Concurrent Assessments of Individuals’ Affect and Contentment and the Correlation of these Estimates to Overall Happiness at Specific Moments

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Abstract
A rich variety of concepts are used in the field of happiness research. Happiness often overlaps with concepts such as subjective well-being (SWB) and life satisfaction. These concepts are measured by countless different metrics. Comparing the results of studies is complicated by differences in both conceptual and empirical measurement. According to many theories and studies, the most important factors in the estimation of life satisfaction are affect and contentment. However, the relationship of these components to happiness or life satisfaction is not clear. This article evaluates the relationships of these components with life satisfaction. The data have been collected over the last ten years from Finland in different ways and in different populations. There are seven datasets ($N=20,855$). Based on the results, affect systematically explains more about the variance of life satisfaction than contentment, but the difference between these correlations is small.

Keywords Happiness · Life satisfaction · Contentment · Affect

Introduction
Happiness and well-being are concepts that are used with different weightings and meanings (Delle Fave 2021). Happiness research includes studies on life satisfaction, subjective well-being, and other indicators and concepts. Quality of life (QoL) is a concept under which a wealth of these more specific concepts are subsumed. Our perception of well-being, a good life, and happiness has changed over the past few decades (1950–1990) from both theoretical and empirical measurement perspectives (Veenhoven, 1996). With the development of empirical methods, the concepts have also changed (Veenhoven, 2012). In general, the mutual relationships between
concepts have been difficult to define because they rely on different assumptions. Happiness is one such difficult-to-determine concept. Depending on the premises, it can be viewed as a representation of human wants and needs.

An established approach is to split subjective well-being (SWB) into emotional and cognitive aspects (Andrews & McKennell, 1980; Busseri & Sadava, 2011; Busseri, 2018; Diener et al., 1985, 1999; Pavot & Diener, 2008), operationalizing it through measurements of life satisfaction as well as positive and negative emotions. However, there are different views on the interrelationships between concepts, including whether to focus on subjective well-being (SWB) or life satisfaction and whether one of these is conceptually more primitive (e.g., Baptista et al., 2016). There is also a debate about what factors to include and what factors explain life satisfaction. Similarly, researchers have looked at the importance of positive and negative emotions to life satisfaction and whether their relations differ (Cohn et al., 2009; Jovanović & Joshanloo, 2021; Schwarz, 2012; Tov & Lee, 2016) as well as how emotions could affect a good life, i.e., life satisfaction in later life (Cacioppo et al., 1999), and what kind of information – constantly available or varied – people use to make judgments on life satisfaction (Diener et al., 2009; Schimmack et al., 2002).

This article analyses the extent to which respondent estimates of affects and contentment are reflected in overall Happiness. The goal is not to test it to what extent, if at all, happiness builds from affective and cognitive estimates. Emotions and achievements are seen in this review as different types of information sources for assessing life satisfaction. Despite this delineation, one cannot ignore the fact that subjective experiences are simultaneously associated with both sense and sensibility. Thus, affect and cognition should be viewed together and as things that have twisted each other. Ott (2020) has considered the relationship between affect and cognition to the body and mind. He attaches affect to the body’s biological signal system. In this case, affect is more deterministic than cognition when the body reacts to the surrounding situation and the mind has more time and degrees of freedom to make judgments about the surrounding situation and the attitude towards it. This mindset echoes Veenhoven’s (2009) view of the mutual weight of affect and cognition with respect to overall happiness. However, Ott (2020) underlines the view that the body and mind form a single entity from which it is almost impossible to distinguish which is more primary than the other when evaluating the human behavior or degree of happiness. He finds it important, nevertheless, to discern the specific dynamics of affect and cognition in order to analyze and understand overall happiness.

**Different Measures, Different Results**

In the drafting of the first World Happiness Report, Helliwell and Wang (2012) established appropriate metrics for the review. They raised three perspectives on appropriate metric selection. First, it should be decided whether the estimate is based on a perceived (current) or a review of a previous period by recalling (remember). Second, the researchers noted that the extent of the period being assessed affects the estimate. The third consideration relates to whether emotions or cognitive issues are evaluated, in which the latter describes a decision on a particular issue,
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while the former describes the level of emotion involved. Due to practical reasons, it was decided to use the Cantril ladder measure to evaluate the current situation and emotional measures to evaluate the previous day’s feelings. The researchers found that the Cantril ladder and life satisfaction (r = 0.94) and life satisfaction and happiness (r = 0.987) are practically synonymous, and the variance in these variables is explained by the same factors. The latter strong correlation indicates the strong association of emotional state with life satisfaction. The same levels of correlations between contentment, happiness and life satisfaction were also seen in coverage data from 34 OECD countries (Delhey & Kroll, 2012). Helliwell and Wang (2012) emphasized the importance of measuring in comparable ways, which would allow researchers to obtain a better picture of happiness.

Logically, it is justified to assume that evaluative variables correlate with each other more strongly than evaluative variables with emotional variables. This view is advocated by the empirical finding that, for example, as described above, the Cantril ladder, satisfaction with life and evaluation of happiness are very strongly correlated with each other. Of particular note is that happiness, when queried in an assessment, is also strongly correlated with other evaluative questions. Therefore, it seems that if emotions were queried methodically in the same way as life satisfaction, emotions would have a larger role in assessing life satisfaction than has previously been observed. Veenhoven (2021a) underlined the view that life satisfaction brings together emotions and contentment and thus reflects holistic happiness. The previously used question on emotional state was not formed on the same principles as, e.g., life satisfaction, and this difference can affect the findings on the correlation between emotional and cognitive factors affecting life satisfaction. However, there is a good theoretical basis for the primacy of emotions in overall happiness.

Cognitive assessments and emotions have been found to behave differently in relation to some other material factors. For example, Kahneman and Deaton (2010) found that life evaluations increase as income increases but stagnate at a given income level with affect. According to cognitive SWB metrics, affect has been found to behave differently even in terms of consumption (Tsurumi et al., 2020).

Affective experience is linked to the gratification of human needs, which are defined as vital requirements for functioning (Cacioppo et al., 1999; Fredrickson, 2001; Veenhoven, 2009), without which we cannot survive. Veenhoven (2009) clarifies the connection between needs and feelings such that feeling good signals that needs are currently met, while feeling bad tells that a need is not being met. According to Veenhoven, human needs are part of human nature, and as such, universal wants have a different role in human life than needs. Unlike needs, wants are a product of thinking and, as such, draw on human culture. Wants will differ in their functionality for meeting needs, and cultures can differ in the functionality of the wants they promote. The relative weight of these components (emotional and cognitive) in the overall evaluation of happiness will vary across persons and situations, but Veenhoven holds, along with some other researchers (see Giuntoli et al., 2020; Davern et al., 2007), that the affective component will mostly dominate the cognitive component. In his view, people infer our life satisfaction based on how we feel most of the time, rather than calculating it by comparing our aspirations and achievements. Additionally, Schwarz and Strack (1991) emphasize the importance
of emotions in assessing happiness and life satisfaction. A person uses the information available in assessing life satisfaction and for making a holistic assessment, which is a complex process, and cognitive information and general emotion are used as the basis of the assessment.

There exists empirical support for models of happiness based on needs and wants. Need theory predicts that conditions for happiness are typically universal, while comparison theory predicts considerable cultural variation; the available cross-national findings show more similarity than differences in the correlates of happiness (Veenhoven, 2010). According to Veenhoven (1991), several implications of the cognitive theory of happiness are not supported by the data, such as the implication that happiness is relative. On the other hand, comparison theory sees happiness as a cognitive judgment involving an estimate of the difference between actual and ideal life (Rojas & Veenhoven, 2013). According to Rojas (2005), the conceptual reference theory of happiness (CRT) highlights the view that each person has their own view of a happy life. Against this ideal, people judge the happiness of the current moment. According to this view, happiness assessment is more about the cognitive process than about emotion. In other words, according to this theory, happiness is more closely correlated with individual foundations for happiness than with universal foundations.

This question – whether the source of happiness lies more in emotions or cognition – has been studied by Veenhoven and Rojas, among other researchers. The first analysis (Rojas & Veenhoven, 2013) was carried out with data from The Gallup World Poll. Analysis was performed at the national level, and the results showed that contentment explained the effect of life satisfaction to a greater extent than emotions. The result left numerous questions unanswered. Aggregated data are not suitable for analyzing individual-level phenomena, and the variables used were not suitable for testing the theory. Rojas and Veenhoven outlined more relevant questions to test the theory at the end of their article. The results can be influenced by the mutual order of questions and the answer scales used, as demonstrated by Kapteyn et al. (2015), among other uncertainties mentioned by Helliwell and Wang (2012). A wider response scale gives a better result.

Rojas (2021) later reviewed the same material as Rojas and Veenhoven (2013) from a new perspective. Whereas in the earlier study, the data were aggregated to the country level, in the recent review, Rojas analyzed the data at the individual level. The result remained relatively similar, but it highlighted major differences between different cultures and regions. Based on this result, Rojas concluded that it is more meaningful to consider that happiness is based on both emotions and cognitions and that neither of these concepts dominates the other. Both of these factors – emotions and cognitions – must be considered when studying fluctuations in happiness. According to Rojas, major cultural differences suggest that happiness would not have a single, clear needs-based background that would dominate; rather, it is also influenced by culturally determined factors.

Rojas’s and Veenhoven’s views are not at odds with each other but, rather, differ in emphasis, namely, how different sources of information – emotions and cognitions – are weighted in expressions of happiness. Veenhoven has looked at the concept of perceived well-being and happiness from Aristotle’s perspective on
happiness. Happiness is, by Veenhoven’s definition, the holistic enjoyment of life. Affect and contentment cannot be kept completely separate from each other because a person holds them both in mind when evaluating their happiness. According to this view, when assessing happiness, a person estimates information related to emotion and the achievement of life goals at the same time. With the data from Finland and with equally formulated questions, the results fit the theory that affect is more important than contentment to life satisfaction (Kainulainen et al., 2018).

As noted in the introduction, the concepts of happiness and its related concepts, such as well-being, are quite slippery and vague. This also complicates empirical examination of the phenomenon, which is reflected in the fact that numerous metrics are used (see Veenhoven, 2021a; Australian Centre on Quality of Life, 2021). Therefore, it is difficult to compare the results among studies using different metrics. The difficulty of comparison is particularly notable in a study that seeks, for example, to assess how emotions and cognitions explain happiness. For a long time, emotions have been measured as the difference between positive and negative feelings (for example, the day before responding to the survey). One example of such measures is SPANE (Diener et al., 2010), in which six negative and positive feelings are listed. The gauge is relatively general, assessing whether the respondent experienced positive emotions more than negative or vice versa. The cognitive assessment of well-being is very often measured with the Cantril ladder metric. For example, Rojas (2021) used similar measures to compare emotions and cognitions.

The overlap of concepts is outlined in Fig. 1. The main concepts – happiness, SWB, and satisfaction with life – are often used synonymously in reports, and they are empirically strongly correlated with each other. Problems are caused, for example, by the fact that most metrics based on emotions are strongly correlated with each other due to their placement at the same point in the circumplex model of affects (Russell, 1980). However, correlations are also strong between cognitive and emotional variables (Kainulainen, 2020; Berlin & Connoly 2019).
According to the above discussion, subjective metrics are strongly correlated with each other and are influenced by external factors mainly in the same way. As there are many types of theoretical parsing, there are also countless different ways to measure these concepts empirically. Life satisfaction can be seen as a cognitive component of subjective well-being as well as the positive and negative emotions experienced yesterday, the emotional component of subjective well-being. On the other hand, life satisfaction is a measure of happiness, whose assessment utilizes the average emotional state at the time of response (hedonic level of affect) and regarding achievements in life (contentment).

Affect and cognition do have also different roots related to time. Kahneman and Riis (2005) consider well-being to build from two components: experienced and evaluated well-being. The former tells about the instantaneous direct experience of well-being and the latter a holistic assessment (from the same period). Experienced well-being measures immediate sensations by recording them using e.g. daily reconstruction method DRM instruments (Kahneman et al., 2004) or experienced-sampling method ESM. Positive emotions are associated with experienced well-being while life satisfaction is associated with evaluation. According to authors, experienced well-being must be measured separately from happiness or life satisfaction because they are different issues. Nor are the actions of the present directly reflected in the assessment. In previous research Kainulainen and Paananen (2021) found that overall life satisfaction did not vary in terms of what respondents had done, where and with whom just before responding. Instead, acute doing was linked to satisfaction with one’s own resilience and self-improvement. On the other hand, Ott (2020) has reminded that emotions are not only related to things close to the present but can be reflected more distant from personal history. Childhood experiences, for example, are strongly reflected in the present and affect our emotions as Fredrickson (2001) has also assessed.

To assess what factors are linked to perceived well-being or happiness, it is important to ensure that both the theoretical and empirical bases are clear in this analysis. The starting point, of course, is to define an individual’s own viewpoint on well-being and the known components associated with it. In this article, the measure of happiness is life satisfaction. In our cross-sectional studies, the components have been interpreted to represent two different channels of information, and they do not form a third, life satisfaction. Because the goal of this article is to analyze which component – affect or contentment – generates more information for the assessment of happiness, special considerations should be given to the measurements. In addition to measurements, the formulation of questions has been found to have an impact on outcomes. Consequently, the consistent verbal formulation and content of the questions (for example, whether to measure the intensity or frequency of the phenomenon) are factors affecting the results. Additionally, the temporal focus of questions is important (Luhmann et al. 2012) as well as in what context and order the questions are asked in a questionnaire. Scale of measurement also affect analyses: the 11-tier scale works differently for statistical analyses than the dummy variable.

In this article, the perspective differs slightly from studying subjective well-being. The difference is structured in Fig. 1. Traditionally (Diener et al., 1985) subjective well-being is considered to consist of life satisfaction as well as negative
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and positive emotions. Happiness has again been measured as a separate issue. In Veenhoven’s (2009) mindset, happiness is holistic enjoyment of life and can best be charted by asking about life satisfaction. The affect reflects the balance between positive and negative emotions. Contentment, on the other hand, tells about what a person wants from his life and what he gets.

To solve the problem of measurement described above, a more consistent set of metrics has been constructed over a ten-year period to map the relationships of affect and contentment to happiness. This article looks at how these metrics work and what they tell us about the roles of affect and contentment in explaining happiness. The datasets used also provide an opportunity to compare the functionality of the developed affect question relative to the SPANE-type gauge. The objectives of the article are to determine

1) the extent to which affect and contentment explain the variance of life satisfaction;
2) whether this result materializes in various datasets;
3) whether the order of questionnaire questions affects the results obtained; and
4) whether different types of measure give different results in explaining life satisfaction.

Data and Analysis

The first data with specified questions on happiness and its components were collected by the Wellbeing and Social Cohesion in an Unequal Society (WEBE) project in the spring of 2012. The original three questions were reformulated, and another representative survey from Finland was collected (2016) by another project. These two studies were both representative, but there were small differences in the questions on happiness, affect, and contentment, and the age range was larger in the 2016 data (18–79 yrs) than it was in 2012 (20–64 yrs). The basic results remained the same, supporting the idea that emotions have a stronger impact than contentment on life satisfaction (Kainulainen, Saari & Veenhoven 2018).

Therefore, it seemed that the idea of the primacy of biological needs over culturally constructed wants held true. Although the same result was repeated in these two separate datasets, a number of uncertainties remained. For example, how do small differences in how the questions are formulated affect the result? The differences in questions are presented later in this article. The two samples were representative of the population, one collected via a traditional postal survey with a relatively low response rate and the other via a telephone interview. The main result was the same in both datasets, even though different types of data gathering can lead to different results (Brøgger et al., 2002). This finding raised the question of whether the results are similar in demographically different groups.

Due to this remaining open question – whether the result holds true only in the general population – three questions were attached to some other later studies. Three core questions about happiness were included in surveys distributed to different sub-populations: people living with economic scarcity, people working in the low wage
service sector, and people in prison. With these three datasets, we can test whether the results of representative population data also exist in other contexts as well as in self-selected materials.

After five surveys within different subpopulations, there were still other possible issues to consider. One possible explanation of the relationship between life satisfaction and its components is methodological: Could the order of the questions affect the correlations between them? In five studies, the order was as follows: first, a question on life satisfaction (happiness); then, a question on hedonic level of affect; and finally, a question on contentment. When the questions were asked in this order, affect explained more of the variance in happiness than contentment did (Kainulainen et al., 2018). A relevant critique and question arose on the order of questions. Because of the possibility that the order of questions changes the correlations between them, we changed the order of questions on affect and contentment in later surveys.

We thus analyzed the interconnections of three variables in datasets collected with different methods and measurements in different (sub)populations and changed the mutual order of the questions. In the last survey, the mutual order of the three questions was changed again. First, the questions were presented in the opposite order to what they were originally. Second, they were placed as remotely from each other in the questionnaire as possible. The first question of the survey was about contentment; the last question was about happiness.

From 2012 to 2020, seven data collections were carried out. Detailed characteristics of the datasets are shown in Table 1. The WEBE and Tackling Inequalities in Time of Austerity (TITA) projects were both funded by The Academy of Finland. The data collection from prisons was funded by the Criminal Sanctions Agency of Finland, and the data collection of the members of trade unions was funded by the Service Union United PAM. Data on scarcity were gathered in collaboration with the largest newspaper in Finland, Helsingin Sanomat. Altogether, more than 20 000 persons gave their assessment of their own happiness, affect, and contentment.

The basic idea was to formulate the questions as similarly as possible and with the same answer options. In the following questions, the time span is written in *italics* and the scope or evaluative topic in **bold** font. Questions on happiness and its components were close to each other. Some changes in formulating the questions were made during the period for two reasons. First, we strengthened the validity of the questions based on the comments of the anonymous referees of one journal. Second, the type of data collection (paper, digital) had some effects on questions; e.g., in mobile contexts, the questions should be shorter than in traditional paper versions. According to earlier studies (Helliwell & Wang, 2012; Kainulainen, 2020), different kinds of questions on well-being can be used almost interchangeably.

Next, we go through the data collection in chronological order and describe what questions were used in different data surveys. The WEBE project was carried out from 2011 to 2014. The project collected data in the spring of 2012 (N = 1888). Data were gathered with a traditional paper questionnaire, but there was also the option to complete the survey via the internet. Only a few respondents used the latter route. The basic dataset of WEBE consists of Finnish speakers aged 20 to 64 who do not live in institutions. The sample was selected from the
Table 1  Description of surveys

|                  | WEBE          | TITA1        | TITA2        | TITA3        | Service Union | HS Scarcity | Prisoners |
|------------------|---------------|--------------|--------------|--------------|---------------|-------------|-----------|
| Year             | 2012          | 2016         | 2018         | 2020         | 2019          | 2018        | 2019      |
| Population       | Finnish speaking, living outside institutions | Finnish speaking, living outside institutions | Finnish speaking, living outside institutions | Finnish speaking, living outside institutions | Members of Union | Readers of Helsingin Sanomat in internet | Finnish-speaking prisoners |
| Data collecting  | Paper or digital questionnaire | Phone | Phone | Phone | Internet | Internet | Paper questionnaire |
| Sample           | Simple random sample | Simple random sample | Simple random sample | Simple random sample | Recruitment via email and online questionnaire | Self-selected | Cluster sampling |
| N                | 1888          | 2534         | 2399         | 2700         | 6435          | 4456        | 443       |
| Age              | 20–64         | 18–79        | 18–79        | 18–79        | 17–82         | 20–78       | 18–75     |
| Male             | 44%           | 50%          | 49%          | 49.50%       | 20.2%         | 25%         | 93%       |
| No comprehensive school | 20%          | 13%          | 15%          | 10%          | 11%           | 6%          | 39%       |
| Comprehensive school | 8%           | 11%          | 8%           | 6%           | 72%           | 13%         | 4%        |
| Upper secondary school | 42%         | 39%          | 43%          | 49%          | 16%           | 48%         | 5%        |
| Vocational degree | 30%           | 37%          | 34%          | 35%          | 72%           | 13%         | 2%        |
| Academic degree  | 0             | 0            | 0            | 0            | 0             | 0           | 0         |
| Other            | 0             | 0            | 0            | 0            | 0             | 0           | 2%        |
| Length of questions | Short        | With initial sentence | Short | Short | Short | Short | Short |
| Order of questions | O-A-C         | O-A-C        | O-A-C        | C-A-O        | O-C-A         | 0-A-C      | O-A-C     |
population register with a simple random method. The majority had a vocational or academic degree. The data were weighted to reflect the population of the same age.

In the WEBE survey, three questions were about the degree of happiness. The questions were intended to test Veenhoven’s theory of the components of happiness. All questions were initially formulated in English and then translated into Finnish and twice back to English to accurately convey the meaning of the questions.

The question on Overall Happiness (O) – “Taking all things together, how satisfied or dissatisfied are you with your life as a whole these days?” – had options from 0: dissatisfied to 10: satisfied.

The question on Affect (A) – “Does life these days mostly give you a pleasant or unpleasant feeling?” – had options from 0: mostly unpleasant to 10: mostly pleasant.

The question on contentment (C) – “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.)” – had options from 0: Life falls short of my wants to 10: I have got more than I ever dreamed of.

The TITA project was supported by the Strategic Research Council of the Academy of Finland (decision number: 293103) and lasted 6 years starting in 2015. The project collected three surveys: in 2016 (N=2534), in 2018 (N=2399), and in 2020 (N=2700). Three datasets collected by the TITA project were similarly collected as telephone interviews. The respondents were aged between 18 and 79 years and did not live in institutions. Men and women accounted for the same number among the respondents. The level of education of the respondents was slightly higher than in the WEBE study.

There were reasons for criticism of the first question formulations in the WEBE survey. According to criticism from referees, the questions were insufficient to confirm or dismiss Veenhoven’s theory of happiness. We changed the formulation of the questions, responding to the criticism that had been made toward the original questions. In the TITA project, the questions were formulated so that they were as similar in form as possible. In TITA1, there was an initial sentence in each question leading to the topic. Then, each question was formulated to inquire into the same point in time. The questions on happiness in the TITA1/TITA2 & 3 survey were as follows:

Question on Overall Happiness (O): “Both good and bad things happen in life. When you are thinking about your life currently, how satisfied or unsatisfied are you with your life?”/“Taking all things together, how satisfied or dissatisfied are you with your life as a whole these days?”.

Question on Affect (A): “People feel positive and negative emotions. What feelings are emphasized in regard to you, how would you describe your average mood nowadays?: 0 very negative, 10 very positive/“How would you describe your average mood currently?: 0 very negative, 10 very positive.
Questions on contentment (C): “People want different things from their lives. How well do you reach your aims currently?”

In the TITA3 surveys, we had the same questions but presented them in different order. The first question in the questionnaire was about contentment C. After 14 other questions, we asked questions on affect (A), and after 15 other questions, we asked about overall happiness (O).

In 2018, an article about economic scarcity was published in the largest newspaper in Finland, Helsingin Sanomat. In the context of the article, readers had the opportunity to respond to a survey prepared by the researchers on economic scarcity. HS scarcity data were collected with a digital questionnaire. People who experienced economic scarcity to varying degrees were encouraged to become respondents. The respondents (N = 4456) included more women and more people aged 20 to 78 with academic degrees than the other data used in this article.

The digital questionnaire does not fully match the traditional paper form because its presentation changes depending on the equipment used. Today, newspapers are often read on mobile devices, which is why surveys linked to the newspaper are also answered via phone. The phone’s screen imposes specific requirements on the questionnaire. Because we knew that a large number of responses would come through mobile phones, the questions were shortened:

Question on Overall Happiness (O): Taking all things together, how satisfied or dissatisfied are you with your life as a whole? Options from 0 dissatisfied to 10 satisfied.

Question on Affect (A): How do you evaluate your feelings these days? 0 very negative, 10 very positive

Questions on contentment (C): How successful have you been in getting the things you want from life these days? 0 Life falls short of my wants, 10 I get what I want.

Another set of data reflecting economic scarcity was compiled from workers in low-wage employment. The respondents were members of the Service Union United PAM, which is a trade union with 210,000 members comprising people working in the private service sector. Most PAM members are women (76%), and most

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1 In TITA2, by comparison of question type, the same question on contentment as had been in the WEBE study was additionally included but in another area of the questionnaire. The correlation between these two questions of contentment was statistically significant but relatively shallow (r = 0.559**) considering that they ostensibly measured the same phenomenon. The different formulation of the questions was apparently reflected in both the intercorrelation of the variables and in the regression coefficients. When the beta coefficients of affect and contentment were 0.517 and 0.313 for similarly prepared questions, then, with a different contentment question, the odds were 0.564 and 0.268, respectively. Presumably, a central factor is the temporal allocation of the question: in the former analyses, both satisfaction and contentment were targeted to the present time, while in the latter, satisfaction was assessed at the present time, while contentment was not given a time limit. Therefore, it matters what kind of metric is used.
members work in retail trade, property services, security services and tourism, restaurants, and leisure services. The invitation to the study was sent to 111,850 PAM members who had provided their email address. Data were collected during April and May 2019 via an online study survey form (Walsh et al., 2022). The respondents (N = 6,435) were between the ages of 17 and 82 and, for the most part, women. The vast majority of respondents had vocational degrees.

The same questions that were used in the Helsingin Sanomat survey were used in the PAM survey. However, the order of the two components of happiness was changed for the methodological reasons mentioned earlier.

The question on Overall Happiness (O) – "Taking all things together, how satisfied or dissatisfied are you with your life as a whole?" – had options from 0: dissatisfied to 10: satisfied.

The question on contentment (C) – "How successful have you been in getting the things you want from life these days?" – had options from 0: Life falls short of my wants to 10: I get what I want.

The question on Affect (A) – "How do you evaluate your feelings these days?" – had options from 0: very negative to 10: very positive.

Satisfaction in the lives of prisoners has not been extensively studied. Late in 2018, we organized a survey for prisoners in Finnish prisons. Data collection was completed in January 2019. The general aim of the study was to evaluate loneliness, social ties, well-being, and social support inside prisons (Kainulainen & Saari, 2021). The questions on happiness were the same and in the same order as they were in the Helsingin Sanomat survey. A total of 443 prisoners who understood the Finnish language responded to the survey, including inmates aged between 18 and 75 years old. Nine out of 10 respondents were male. In contrast to other respondents, the level of schooling was low. Six prisoners in 10 had a comprehensive school degree or lower.

Results

In Table 2, means and the standard deviations of overall happiness as well as its components are shown in different surveys. It seems that overall happiness is higher than its components in all surveys except in the group of prisoners. However, among prisoners, the means of affect and contentment are higher than the mean of satisfaction with life. Another obvious result is that in most of the population groups, contentment scores were lower than affect scores. Only in one population sample (WEBE) was the mean of the cognitive component higher than that of the affective component.

Mean comparisons among the different datasets reveal many similarities on the one hand but also differences that need to be clarified. In general, the satisfaction with life of the population samples is quite homogenous (7.7–8.2), which is also close to the result for Finland measured on the Cantril ladder scale (see World Happiness Reports) and satisfaction with life (Veenhoven, 2021a, b). Among low-wage
workers, satisfaction is slightly lower (7.3) but still relatively close to the average within the population. A previous study (Kainulainen, 2019) also showed that satisfaction with life is clearly at a low level among workers if income is not sufficient.

Prisoners and those living in poor conditions form their own special group. The happiness of prisoners (6.2) seems to differ from that of people living outside the prison: the happiness of inmates is affected not only by factors inside the prison but also strongly by factors outside of the walls, such as secured housing outside the prison (Kainulainen, 2021). The HS Scarcity dataset was a self-selected material that recruited people experiencing financial scarcity to talk about life during scarcity. HS Scarcity succeeded in recruiting, and satisfaction with life was extremely low, only 4.6.

The results may be affected not only by differences among the datasets but also by the way the data were collected. The WEBE material was collected mainly by post, while the TITA1-3 data were collected via telephone interviews, and the low-wage survey was conducted digitally as part of the union’s annual membership survey. Moreover, the HS Scarcity survey was collected digitally via the internet. The survey was available to anyone on the internet without any paywall. The prisoner dataset was collected with paper forms, which were sealed in envelopes to ensure anonymity. On average, less dispersion (standard deviation) appears in the population data both in life satisfaction and in its components. Conversely, self-selected data have greater variability in responses than sample-based data.

More interesting than the averages is to evaluate how overall life satisfaction correlates with its components. This correlation is considered in Table 3 by comparing the B and beta coefficients of affective and cognitive components in linear regression analysis. Initial hypotheses based on Veenhoven’s theory suggested that

|                | Life satisfaction | Affective component | Cognitive component |
|----------------|-------------------|---------------------|---------------------|
| WEBE           | Mean 7.69         | 6.95                | 7.2                 |
|                | St. Dev 1.698      | 1.789               | 1.901               |
| TITA1          | Mean 8.16         | 7.91                | 7.55                |
|                | St. Dev 1.352      | 1.33                | 1.535               |
| TITA2          | Mean 7.91         | 7.85                | 7.35                |
|                | St. Dev 1.423      | 1.395               | 1.554               |
| TITA3          | Mean 7.99         | 7.82                | 7.49                |
|                | St. Dev 1.441      | 1.566               | 1.588               |
| Service Union  | Mean 7.26         | 7.21                | 6.77                |
| United PAM     | St. Dev 1.863      | 1.968               | 2.048               |
| HS Scarcity    | Mean 4.6          | 4.27                | 3.53                |
|                | St. Dev 2.999      | 2.955               | 2.878               |
| Prisoners      | Mean 6.18         | 6.64                | 6.3                 |
|                | St. Dev 2.321      | 2.103               | 2.28                |
biology-based feelings (affect) were more strongly associated with satisfaction than were culturally constructed assessments (contentment). In six datasets, affect explains more of the variance in life satisfaction than contentment. When the order of the questions was O-A-C, the differences in beta coefficients between affect and contentment were as follows: WEBE (0.529 vs. 0.341), TITA1 (0.515 vs. 0.313), TITA2 (0.562 vs. 0.294), HS Scarcity (0.564 vs. 0.289), and prisoners (0.389 vs. 0.400). Additionally, when the questions were in the order O-C-A, the difference between affect and contentment was similar: Service Union United PAM (0.564 vs. 0.327); moreover, if the order of questions was A-C-O, the difference remained at the same level: TITA3 (0.506 vs. 0.286). All these coefficients differ from each other significantly except the coefficients of prisoners’ data. Thus, there is no systematic difference in the coefficients of affective and cognitive components depending on the order in which questions about life satisfaction and its components are presented in the questionnaire (Tables 3).

The strong mutual link between affect and cognition has been raised up earlier (Kahneman & Riis, 2005; Fredrickson, 2001). This strong link can also be seen in

| Table 3 | Affective and cognitive components as predictors of happiness. Regression analysis |
| --- | --- | --- | --- | --- |
| | Affective component | Cognitive component |  |
| Affective component | B | 95% CI | Beta | B | 95% CI | Beta | Adj. R2 |
| WEBE | 0.506 | 0.471 | 0.541 | 0.529 | 0.302 | 0.27 | 0.335 | 0.341 | 0.627 |
| TITA1 | 0.526 | 0.494 | 0.558 | 0.517 | 0.275 | 0.247 | 0.302 | 0.313 | 0.532 |
| TITA2 | 0.573 | 0.542 | 0.605 | 0.562 | 0.269 | 0.241 | 0.297 | 0.294 | 0.578 |
| TITA3 | 0.464 | 0.435 | 0.493 | 0.506 | 0.257 | 0.228 | 0.285 | 0.286 | 0.486 |
| Service Union United PAM | 0.535 | 0.516 | 0.554 | 0.564 | 0.298 | 0.280 | 0.317 | 0.327 | 0.704 |
| HS Scarcity | 0.573 | 0.546 | 0.599 | 0.564 | 0.301 | 0.274 | 0.328 | 0.289 | 0.645 |
| Prisoners | 0.425 | 0.329 | 0.520 | 0.389 | 0.402 | 0.314 | 0.490 | 0.400 | 0.513 |

| Table 4 | Distribution of SPANE-type (happiness – depression) affects (%) |
| --- | --- | --- | --- |
| | WEBE2012 | TITA2016 | TITA2020 |
| -4 | 0.4 | 0.2 | 0.4 |
| -3 | 1.0 | 0.3 | 0.6 |
| -2 | 2.4 | 1.1 | 1.8 |
| -1 | 6.2 | 2.6 | 3.6 |
| 0 | 11.8 | 6.8 | 9.9 |
| 1 | 21.5 | 14.4 | 13.1 |
| 2 | 28.8 | 26.9 | 21.6 |
| 3 | 20.6 | 34.0 | 33.1 |
| 4 | 7.1 | 13.4 | 16.0 |
| 5 | 0.2 | 0.3 | 0.0 |
our empirical findings. In all data sets analyzed in this article, affect and contentment correlate strongly with each other. Correlations vary between 0.511 and 0.756 (WEBE 0.630, TITA1 0.511, TITA2 0.514, TITA3 0.516, Prisoners 0.656, HS Scarcity 0.746, PAM 0.756). Interestingly, correlations were highest in those datasets with the lowest income people as respondents. In HS Scarcity and PAM datasets, the correlations were 0.746 and 0.756 respectively. To ensure interpretation, it was possible to consider the importance of income level to mutual correlations between affect and cognition at the individual level as well. In a correlation review conducted on the combined TITA data set at different income levels (measured by Usual spending covered by income) was seen, that at the lowest income levels, correlations were close to 0.6 and at the highest income levels at 0.4 level. In other words, affect and cognition are more strongly interconnected in low-income people than people with high income.

A similar link can be seen from Table 6, where correlation between beta coefficient of affect and income level changes so that affect is more relevant to low- than high earners. According to Ott (2020) feelings and affect are universal and more directly responsive to changing physical and external conditions, while cognition has more stability and freedom to judge happiness in relation to one’s goals and standards.

Affect has traditionally been measured by assessing positive and negative emotions. It is therefore justified to try to compare the results given by traditional metrics with a new one. Therefore, three datasets were used to make comparisons between a SPANE-type metric and a new affect metric. These three surveys involved the following question about emotions: "How often have you felt yourself in the last 12 months?" Two emotions, depression and happiness, were evaluated with a questionnaire. Response options were Never, Rarely, Sometimes, Quite often and All the time (1–5). To obtain a balanced scale of these emotions, the response to “happiness” was subtracted from the response to “depression”. The distributions of the balance scale in the three datasets are shown in Table 4. The distributions are somewhat similar in all datasets, but in the latter two telephone interview datasets, positive emotions are more prevalent than in the first, which involved a postal questionnaire. Consequently, the difference in results might be based on the different ways the data were collected, as Brøgger et al. (2002) have stated.

The results in Table 5 suggest that the results are different when different types of metrics of contentment and affect are used. The cognitive component seems to be a more powerful explainer of happiness than the affective component if we use the
Table 6  Affective and cognitive components as predictors of happiness in different subpopulations. Regression analysis with pooled TITA1 and TITA2 data

|                      | Affective component A |                      | Cognitive component C |                      | Adj. R2 | A-C | N   |
|----------------------|-----------------------|----------------------|-----------------------|----------------------|---------|-----|-----|
|                      | B                    | 95% CI               | Beta                  | B                    | 95% CI  | Beta |      |
| Gender               |                       |                      |                       |                      |         |     |     |
| Male                 | 0.546                | 0.514                | 0.578                 | 0.531                | 0.284   | 0.256 | 0.312 | 0.313 | 0.545 | 0.218 | 2456 |
| Female               | 0.527                | 0.495                | 0.558                 | 0.523                | 0.275   | 0.247 | 0.302 | 0.313 | 0.542 | 0.21  | 2480 |
| Age group            |                       |                      |                       |                      |         |     |     |
| 18–29                | 0.537                | 0.484                | 0.59                  | 0.572                | 0.234   | 0.187 | 0.281 | 0.281 | 0.571 | 0.291 | 712  |
| 30–39                | 0.525                | 0.467                | 0.584                 | 0.538                | 0.252   | 0.197 | 0.306 | 0.277 | 0.508 | 0.261 | 685  |
| 40–49                | 0.545                | 0.473                | 0.616                 | 0.512                | 0.315   | 0.25  | 0.379 | 0.33  | 0.576 | 0.182 | 576  |
| 50–59                | 0.61                 | 0.547                | 0.672                 | 0.563                | 0.259   | 0.207 | 0.311 | 0.288 | 0.586 | 0.275 | 727  |
| 60–69                | 0.583                | 0.537                | 0.628                 | 0.56                 | 0.292   | 0.25  | 0.333 | 0.307 | 0.577 | 0.253 | 1144 |
| 70+                  | 0.461                | 0.413                | 0.51                  | 0.462                | 0.296   | 0.255 | 0.337 | 0.35  | 0.478 | 0.112 | 1092 |
| Highest degree       |                       |                      |                       |                      |         |     |     |
| Up to basic education| 0.535                | 0.481                | 0.588                 | 0.53                 | 0.283   | 0.235 | 0.33  | 0.313 | 0.555 | 0.217 | 867  |
| Upper secondary      | 0.539                | 0.464                | 0.613                 | 0.564                | 0.238   | 0.171 | 0.305 | 0.274 | 0.551 | 0.29  | 396  |
| education, general   | 0.53                 | 0.495                | 0.565                 | 0.516                | 0.29    | 0.258 | 0.321 | 0.321 | 0.533 | 0.195 | 2025 |
| Upper secondary      | 0.574                | 0.523                | 0.626                 | 0.57                 | 0.24    | 0.196 | 0.285 | 0.274 | 0.551 | 0.296 | 878  |
| education, vocational| 0.525                | 0.467                | 0.582                 | 0.523                | 0.28    | 0.229 | 0.33  | 0.317 | 0.552 | 0.206 | 748  |
| Higher education,    |                       |                      |                       |                      |         |     |     |
| BA                   | 0.53                 | 0.56                | 0.707                 | 0.66                 | 0.197   | 0.129 | 0.266 | 0.221 | 0.654 | 0.439 | 351  |
| Higher education, at least MA | 0.53 | 0.495 | 0.564 | 0.527 | 0.283 | 0.253 | 0.314 | 0.318 | 0.544 | 0.209 | 2023 |
| Social group         |                       |                      |                       |                      |         |     |     |
| Student              | 0.633                | 0.56                | 0.707                 | 0.66                 | 0.197   | 0.129 | 0.266 | 0.221 | 0.654 | 0.439 | 351  |
| Retired              | 0.53                 | 0.495                | 0.564                 | 0.527                | 0.283   | 0.253 | 0.314 | 0.318 | 0.544 | 0.209 | 2023 |
| Unemployed           | 0.551                | 0.447                | 0.655                 | 0.495                | 0.374   | 0.284 | 0.464 | 0.389 | 0.6   | 0.106 | 252  |
| Paid employment      | 0.525                | 0.487                | 0.562                 | 0.531                | 0.244   | 0.21  | 0.278 | 0.269 | 0.497 | 0.262 | 1844 |
| Entrepreneur         | 0.503                | 0.387                | 0.62                  | 0.452                | 0.282   | 0.193 | 0.371 | 0.33  | 0.458 | 0.122 | 259  |
| Farmer               | 0.651                | 0.43                 | 0.871                 | 0.639                | 0.141   | -0.052 | 0.333 | 0.158 | 0.502 | 0.481 | 55   |
|                      | Affective component A |                      | Cognitive component C |                      | Adj. R2 | A-C | N   |
|----------------------|-----------------------|----------------------|-----------------------|----------------------|---------|-----|-----|
|                      | B  | 95% CI | Beta | B  | 95% CI | Beta |       |     |
| Family status        |    |        |      |    |        |      |       |     |
| Alone                | 0.584 | 0.544  | 0.624 | 0.571 | 0.287  | 0.251 | 0.323 | 0.311 | 0.613  | 0.26 | 1386 |
| Single parent        | 0.703 | 0.567  | 0.839 | 0.696 | 0.137  | 0.019 | 0.254 | 0.157 | 0.614  | 0.539 | 116  |
| In a relationship, no child | 0.437 | 0.396  | 0.477 | 0.451 | 0.317  | 0.28  | 0.354 | 0.358 | 0.487  | 0.093 | 1471 |
| In a relationship, child(ren) | 0.497 | 0.457  | 0.537 | 0.5  | 0.225  | 0.191 | 0.258 | 0.268 | 0.445  | 0.232 | 1696 |
| With parents         | 0.627 | 0.518  | 0.737 | 0.637 | 0.304  | 0.202 | 0.406 | 0.333 | 0.712  | 0.304 | 118  |
| Usual spending covered by income |    |        |      |    |        |      |       |     |
| with big difficulties | 0.609 | 0.479  | 0.738 | 0.616 | 0.221  | 0.101 | 0.341 | 0.242 | 0.596  | 0.374 | 132  |
| with difficulty      | 0.629 | 0.473  | 0.786 | 0.568 | 0.246  | 0.103 | 0.39  | 0.242 | 0.539  | 0.326 | 141  |
| with small difficulties | 0.523 | 0.462  | 0.584 | 0.507 | 0.281  | 0.228 | 0.335 | 0.312 | 0.507  | 0.195 | 714  |
| quite easily         | 0.483 | 0.442  | 0.524 | 0.485 | 0.266  | 0.229 | 0.302 | 0.3  | 0.458  | 0.185 | 1591 |
| Easily               | 0.589 | 0.546  | 0.632 | 0.587 | 0.226  | 0.188 | 0.265 | 0.249 | 0.529  | 0.338 | 1230 |
| Very easily          | 0.447 | 0.402  | 0.493 | 0.48 | 0.265  | 0.222 | 0.308 | 0.302 | 0.446  | 0.178 | 1103 |
| Apartment            |    |        |      |    |        |      |       |     |
| Own                  | 0.525 | 0.5  | 0.551 | 0.522 | 0.265  | 0.243 | 0.288 | 0.303 | 0.517  | 0.219 | 3741 |
| Rented               | 0.547 | 0.498  | 0.595 | 0.533 | 0.313  | 0.268 | 0.357 | 0.332 | 0.59   | 0.201 | 1037 |
measure close to SPANE. The result is similar to that which Rojas (2021) obtained from using SPANE and Cantril ladder metrics as happiness explainers. The answer to question which of the two components of happiness has a greater predictive ability than the other seems to depend on the metric being used. If a single item is used to measure happiness on the hedonic level of affect, then affect explains more of the variance in happiness than contentment.

The only exception in Table 3 is among prison inmates, where the contentment (beta 0.400) correlates more strongly with life satisfaction than emotional state (beta 0.389). However, statistically, there was no difference because the variances overlapped (95% CI 0.329–0.520 vs. 0.314–0.420). Thus, prisoners form their own specific group apart from the other populations surveyed. A different result from other datasets on prisoners raises the question as to the source of this difference. There might be two reasons for the difference: inmates differ somewhat from nonprisoners, or living in a prison changes inmates because of institutional rules. The latter interpretation seems to receive support from the dataset: when regression analysis was carried out by adding the number of years spent in prison to the model, then the beta coefficients of affect and contentment changed. Consequently, when only affect and contentment were included in the model, the beta coefficients were 0.389 and 0.400, respectively, but when the time spent in prison during the lifetime was also added to the model, the coefficients were 0.426 and 0.371, respectively. The beta coefficient of years in prison was -0.015. Thus, years spent in prison change inmates’ way of evaluating happiness.

The above describes how the affective and cognitive components of happiness explain the variance of happiness in general. In all datasets, with the exception of the prisoner dataset, the affective component explains a greater proportion of the happiness variance than the cognitive component. The differences between coefficients are clear (0.5 vs. 0.3), but the slightest difference was found in the surveys where the questions were either the farthest from each other (TITA3) or the defendants were prisoners. However, this clear result still leaves open the possibility that the result observed here will not appear in different subpopulations. This suspicion remains even though we have sought to collect data from as diverse populations as possible.

To check the persistence of the results found across different populations, we merged two similar datasets (TITA1 & 2). Both datasets were collected with the same principles and methods and had questions asked in the same original order (O-A-C). With the merged dataset, we analyzed (Table 6) how affective and cognitive components explain the variance of happiness by gender, age, degree, social group, family status, income adequacy, and home ownership.

A first glance at Table 6 shows that the connection between happiness and its components at the population level can also be seen in different subpopulations: the affective component explains the variance of happiness more than the cognitive component. Practically, there is no difference between the sexes. Accordingly, in terms of happiness and its components, it does not matter whether the respondent lives in an owner-occupied apartment or in rented accommodations.

Although the affective component dominates the cognitive component in all subpopulations, some weighting differences are found within subgroups. At
different ages, the difference between the coefficients of the two components of happiness remains relatively similar; otherwise, in the oldest age group, the coefficients approach each other (0.462–0.350 = 0.112). The greatest difference, almost three times larger than in elders, is in the youngest age group (0.291). This means that among young people, emotions are weighted more and cognitive aspects less when assessing happiness than among old people. The result is consistent with older people having more life experiences than young people. Thus, parents have more perspective to assess the goals they set and how they achieve. The educational background also has a connection with the formation of happiness: affect explains more than cognitive subjects on happiness among people with an upper secondary education (high school) background and people with a higher education (BA) background than among those with other educational backgrounds. Of the different socio-economic groups, students’ and farmers’ affective components were weighted more than those of other socioeconomic groups. However, the group of farmers was so small (N=55) that wider conclusions cannot be drawn based on this sample. The coefficients of the affective and cognitive components converged with each other among entrepreneurs and especially the unemployed. Family status accounts for the greatest differences between the coefficients of the affective and cognitive components. Throughout the analysis, the largest difference between these two components of happiness can be seen among single parents. Among single parents, the affective component’s coefficient was 0.696, and the cognitive component’s coefficient was only 0.157 (difference: 0.539). Consequently, in the life situation of a single parent, happiness is built on emotions to a considerably greater extent than in all other groups, and cognitive assessment of achievements in life has the shallowest coefficient. The other extreme can be found in childless couples: the affective component coefficient is 0.451, and the cognitive component coefficient is 0.358. Childless couples place greater emphasis on achievements in life than do other groups in forming happiness. The adequacy of income to expenditure is linked to the emphasis on affective and cognitive matters when assessing happiness. It seems that financial scarcity is reflected in the formation of happiness so that emotional factors are emphasized more than cognitive estimates. Conversely, it also seems that for well-off people, the importance of cognitive factors increases at the expense of emotional factors. The result is similar to the result seen above when comparing different datasets: in the HS Scarcity and PAM datasets, the coefficient of the affective component was higher than those in other datasets.

Conclusions

Veenhoven’s theory supposes that the gratification or frustration of biological needs have a stronger influence on happiness than the gratification or frustration of cultural wants. According to him, human beings, like other animals, are accustomed to directing their actions and attention because of biological signals so that they can avoid (most often) negative feelings and seek a state that produces positive feelings. However, humans are different from many animals in that their lives are not built solely on biological survival. Human beings set their goals based on many factors
and strive to achieve them in their lives. Biological-based signals are assumed to determine our overall well-being more strongly than signals based on culture-based assessment.

Efforts have been made to empirically test Veenhoven’s theory. Rojas and Veenhoven (2013) examined life satisfaction and its components with Gallup World Poll data over the years 2006–2010. The analysis concluded that contentment would explain life satisfaction more than affect. However, a country-level examination leaves many questions and inaccuracies about, among other aspects, how well the answers to these three questions described the same people. Later, Rojas (2021) examined the same data again from an individual perspective and obtained similar results.

To improve the accuracy of the measurements, researchers collected two individual-level datasets from Finland, which allowed a more detailed analysis of previously inaccurate factors. With an individual-level dataset, the result turned out to be the opposite, i.e., affect explains more of a person’s satisfaction with life than contentment (Kainulainen et al., 2018). This result parallels some studies that have analyzed the association of subjective well-being (SWB) with emotional and cognitive factors (Davern et al., 2007).

This study is also a description of the development process of measures of happiness. The first article (Kainulainen et al., 2018) was criticized for the fact that the three questions were slightly different in style, for example, in terms of what time point participants were asked to assess each factor. As a response to the uncertainty of the questions used, the researchers collected new material (TITA1), where three questions were drafted as consistently as possible. Moreover, first data also had a limitation in representing older people because the sample covered only working aged people. Therefore, older respondents were included in other surveys (TITA1-3).

The challenges listed above have been addressed by collecting both population representative data in different ways and from different subpopulations. In addition, the order of the questions has been varied so that the possible effects of the order in which the questions were asked have been eliminated.

The baseline results seem to remain extremely similar whether measured within any subpopulation (excluding prisoners), by any data collection method (postal survey, telephone interview, digital internet questionnaire) or by asking questions in a different order. In all datasets, affect explains life satisfaction more than contentment. Veenhoven’s theory of biology as a stronger explainer of life satisfaction than culture seems to hold true in six different datasets. However, it should be kept in mind that the difference between contentment and affect is not large, and this finding underlines the importance of considering both affect and contentment in the analysis of happiness.

Although the evidence presented above is an indication of the validity of Veenhoven’s ideas, questions remain open. The theory should also be examined by monitoring life satisfaction and the factors involved in assessing it over time by following the situations of the same people. There may also be a further role for cross-sectional data. After all, our surveys were collected from the happiest country in the world, Finland, which leaves it unclear whether Finland (and similar countries) is somehow special in this respect or whether the result is generalizable in other countries.
as well. Several studies (Kuppens et al., 2008; Rojas, 2021; Suh et al., 1998) have underlined the importance of culture in explaining the differences among nations.

The formulations of the questions have been aimed at maximum uniformity so that the result is not due to the metrics used. As a result, emotions have also been asked to be evaluated. Emotion assessment will presumably raise the assessment according to personal and cultural standards. Being accompanied by an evaluating element may have raised the correlation between affect and happiness when happiness has been measured by general life satisfaction. On the other hand, when asked more directly about emotions, it inevitably involves, at least in cross-sectional research, an evaluative element. This happens especially when asked to assess, for example, the emotional states of the previous day. The evaluative element could therefore have the effect of boosting the mutual correlation between happiness and affect. Instead, there is no justification for why this would raise the correlation even higher than strongly evaluative contentment. Thus, there is no basis to argue that evaluative mapping of emotions has distorted the results. However, consistent question formulation has pursued the cleanest possible comparison of how affect and contentment connect with life satisfaction.

In summary, evaluative questions formulated slightly differently produce a rather similar result and are explained by the same factors. It seems that people’s overall happiness is influenced to a greater extent by emotions than by contentment, and the order of questions does not significantly affect the interconnectedness of the measures. However, the difference between affect and cognition is not entirely clear. Their mutual importance varies at different stages of life. However, during adulthood, the weightings seem to remain relatively the same. In particular, new datasets are needed from children to measure the emphasis of emotions and cognitions. Presumably, the feelings of young children dominate satisfaction to a greater extent than in adults. We need more information about the relationship between happiness and the factors influencing it. Questions describing emotions and contentment have not been optimally formulated. Therefore, it is necessary to further advance the formulation of these questions. Current digital methods of collecting data produce pressure to frame questions as concisely as possible. This can improve the understandability of the questions but, at the same time, produces difficulty in eliciting the necessary information.

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Data Availability WEBE, TITA1, TITA2 are available at Finnish Social Science Data Archive: https://www.fsd.tuni.fi/en/

Code Availability Not applicable.

Declarations

Conflicts of Interest/Competing Interests Not applicable.
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