that happiness is largely determined by an innate disposition to enjoy life or not. A spokesman of this view is Lykken (1999), who claims to have shown that 80??% is heritable. There is uncertainty about the nature of this disposition, some see that in the reward system of the brain and link it to positive or negative 'affectivity' while others hold secondary effects responsible, such as inborn physical health.

In the latter case, happiness is essentially a variable state, though it tends to remain at the same level because of constancy in its determinants. Below I will not discuss that variant of set-point theory.

Personality trait
Another current view is that happiness depends very much on personality traits, that is, predispositions to react in a certain way. One of these ways is liking things or not and Personality traits such as 'extraversion' and 'neuroticism' are seen to determine our affective reactions to and perceptions of things that happen to us. It is generally assumed that these traits have a genetic component.

In this view personality molds the evaluation of life. Personality can also affect happiness through its impact on the course of life-events, and this is central in the dynamic-equilibrium theory of Heady & Wearing (1992). Yet again, I do not consider that a set-point theory, because happiness itself is essentially a variable state in this idea.

Cultural view
A macro-level variant of this theory is that the view on life is embodied in the national character. In this line Inglehart (1990: 30) wrote that cross-national differences in happiness "reflect cognitive cultural norms, rather than individual grief and joy". In an earlier paper I have depicted that view as the 'Folklore theory of happiness (Veenhoven 1995: 35).

Homeostatic maintenance
While the above set-point theories aim at explaining *differences* in happiness, there are also theories of this kind that focus at the *general* level of happiness. These are motivational theories that assume that we tend to maintain a comfortable level of happiness, even in adverse conditions. In that line Cummins et. al. (2002) hold that we unconsciously keep happiness between 7 and 8 on a 10-step scale, just as we maintain a body temperature of 32 degrees Celsius

3.2 Implications
These theories imply that there is little chance of creating greater happiness for a greater number, since happiness is a stable trait rather than a variable state and as such not responsive to external conditions. In this view one can at best try to raise that fixed level a bit, be it with genetic engineering or training.
The theory also implies that there is little sense in raising happiness, since happiness is unrelated to the wider thriving of the individual. In this view being happy or not is

comparable to liking chocolate or not; fine if you do but no real problem if you don't.

3.3   Theoretical plausibility

It is plausible that differences in stable *conditions for* happiness create stable differences in *level of* happiness and conditions for happiness can be external or internal (cf. Scheme 1). It is also plausible that happiness tends to remain at a similar high level in the favorable and stable conditions of modern society. Yet set-point theory holds that the stability is not in the pre-conditions, but in the evaluation itself and that is not so plausible.

Why then do we evaluate life at all if we always end up to the same conclusion? In this light it is difficult to see why happiness is so prominent in people's minds, e.g. that they think of it almost every day (Freedman 19??). One also wonders why evolution has developed the ability to evaluate if the evaluation of life boils down to a fixed response Set-point theory implies that happiness does not serve any function in human life and that being happy or unhappy is as trivial as having brown or blond hair. It can hardly be reconciled with the fact that happiness is universally pursued and neither with the fact that being happy or not appears to be closely linked to how well we thrive. Taken to the extreme, set-point theory would predict that we are equally happy in Heaven as in Hell and this is hard to believe.

3.4   Empirical support

At first sight there is strong empirical support for the set-point theory, happiness tending to be stable over time. Follow-up of individuals show little change in happiness from one year to another and if changes occur, these are typically short lived. Trend analysis of average happiness in nations shows also much stability.

Yet at a closer look we see also change. Long-term follow-up of individuals reveals considerable mobility along the life-satisfaction ladder in modern society, Ehrhardt et. al. (2000) estimated that over a lifetime only 30% of the original rank order in happiness will be left. Follow-up studies have also shown that at least some life-events bring about a permanent change life-satisfaction, for instance getting married or losing ones job'. Though people tend to adjust to external shocks in their lives that adjustment is not always complete (Diener et. al. 2006). Likewise, average happiness in nations appears not to be immutable, average happiness has risen gradually in most nations over the last 30 years (Veenhoven & Hagerty 2006) while in some countries an abrupt fall in happiness occurred, e.g. in Russia after the 'Rubel crisis' in the late 1990s (Veenhoven 2001).

At first sight there is also empirical support for Cummins' theory that we tend to maintain a level of satisfaction between 7 and 8. Studies in modern western nations showed indeed a concentration of responses in these categories, but surveys in less fortunate places show another picture, e.g. an average of 3.2 in Tanzania and in the above mentioned case of Russia a dip from 5.1 to 4.1. Another finding that contradicts this theory is the high number of score 9 and 10 in some western nations, e.g. 20% 10 in Switzerland.

4   COGNITIVE THEORIES OF HAPPINESS

Cognitive theories hold that happiness is a product of human thinking and reflects discrepancies between perceptions of life-as-it- is and notions of how-life-should-be. Notions of how life should be are assumed to root in collective beliefs and to vary across cultures. This view on happiness is dominant in philosophy and also pervades the thinking of many social scientists

4.1   Tenets

The basic assumption of this theory is that happiness is based on the comparison with standards, though there is difference on the nature of these standards and ways of comparison. Another basic assumption is that collective beliefs are involved.

Comparison

The theory assumes that we have 'standards' of a good life and that we constantly weigh the reality of our life against these standards. Standards are presumed to be variable rather than fixed and to follow perceptions of possibilities. In other words: we would tend to judge life by what we think it can realistically be. Different theories stress different standards. In the variant of *life-time comparison* the focus is on whether we are doing better or worse than before. In that view a happy youth will not add to happiness in adulthood. The *social comparison* variant stresses how well we are doing relative to other people, and in particular people like us. In that view happiness is surpassing the Jones. Several of these theories are combined in Michalos'(1985) 'Multiple Discrepancies Theory' of happiness, which assumes that we not only compare with what we want and with what others have, but also with what we need and with what we deem fair.

Social construction

The idea that we compare to standards begs the question of where these standards come from. This is typically seen as an outcome of socialization, involving the adoption of collective notions of the good life, sometimes with minor modifications. These collective notions of the good life are seen as 'social constructions' that draw heavily on the wider culture and shared history. In this line some sociologists argue that happiness as such is also a social construction. In that view, happiness is a culturally variable concept, comparable to the notion of 'beauty'.

Reflected appraisal

A sociological variant holds that we not only compare life our self with our own standards, but that we also appraise our life through the eyes of others, in other words, that in assessing how happy we are we estimate how happy other people think we are. If so, this enhances the salience of shared standards of the good life

This theory is summarized in Scheme 4

4.2   Implications for happiness promotion

This theory holds that happiness does not depend on objective conditions of life, but on the standards by which these conditions are judged. As such, it also implies that there is

little value in happiness. One reason is that happiness may be bought by a lowering of standards, as advocated in some variants of Buddhism. A second reason is the relativistic argument that all standards of the good life are mere collective illusions, with limited appeal in a particular time and place.

Most cognitive theories imply also that there is little chance of creating greater happiness for a greater number, in particular the theories that assume that standards adjust to reality. Some variants of this theory predict that happiness will vary around the neutral level (e.g. Unger 1970), while some variants even predict that most people will be unhappy, e.g. theories that stress the social salience of success in advertisements and the news.

4.3   Theoretical plausibility

It is reasonable to assume that we use our thinking in appraising the quality of our life. Yet it is not so reasonable to assume that thinking is the only way to assess how happy we are. If so, little children cannot be happy, because they lack the ability to define standards of the good life and compare with reality. If thinking were the only way of assessing how we are doing one also wonders what our affect system is good for and why affective experience is so pervasive. Is affect then a mere remnant of the past?

Still another qualm is that standards of the good may be less clear than assumed. We mostly have some notions in mind, but typically not a clear hierarchy or wants and having a 'rational life plan' seems to be more exception than a rule.

There is also a problem with the implication that happiness does not depend on real conditions of life but on the intellectual yardsticks by which these are valued. This would mean that one can be perfectly happy in Hell, provided that one does not know better or that one is socialized to believe that this is the best place to be. In this view there is no adaptive value in happiness and, in fact, not in thinking either.

This problem is mainly in the assumptions of how collective notions of the good life come about. If one assumes that these are unique constructs, following the internal logic of particular belief systems one end up concluding that happiness is of no consequence, which I deem implausible from an evolutionary point of view. If, on the other hand, one assumes that these notions reflect accumulated experience with the realities of life, the conclusion is rather that living up to these standards is mostly wise and that happiness is therefore an indication of proper living. As we will se below this view is compatible with the 'need' theory of happiness.

4.4   Empirical support

Correlational studies show typically a strong relationship between overall happiness and contentment. The smaller the gap between standard and reality, the higher the level of happiness (e.g. Michalos 1985). This correlation is generally interpreted as proof for the theory that happiness depends on the outcome of a comparison process, but causality could also work otherwise, happiness determining comparison, particularly the estimation of the size of gaps. This so-called 'top-down' effect was demonstrated in a follow-up study in Australia, by Headey et. al. (1991) for satisfaction with one's standard of living and with one's job.

Correlational studies further show relationships between happiness and perceived achievement of specific goals, such as completing a study or raising a family. Yet this

research also shows that success in some goals counts more than success in other goals, and in particular that success in material goals is relatively weakly related to happiness. It seems that achievement of intrinsic goals adds more to happiness than success in extrinsic goals (Kasser & Ryan 1993) and that contradicts the idea that happiness is geared by socially constructed standards in the first place.

There is also empirical support for the assumption that standards adjust over time and that effects of life-events on happiness are therefore short lived. For instance, follow-up of people who had had a financial windfall showed an uplift of happiness that lasted only one year (Clark et al 2003) Yet entering marriage appears to have more lasting effects on happiness, in particular for people who were not too happy when single and severe physical handicaps such as spinal cord injury appear to reduce happiness permanently. For reviews of the data see Veenhoven (1994) and Diener et al. (2006).

Another disconfirming finding is that most people tend to be happy most of the time, while life-time comparison theory would predict that the average is about neutral and some variants of social comparison theory imply that the average must be below neutral.

A further fact that does not fit the theory is the close relationship between average happiness in nations and objective quality of life. Average happiness differs widely across nations (between 8.2 and 3.2 on scale 0-10) and about 75% of these differences can be explained by variation in 'hard' societal characteristics such as economic affluence, freedom and democracy (Veenhoven 2004). These findings contradict the idea of culturally unique standards and adjustment to the possible. Interestingly, there appears to be neither relationship between average happiness and income-inequality in nations nor a relationship with state welfare effort, while these matters are widely seen as desirable. So, if notions of the good life affect happiness at all, not all affect happiness equally much.

5   AFFECTIVE THEORIES OF HAPPINESS

Affect theory hold that happiness is a reflection of how well we feel generally. In this view we do not 'calculate' happiness, but rather 'infer' it, the typical heuristic being "I feel good most of the time, hence I must be happy" (Schwartz & Strack 1991)

5.1   Tenets
In this line of thought, one question is how we take stock of our affective experience. Another question is what makes us feel good or bad and this links up to the wider question about the functions of affect.

Frequency of affect
It would seem that the overall evaluation of life is geared by the most salient affective experiences and that these are typically intense affects. This view is common in fiction and is more or less implied in life-reviews. Yet research using the Experience Sampling Method shows that it is rather the relative frequency of positive to negative affect that matters (Diener et. al 1991).

Mood as informant
How do we assess that relative frequency? The cognitive view on affect procession suggests that we compute an affect balance in some way, using estimates of frequency and duration. A competing view is that this occurs automatically and that the balance reflects in mood. In this view mood is an affective meta-signal that, contrary to feelings and emotions, is not linked to specific objects. Emotions denote an affective reaction to something and prepare the organism to a response, while negative mood signals that there may be something wrong and urge to find out what that is.

Gratification of needs
Why do we feel good or bad at all? Probably because that informs us in how well we are doing. Affects are an integral part of our adaptive repertoire and seem to be linked to the gratification of human needs. 'Needs' are vital requirements for survival, such as eating, bonding and exercise. Nature seems to have safeguarded the gratification of these needs with affective signals such as hunger, love and zest. In this view positive mood signals that all needs are sufficiently met at the moment. 'Needs' in this theory should not be equated with 'wants' in the above discussion of cognitive theories. Needs are inborn and universal while 'wants' are acquired and can de variable across cultures. Wants can concur more or less with needs.

Motivation to act
In this view negative and positive mood function as red and green lights on the human machine, indicating either that there is something wrong or that all systems are functioning properly. If so, this is likely to have behavioral consequences, negative mood urging to cautions and positive mood encouraging going on. This is what Fredrickson's (2004) 'broaden and built' theory is about.

This theory is summarized in Scheme 5.

5.2   Implications for happiness promotion
In this view, happiness is a desirable state, both because it signals good adaptation and because it enhances behavior that apparently works out well. This is at least so if one accepts that it is good that we live up to our nature.

In this view it is also possible to create greater happiness for a greater number. If happiness depends in the end on the gratification of human needs, we can advance happiness both by improving the livability of the environment (left top quadrant in Scheme 1) and by enhancing individual life-abilities (right top quadrant in Scheme 1). There are limits to that, but even if the average happiness of 8.2 in present day Denmark might be the highest possible level, there is still much room for improvement in the rest of the world

5.3   Theoretical plausibility
It is hard to imagine someone saying to enjoy life when feeling depressed most of the time. Such a person may say that his life is nevertheless 'meaningful' but that is not the same a 'satisfying'; remember the distinction in Scheme 1 between the 'usefulness' of a life and satisfaction with life.

This theory makes also sense in an evolutionary perspective. It is likely that evolution has developed ways of monitoring needs gratification, in particular in organisms that can choose. It is unlikely that rational thinking is the main way, since this developed late in evolution. It is quite likely that adaptation is guided by affective signals in the first place and that all higher animals can feel more or less well. It is unlikely that humans are an exception to this rule. The ability to think was added to an existing affect system and did not replace that. This can be seen in the structure of the human brain, where the affect system is located in the older parts that we have in common with other animals and the were the ratio is situated in the neo-cortex that is typical for the human kind.

5.4   Empirical support
Unlike 'wants', 'needs' cannot be measured and neither can 'need-gratification'. A direct test of this theory is therefore not possible. Still we can test implications of this theory
One implication is that people will be unhappy in conditions where basic human needs remain unmet, such in chronic hunger, danger and loneliness. This prediction is supported by the finding that average happiness is low in poor countries with failed states. Support can also be seen the rising happiness in modern nations (Veenhoven 2005). At first sight the prediction is contradicted by absence of a correlation between individual happiness and income in rich nations, but this may mean that the material needs of even the poor are gratified. Gratification of social needs is less well secured in rich nations and consequently we do see a substantial impact of marriage and friendship on happiness.
Another testable implication is that happy people must thrive better biologically. This appears indeed in greater longevity of the happy. Well controlled long-term follow-up studies show sizable effects, comparable to smoking or not (Veenhoven 2006)

6   HOW APPRAISALS RELATE

So far I have depicted these ways of evaluating life as separate appraisals, that each influence the overall evaluation of life in their own way. Yet these mental processes are linked in several ways. Scheme 6 summarizes some probable interactions.

Set-points root in earlier appraisals
If understood as a stabilized attitude, set-points must have developed in the past on the basis of experience. This is not necessarily only one's own experience, since attitudes can also be copied. Still, in the case of this attitude towards one's own life it is likely that one own experiences play a role and as such it is likely that set-points root in earlier affective and cognitive appraisals. In this view set-points are an echo of the past that are likely to wane in the course of time and then be revised, in particular when major life-change urges to a reappraisal. In that case affective and cognitive appraisals appear on the scene again.

Hedonic affect influences contentment
In this line it seems probably that hedonic level of affect plays a role in the comparison process, in particular in the assessment of the gap between want and reality. When feeling good we will tend to see small gaps and when feeling bad we may attribute that feeling to wide gaps. This affective 'bias' is probably stronger at the higher level of aggregation, it may not affect appraisals of success to specific standards too much, such as the appraisal of whether your dissertation met your scientific aspirations, but is likely to influence estimates of success in meeting all standards of the good life. In relation to overall happiness this is known as the 'mood' effect and this is depicted with arrow 1 in Scheme 6. In this reasoning we could call it the 'left-right' effect (arrow 2).

Affective experience may also gear cognitive appraisal of life at a deeper level. Shared standards of the good life are likely to build on earlier experience of what leads to a satisfying life and in this way connect to human needs (arrow 5). In this view, wants will typically be vessels for needs and will 'false wants' be an exception rather than the rule. A reversed effect is unlikely; cultural standards of the good life have no influence on innate human needs. Likewise, wider human nature influence wider human culture, or sets at least limits to cultural variation (arrow 6), while human culture does not shape human nature.

Comparison impinges on affect
An extreme version of cognitive theory holds that hedonic affect is entirely due to goal-attainment; what ever that goal is (e.g. ??). This is clearly not true, not only because we can feel good or bad for no apparent reason, but also because not all achievements are equally satisfying (c.f. Kasser & Ryan mentioned above).

Still we do react affectively on meeting some standards and this is particularly true for meeting standards of performance. Possibly this is mainly due to the gratification of related needs, such as the needs for self-esteem and self-actualization, but we cannot rule out that the meeting of the standard in itself also generates positive affect.

Affective reactions to comparison are particularly likely in the case of meeting standards in the eye of others. Like other social animals we seem to have an innate need for acceptance by the congeners around us (c.f. Maslow's need for social respect) and one can well imagine why such a need has developed in evolution. If so, we are likely to enjoy the meeting shared standards of performance, even if the performance itself is not gratifying. This is another instance where needs and wants overlap and this effect is denoted with the arrows 3 and 4 in Scheme 6.

7   WHY AFFECTIVE INFERENCE DOMINATES

The theories discussed above are not mutually exclusive. In assessing how happy we are we may draw on both affective experience and cognitive evaluation and it is also possible that we tend to stick to an idea of how happy we are once we have made up our mind. Still it seems to me that the reading of affects dominates the evaluation of life. There are four reasons to think so. 1) Affect theory does best as a complete explanation, while the other two theories rather depict an aspect of the appraisal process. 2) Affect theory fits in

better to the other theories than reversely 3) Affect theory is the most plausible in an evolutionary perspective. 4) Affect theory fits better to the available data.

7.1 Affect theory provides most complete explanation

There is probably some truth in all three these theories; they have all intuitive appeal and supportive evidence. That is not to say that they qualify as a major explanation of how we appraise how happy we are, the theories may merely highlight an aspect of the mental process.

As we have seen above, set-point theory highlights the tendency to stick to a particular view, unless circumstances urge to a re-evaluation. This is a common heuristic that operates also in other attitudes. I see that as a minor process and not as a main way of appraising satisfaction with life. If taken as the main mechanism, this theory debouches in absurdities, such as that happiness is insensitive to actual weal and woe.

In the same vein, cognitive theory can be seen to highlight a part of the appraisal process and in particular the 'checking' of intuitive affective overall appraisal by conscious judgments of success on specific criteria. Cognitive theory cannot explain very well how could calculate an overall evaluation, since clear priorities are mostly lacking. Cognitive theory can neither explain very well how standards come about and why there is so much resemblance in standards across cultures. If taken as the only way in which we assess how happy we are, cognitive theory leads into absurd conclusions, such as that we can be happy in Hell.

Affective inference is more likely to function as the main manner of assessing satisfaction with life, in particular in combination with the assumption that hedonic level of affect reflects need-gratification. It is hard to imagine how one could assess 'satisfaction' with life without considering how well one feels most of the time and the assumption that that heuristic dominates does not lead into bizarre consequences.

7.2 Affects influence set-point and comparison more than reversely

In section 6 I discussed the interrelations between the three theories and noted that affective experience is likely to play a major role in the development of attitudes to one's life that is in the crystallization of set-points. The reverse effect is less likely, though an established attitude can influence the reading of our affects, it is unlikely to mold affective experience as such.

In section 6 I also argued that affective experience is likely to influence the cognitive appraisals of life. I distinguished four levels at which affects influence cognitive appraisal and claimed that only on one of these levels there is a comparable influence of cognition (c.f. scheme 6).

If so, affective experience is the most dominant force.

7.3 Affect theory is most plausible in evolutionary perspective

Another way of appraising the plausibility of theories is considering how well they fit the wider perspective that humans are a product of evolution and that many human behaviors is typically functional in some way. Above I have considered all three theories in that light, below a summing up.

Applies not only to human adults
As discussed above, affective theory applies to all human beings, and possibly higher animals, while cognitive theory and set-point theory apply only to thinking beings. That would mean that the assessment of happiness changes profoundly when we grow up and that it changes again when we get demented. This does not seem probable to me. I can imagine that the development of abstract thinking add something to the process of evaluation, but not that the affective information stream is turned of. Neither do I buy the implication that the happiness of children does reflect need-gratification and the happiness of adults not.

Functional
This brings us to the wider point of adaptive significance. As notes above, set-point theory implies that there is no information value in happiness, since happiness is a fixed mind-set and not responsive to objective thriving. To a lesser extend this is also implied in cognitive theory, in which effects of improvement or deterioration are short-lived and where standards of comparison root in collective beliefs that vary across cultures. This boils down to the conclusion that happiness does not matter and that conclusion is absurd. Affective theory sees happiness as a reflection of need-gratification and this makes more sense, especially in the context of a functional view on human consciousness and motivation.

7.4 Affect theory fits the available data best
There is no direct evidence for the dominance of affective inference in the evaluation of life. Though this can be tested to some extend, nobody has done as yet, at least not to my knowledge. The wider theory that hedonic balance of affect reflects need gratification can hardly be tested at all, since we cannot measure needs very well and particularly not psychological needs. Still there are several pieces of indirect evidence, most of which already mentioned above.

Primacy of affect
A point, not yet mentioned above, is that evaluation appears to be an affective process in the first place. In a classic paper Zajonc (1984) has shown that affective appraisal precedes cognitive evaluation. Likewise, Damasio (1994) has shown that injuries in the parts of the brain where affects are processed leave patients unable to make choices, even when their thinking is still in tact. This is another indication that cognition has not replaced affect in human evolution and that cognitive appraisals play at best an additional role in the assessment of happiness.

Happiness linked to actual thriving
Set-point theory and cognitive theory imply that we can evaluate life positively while doing badly from a biological-adaptive point of view. Affect theory rather holds that happiness reflects how well life fits the demands implied in human nature. This latter view is confirmed in two pieces of evidence. People tend to be happier when living in favorable conditions than in misery and happiness goes together with mental and physical health.

Universal conditions for happiness
Cognitive theory implies that conditions for happiness can differ wildly across cultures; while affect theory rather predicts that there will be much similarity in conditions for happiness. This latter point is confirmed in two lines of research. Firstly comparison of average happiness across nations has shown that 75% of the differences can be explained with the same societal characteristics. Secondly analysis within nations shows a striking similarities all over the world, for instance being married appears to go with greater happiness all over the world. This point is discussed in more detail in Veenhoven (2010).

8   CONCLUSION

There are different theories of how we asses how happy we are: 1) the theory that we echo an earlier evaluation and try to maintain that, 2) the theory that we calculate happiness constantly by comparing life-as-it-is with standards of how-life-should be and 3) that we infer happiness from ongoing affective experience and that this affective experience reflects need-gratification. These three theories are not mutually exclusive but may differ in import. Affective inference seems to dominate the appraisal of life.

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Scheme 1
Four qualities of life

	Outer qualities	Inner qualities
Life-chances	**Livability of environment**	**Life-ability of the person**
Life-results	**Utility of life**	**Satisfaction**

Source: Veenhoven 2000

Scheme 2
Four kinds of satisfaction

	Passing	*Enduring*
Part of life	**Pleasure**	**Part-satisfaction**
Life-as-a-whole	**Top-experience**	**Life-satisfaction**

Scheme 3
Happiness and its components

_____

global assessment   **OVERALL HAPPINESS**
                             Satisfaction with one's life-as-whole

sub-totals: **Hedonic level of affect**   **Contentment**
                             Balance of pleasant and   Perceived realization
                             Unpleasant affect   of wants

information basis   Affective experience   Cognitive comparison
_____

Scheme 4
Cognitive theory of how happiness is assessed

_____

global assessment   **OVERALL HAPPINESS**
                                        Satisfaction with one's life-as-whole

                                                    ↑

Sub-assessment: **Contentment**
                                        Perceived realization of wants

                                                    ↑

Information basis   Cognitive comparison

                                                    ↑

underlying process   Standard setting

                                                    ↑

Substrate   Culture

_____

Scheme 5
Affect theory of how happiness is assessed

_____

global assessment   **OVERALL HAPPINESS**
                                   Satisfaction with one's life-as-whole

                                                ↑

sub-assesment: **Hedonic level of affect**
                                   Balance of pleasant and unpleasant affect

                                                ↑

information basis   Affective experience

                                                ↑

underlying process   Need gratification

                                                ↑

substrate   Human nature

_____

Scheme 6
Causal effects in the evaluation of life

_____

global assessment   **OVERALL HAPPINESS**
                            Satisfaction with one's life-as-whole

                                                                    1

sub-assessment: **Hedonic level of affect**   2   **Contentment**
                         Balance of pleasant and   Perceived realization
                         Unpleasant affect   of wants

Information basis   Affective experience   3   Cognitive comparison
                                                  4

underlying process   Need gratification   Standard setting
                                                  5

substrate   Human nature   Culture
                                                  6

_____
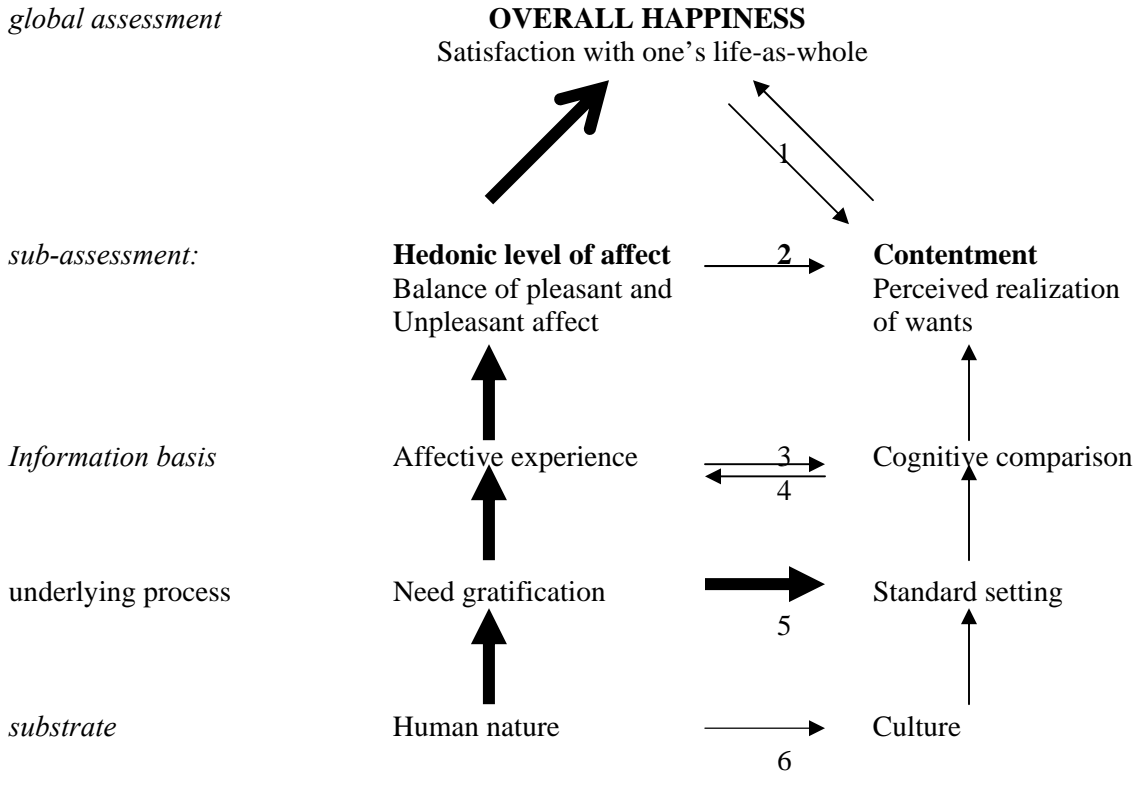
[1] I Thank Mark Chekola for his valuable comments
[2] In this view 'subjective' happiness results from the cognitive processing of this affective information