World Database of happiness: Example of a focused 'Findings Archive'

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WORLD DATABASE OF HAPPINESS

Example of a focused 'Findings Archive'

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ABSTRACT

Social scientists are producing an ever growing stream of research findings, which is ever more difficult to oversee. As a result, capitalization on earlier investment declines and accumulation of knowledge stagnates. This situation calls for more research synthesis and interest in synthetic techniques is on the rise.

To date attention has been focused on techniques for meta-analysis, with little attention paid to the preliminary step of bringing the available research findings together. What we need is 1) techniques for describing research findings in a comparable way, 2) a system for storing such descriptions in an easily accessible archive, 3) to which research findings can be added on a continuous basis.

The World Database of Happiness is an example of such a tool. The archive is tailored to meet the requirements of assembling research findings on happiness; both distributional findings (how happy people are) and correlational findings (what things go together with happiness).

With its focus on 'findings' the system differs from data-archives that store 'investigations' and from bibliographies that store 'publications'. As yet there is no established term to describe this tool for research synthesis. I call it a 'focused findings archive'. In this paper I describe how that works and discusses the strengths and weaknesses of this approach.

Key words: literature review, research synthesis, methodology, research archive, comparative analysis, happiness, life satisfaction, subjective wellbeing, quality of life

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1 THE PROBLEM

Data deluge

The social sciences have expanded over the last century and became more empirical, resulting in a growing stream of research findings that are reported in an ever growing number of publications. The yearly number of publications in the social sciences is now more than 200.000[1], the yearly growth rate more than 5% (Larsen & VonIn 2010: 591). Quality of Life Research is a relative newcomer to the scene, but is no exception to the rule of producing increasing amounts of data. The yearly number of publications in this field is now approximately 1000[2].

As the heap of research findings grows, it becomes ever more difficult to oversee all the gathered facts. Typically we see the most recent facts at the top of the pile and a few particularly salient facts that are repeatedly brought up. Most fruits of empirical research fall out of sight too easily and are difficult to retrieve, even for interested specialists. As a result, there is less accumulation of knowledge than the available data would permit and a lot of unnecessary duplication in the field. This is a remarkable failure of the social science system.

Ways of dealing with that flood

The scientific community has dealt with this problem in four ways: One approach is to search for universal *laws*, believed to integrate all observational data. This theory driven approach makes sense in some fields of the social sciences, but in most fields reality is too complex for such a solution. Now that modern data technology makes descriptive accounts more easy, there is even talk of the 'end of theory' (Anderson 2008).

Another common approach to the problem is *specialization*, that is, knowing more about less. The first step was the development of different social scienc*es* by the end of the 19th century and today each of these disciplines has split into a myriad of research fields, the members of which gather in separate rooms at conferences and communicate in separate journals. Research on 'quality of life' is just one example of this trend, with its newly established specialized journals[3] and research associations[4]. Specialization involves smaller heaps of research findings, but otherwise encounters the same problem

[1] In 2007 the Social Science Citation Index entered about 100..000 publications (Unesco 2010: table F). Not all publications in the social sciences reach the SSCI, in particular not books, dissertations, reseach reports and 'grey' conference papers. In total number of publications was probably about twice as much, that is, about 200.000 in 2007.

[2] Estimate based on a search in SSCI.

[3] The following journals on quality of life have appeared subsequently: 1974: Social Indicators Research, 1997: Quality of Life Research, 2000: Journal of Happiness Studies, 2002: Health and Quality of Life Outcomes, 2003: Journal of Positive Psychology, 2006: Applied Research in Quality of Life, 2011: Psychology of Wellbeing.

[4] Research associations in the field of quality of life were established subsequently in: 1988: Research committee Social Indicators, International Sociological Association (ISA-RC55), 1993: International Society for Quality of Life Research (ISOQL), 1995: International Society for Quality of Life Studies (ISQOLS), 2002: European Network for Positive Psychology (ENPP), 2007: International Positive Psychology Association (IPPA).

of growing mounds of research findings. Even in the young field of quality of life research it is almost impossible to oversee all the findings that are being produced.

A third approach is to use *information technology* to get to know more in less time. In that context academics read fewer book and spend less time in libraries, but download more text from the internet and use search machines more often. Though this involves a considerable efficiency gain, the problem of getting an overview still remains and sometimes even gets worse.

A last way to deal with this problem of data deluge is *research synthesis*, which involves both narrative reviewing and quantitative meta-analysis. This paper is about a tool that is used for research synthesis and for this reason I take a closer look at this approach in the next section.

2 RESEARCH SYNTHESIS

Research synthesis is taking stock of the available research in a particular field. Techniques for doing that have much developed in the last decade; among other things because the growing piles of research findings make this approach more profitable. Classic books on research synthesis are: Light & Pillemer (1984), Wolf (1993) and Cooper and Hedges (1994). In 2009 a scientific journal on 'Research Synthesis Methods' was established (Editors: Lipsey & Schmidt).

Research synthesis should not be mixed up with 'secondary analysis' of available data, that is, re-analysis of data initially gathered by someone else, often for something else. Data analysis, whether primary or secondary, produces 'findings', such as distributions of a particular variable in a particular population and correlations of such a variable with other variables. Research synthesis is about assembling such 'findings' from different studies to get a broader view and to reduce bias.

Traditionally research synthesis is done in the form of periodical 'reviews' of the literature, such as 'state-of-the-art' articles in scientific journals or in handbooks on a particular subject. Such studies are typically made by senior specialists and have sections on 'what we want to know', 'what we do know' and 'what we do not know yet'. This is called *narrative research synthesis*. The term 'narrative' denotes both that reviewers interpret the research findings for constructing a bigger story. Research synthesis of this kind is often theory driven and screens the available data for evidence for or against a particular theory.

More recently techniques for *quantitative meta-analysis* have appeared on the scene (e.g. Hunter& Schmidt 2004). In this approach the focus is on observed facts rather than on interpretations. Quantitative meta-analysis aims at an accurate description of reality in the first place, both of general trends and of contextual variations. This approach is facilitated by new statistical tools and specialized computer programs, e.g. NCSS software for meta-analysis, and requires the existence of a large and homogenous body of research findings, a condition that is more often met in the medical field than in the social sciences.

2.1 Strengths of research synthesis

Research synthesis contributes to a better understanding of reality in several ways:

Broader view

Research synthesis (RS) provides typically a better a view on the subject than single studies do. Firstly RS depicts the general pattern in a research field, in which various biases of single studies balance out. RS also provides a more systematic view on contextual variations than can single studies. This view on variation is often is a key to better understanding. In this context RS also reveals differences in outcomes due to variations in methodology. When research synthesis includes unpublished research reports, it can further reduce 'publication bias'.

The advantages particular to quantitative meta-analysis are: 1) it provides a higher statistical power to detect an effect and to estimate effect size, 2) it is a better basis for generalization, 3) it allows a systematic control for between study variation and 4) provides additional opportunities for the identification of moderator variables.

Low cost
Research synthesis is mostly much cheaper than gathering primary data. It is desk research and does not involve costs for interviewers or participants in experiments. Another practical advantage is that researchers often learn more from research synthesis, as during the process they develop a helicopter view of a field, while primary researchers spend more time in coding and data cleaning.

2.2 Weaknesses of research synthesis

The summing-up of research findings sounds easier than it is, several problems blur the broader view.

Conceptual ambiguity
One of the problems lies in determining the conceptual focus of a piece of research. What precisely should be summarized? Narrative reviewers are often not very specific. This allows them to cover a large literature, though at the cost of precision. Quantitative reviewers are mostly more explicit in what they aim at, but often are vague about the selection of indicators. For instance, several synthetic studies on 'subjective well-being' put slightly different things in one hat, such as 'life-satisfaction', 'mood' and 'involvement', e.g. Okun et. al.(1984).

Still another problem is that different synthesizers often take a different conceptual focus. As a result, synthetic studies are typically not very compatible and as such remain a one-time assessment rather than being a step in an ongoing accumulation of knowledge in the field.

Methodological heterogeneity
Even if the subject matter is clearly defined, a next problem is that studies on that matter can differ in methodology, such as in sampling, measurement and in statistical analysis. This is particular problematic in quantitative meta-analysis and often involves the dilemma of deciding whether to restrict to a few well comparable studies or go for more at the cost of precision.

A main problem in this context is that findings are reported using different statistics, for instance the statistical association between happiness and income is reported in differences in mean happiness across income brackets, in F ratio's, in correlation coefficients, and in unstandardized and standardized regression coefficients, the latter typically controlled for different variables. It is not easy to extract common effect-sizes from such sets of findings and the computation of these leads inevitably to loss of information.

Next to divergence in the methods actually used, there is also difference in the technical terms used, for instance the word 'beta' refers to unstandardized regression coefficients in some publication and standardized regression coefficients in others.

Biased selection of findings
A related problem is that synthetic studies tend to be selective is several ways. There is selectiveness in the pool of publications drawn on, in the picking of studies from that pool and in the reports of findings from these studies.

Bias in the publication process: One source of selectiveness is in the publication process. Most studies limit to findings reported in scientific journals and this involves various biases, such as underrepresentation of findings on non-differences and neglect of findings that do not fit fashionable theories. This is known as the 'file drawer problem'.

Still another source of publication bias is that synthetic studies typically draw on publications in English, not only because these can be easier to retrieve, but also because most synthesizers cannot read research reports in Chinese or Russian. As a result, findings from modern English speaking nations are typically overrepresented, which limits our view on cultural variation and change over time.

Bias in selection of studies: A next source of selectiveness is singling out appropriate investigations. Should all empirical studies be included? Or only studies among particular populations or studies that meet certain methodological requirements? Selection is often implicit and this opens the door to what is called 'cherry picking', that is, limiting to a few salient studies, often studies that fit an argument. Narrative research synthesis is particularly vulnerable to this kind of bias.

Bias in report of findings: A further source of selectiveness is in the description of the findings yielded by the studies selected. Should all the findings be reported? Or only findings deemed 'relevant', 'reliable' or even 'plausible'? Again narrative research synthesis is particular vulnerable to selective reading of the available research findings. Quantitative meta-analysis is often badly documented on this point.

Incomplete coverage of the available findings

Synthetic studies tend to be incomplete for other reasons as well. Their coverage is typically restricted to what one scholar can handle, for example within the restrictions of teaching load or a temporary grant. Long-term programs for research synthesis are scarce as yet, at least in the social sciences. As a result only part of the eligible research reports is read and is only part of the findings in these is considered.

Laborious

The incomplete and selective nature of synthetic studies is partly due to the fact that research synthesis is quite demanding, at least when done properly. Good research synthesis requires that the steps in the selection are made explicit and a further requirement is that the reviewed findings are described in such detail that conclusions are controllable. This involves a lot of work and considerable expertise on behalf of the researcher, both of research techniques and of the subject matter. As such research synthesis cannot be left to assistants but requires considerable time investment by experienced scholars.

Lack of continuity

This brings me to a last limitation: continuity over time. In theory science involves the continuous accumulation of knowledge, but in practice research synthesis is incidental. Synthetic studies are typically one-time assessments and soon become out-dated.

It is also difficult to build on earlier synthetic studies because they tend to be badly documented. Review articles have long lists of references, but provide typically little detail about the research findings they summarize. Scientific journals limit the length for such detail and book publishers are not enthusiastic about printing extra pages for a small readership. Consequently, much research synthesis starts from zero. There is little accumulation in the research strand aimed at accumulation.

2.3 When is research synthesis most useful?

Strengths and weaknesses are contingent to situations and must be judged against alternative roads to advancement of knowledge. In this context the following point should be considered:

In what conditions id research synthesis most useful?
The balance of these advantages and disadvantages depends much on the following conditions.

Data mass: The more findings available, the more profitable research synthesis is. Research synthesis is particularly profitable when the pile of findings has grown too big to be overviewed and when research becomes repetitive rather than cumulative.

Comparability: Research synthesis makes sense only when findings are sufficiently comparable, or at least, that a well comparable set off findings can be selected from the available pool of findings. Comparability must be possible in the conceptualization and measurement of the subject matter and also in the sampling and research methodology

Variation in outcomes: Research synthesis is even more useful if there is considerable variation in the outcomes of a lot of studies. Research synthesis is of little use when all the studies produce the same results. Narrative reviewing is typically most profitable when the aim is to capitalize on variation, such as differences in methods used and exemplary outliers. This is often helpful for understanding causal mechanisms. Quantitative meta-analysis is most suitable when the aim is to assess a general pattern from many well comparable studies. This is typically the case in the meta-analysis of medical trails.

Relative usefulness
One alternative way of getting to know more about something is to do new primary research that capitalizes on the lessons learned in previous research. Another alternative is to do secondary analysis of existing datasets. The relative usefulness of these alternative approaches will differ across research questions and the data available.

3 THE CASE OF HAPPINESS

Over the ages the subject of happiness has absorbed a lot of thought. Happiness was a major theme in early Greek philosophy and gained renewed interest during the later West-European Enlightenment (Mauzi 1960). The philosophic tradition has produced a lot of ideas, but little factual knowledge, philosophers have raised more questions than they have answered. Most of the controversies they have raised could not be solved by the logic of reasoning, and settlement of argument based on reality checks has long been handicapped by a lack of adequate research techniques.

In the 20th century, the social sciences brought about a breakthrough. New methods for empirical research opened the possibility to identify conditions for happiness inductively and even to test theories. This instigated a lot of research, most of which has been embedded in the newly established specializations of 'social indicators research', 'health related quality of life research' and recently 'positive psychology'. This stream of research is growing fast. The rising number of publications on happiness is depicted in Scheme 1[5]. After a take-off in the 1970s the average growth rate has been approximately 5%. The number of publications in 2010 is estimated to be some 400[6].

Reviews of this research literature have been published by Veenhoven (1984), Argyle (1987), Diener (1999), Frey & Stutzer 2002 and by Dolan et. al. (2006). Since 2000 there is also a scientific Journal of Happiness Studies (Founding editor Ruut Veenhoven, current editor in chief Antonella DellaFave).

3.1 Intriguing findings on happiness

This new line of research has produced several unexpected results, such as:

- The majority of mankind appears to enjoy life. Unhappiness is the exception rather than the rule. This is at odds with common misery counts in the social sciences (Diener & Diener 1996).
- Average happiness is high in modern societies and tends to rise. This finding contradicts longstanding pessimism about modernization (Cummins 2000, Veenhoven 2005, Veenhoven & Hagerty 2005, Inglehart et. al. 2008).
- In modern western nations happiness differs little across social categories such as rich and poor or males and females. The difference is rather in psychological competence (Headey and Wearing 1992). This result is at odds with the common notion in sociology that happiness depends primarily on one's social position.
- Differences in happiness within nations (as measured by standard deviations) tend to get smaller. This contradicts claims about growing inequality in modern society (Veenhoven 2002).
- People live happier in individualistic societies such as Denmark, than in collectivistic societies such as Japan (Veenhoven 1999, Verne 2009). This contradicts the theory that modern society falls short in social cohesion, such as proclaimed in books like 'Bowling Alone' (Putman 2000).
- People do not live happier in welfare states than in equally rich nations where 'father state' is less open handed. Inequality of happiness appears not to be smaller

[5] This count is based on publications about happiness in the sense of 'subjective enjoyment of one's life as a whole' and that passed the test for conceptual fit described in section 4.2.
[6] To date (1-1-2011) we have not yet screened and entered everything published in 2010.

in welfare states either (Veenhoven 2000b). This finding contradicts with political left thinking.

- Happiness is not just a matter of being better of than the Jones; though social comparison plays a role, it is not the whole story. This finding challenges cognitive theory of happiness and supports affective explanations (Veenhoven 1991, 1995, 2008b).
- Happiness is not very trait like; over a lifetime it appears to be quite variable. This finding does not fit 'set-point' theory of happiness (Veenhoven 1994b, Ehrhardt et al 2000, Headey 2006).

3.2 Stagnating progress in understanding of happiness

Still, all this empirical research on happiness has not yet crystallized into a sound body of knowledge. Preliminary questions about conceptualization and measurement are now fairly well solved, but our understanding of determinants and consequences of happiness is still very incomplete and tentative. There are several reasons why the growing stream of empirical research has not yet brought greater understanding. In addition to complexities in the subject matter, there are several practical problems.

Conceptual confusion

The first reason is the 'confusion of tongues'. As there is no consensus on use of words in the field, it is quite difficult to select the data that pertain to happiness in a particular sense, such as in the meaning of 'life satisfaction', which I will discus in section 4.2.

The problem is not only in the definition of happiness, but also in the measurement and the former do not always fit the latter. For instance: some researchers who say to aim at life-satisfaction measure in fact something else e.g. Neugarten et. al. (1961) who's 'Life Satisfaction Scale' measures rather social functioning. Reversely some investigators focusing on mental health used indicators that adequately reflect life-satisfaction, e.g. Gurin et. al.(1960).

Lack of overview

The second reason for the stagnation is lack of coordination. There is much redundancy in the research on happiness: the same issues are investigated over and over again, in the same way. As a result, the range of variables considered is still rather small and methodological progress slow. A related problem is that research findings are very scattered and most of the observations are bibliographically irretrievable. Consequently, many of the findings get lost.

Little view on contingencies

A more basic reason for the stagnation in the study of happiness lies in the dominant research approach. The bulk of empirical happiness studies consist of cross-sectional surveys within particular countries. Typically investigators try to identify universal conditions for happiness using local correlates. For instance, the observation in American studies that the happy tend to have high incomes is seen to mean that money buys happiness everywhere and that the basic underlying mental process is social comparison.

Yet, conditions for happiness are probably not the same at all times and at all places. Neither are its consequences. Though there are obviously universal requirements

for a happy life (Veenhoven 2010b), some seem to be contingent on characteristics of the person and situation. For instance, happiness correlates strongest to income in poor and socially unequal countries, and most so among materialistic persons. Usually, such contingencies cannot be detected in single studies in one country, they can be identified only if many studies are compared in a systematic meta-analysis, and this requires that the available findings be compiled.

Little view on causality
Lastly, correlations say little about cause and effect. If rich Americans tend to be more happy, this does not prove that money buys happiness, because happiness can also boost earning chances. Separation of cause and effect requires panel studies and experiments. Such studies are scarce as yet, and the results difficult to retrieve. Progress requires at least that these scattered findings be brought together.

3.3 Research compilation on happiness required

A main priority is therefore to gather the available research findings on happiness and to present these in a comparable format. Without a complete and detailed view on the available findings, there will be little cumulation of knowledge. This need for a compilation of research-findings on happiness becomes ever more pressing. The higher the pile of research reports, the greater the need for a good overview of the findings they contain.

Now that some 400 studies on happiness appear every year (cf. scheme 1), the heap of findings has grown too big to be handled by narrative research reviews. At the same time the stockpile is becoming ever more suitable for quantitative meta-analysis.

Yet meta-analysis requires much investment in gathering of relevant research and in homogenizing the findings. Investment is particularly high if one wants to cover the entire world's research. Such investments are made in capital-intensive fields such as pharmacological research, but are uncommon in the social sciences. The few meta-analyses of empirical happiness research are based on small collections of research findings, e.g. Stock et. al. (1983), Pinquart & Sörenson (2000, 2001) and Steel et. al. (2006). As yet, all the synthetic studies have been one-time shots, leaving no common database to build on. Hence each new investigator has to make a new start. Not surprisingly few do so.

3.4 Happiness a suitable subject for research synthesis

Above in section 2.3 I reviewed conditions in which research synthesis is useful. How does the above apply to the case of research on happiness?

Mass of findings
The rising interest in happiness (cf. Scheme 1) has resulted in a ‘data deluge’ and this is accompanied by diminishing returns of primary research. Much of the newly gathered data on happiness get lost in the dust of archives, since interested scholars cannot read everything that appears and much double work is done as a result. Regular synthetic studies are required to keep an overview and to guide further research.

Comparability of findings
Although there is much heterogeneity in the mass of research findings on happiness, it is

well possible to select a sufficient mass of comparable findings from the pool, as I will demonstrate in section 4. Though comparability within a selection is still hampered by differences in jargon and methodology, many of these problems can also be solved.

Variation in outcomes

The correlational findings on happiness show considerable variation, e.g. in the relation between happiness and income there is a lot of variation across time, nations and social categories. Research synthesis can identify patterns in these differences and as such help us to understand contingencies.

Multi-variate analysis has become ever more common in empirical happiness research and this is another source of variation in the findings, since investigators use different variables for detecting spurious relations and causal paths. Comparative analysis of the divergent outcomes can be quite revealing and so is the consideration of unexpected 'outliers', such as the observed negative correlation between happiness and income in communist China.

Relative usefulness

Though apt in many cases, research synthesis is not always the best way to advancing our understanding of happiness. Sometimes we can learn more from secondary analysis.

For instance, if we want to know how the difference in happiness between males and females has changed over time, we can sort all the findings on happiness and gender by year. Yet this gives a rather mixed bunch of data in which variations in measurement and sampling blur the view on change over time (Meijer & Veenhoven in preparation). Since more homogenous data are available on periodical surveys such as the Eurobarometer, secondary analysis is preferable in this case.

Yet when we want to get a view on cross-cultural variation in the relation between happiness and personality, meta-analysis is the best option, since the information on that matter is scattered in numerous small scale psychological studies. The meta-analysis of happiness and personality by Steel et. al. (2008) is an example.

4 THE WORLD DATABASE OF HAPPINESS

The World Database of Happiness (Veenhoven 2011a) is an archive of research findings on happiness, meant to facilitate research synthesis on that subject. Access to the archive is free via on the internet at: http://worlddatabaseofhappiness.eur.nl

4.1 Aims

The prime aim is to provide an empirical basis for policies that aim at greater happiness for a greater number of people[7] (Veenhoven 2010c). Such policies require knowledge about conditions for happiness and consequences of happiness, and of possible variations in these across time, place and kinds of people. Empirical evidence on those matters is needed as an antidote against ideological presumption.

A side aim of this project is to add to the technique of research synthesis. The method used here for the gathering of research findings on happiness can also be used for taking stock of research findings on other subjects, such as personal health and wealth. The method helps us to overcome several problems in research synthesis, such as poor visibility of the data, incomparable descriptions and lack of continuity. The method allows standard descriptions of research findings to be presented and stored in collections to which scholars can add their findings from all over the world.

4.2 Conceptual focus

Happiness is defined as the *subjective enjoyment of one's life as-a-whole*. In other words: how much one likes the life one leads. Synonyms are 'life-satisfaction' and 'subjective well-being'. This concept of happiness is currently the most used in the social sciences..

Within this concept of overall happiness, two 'components' of happiness are discerned: an 'affective' component called *hedonic level of affect* and a 'cognitive' component called *contentment*. These components are seen to function as subtotals in the overall evaluation of life. This conceptualization of happiness is delineated in more detail in my book 'Conditions of Happiness' (Veenhoven 1984) and more recently in a paper entitled 'How do we assess how happy we are?' (Veenhoven 2009a).

Selection of publications

All publications that use the word 'happiness' or related words in the title abstract or contents are called in and inspected for fit with the above concept of happiness. This involves a lot of reading, since the start of this project in the 1980s some 12.000 publications have been inspected.

Publications that pass that test are entered in the Bibliography of Happiness, discussed below in section 4.5.1. To date (1-8-2011) this bibliography contains about 6600 scientific publications on happiness. Happiness is not always the central issue of these publications and neither is it always called by the same name.

[7] In moral philosophy this pursuit of greater happiness for a greater number is known as (political) 'utilitarianism'. The aim is to achieve that a greater part of the population enjoys life (not to increase the number of people) and this concerns not only the present generation but also future generations. A recent account of this creed is found in Layard (2000)

Selection of empirical studies
If such a publication reports an empirical investigation, the next step is to check whether the measure of happiness used in the study fits the above definition of happiness adequately. This appears often not to be the case, since many questionnaires purportedly dealing with happiness measure broader phenomena, such as 'positive mental health' or satisfaction with particular domains of life rather than satisfaction with life as a whole. Studies that involve at least one acceptable indicator are described systematically on a 'study page' that will be discussed below.

4.3 Building blocks

The basic elements of the database are *pages*, which are linked in various ways. 'Pages' are organized in *collections*, from which *reports* are generated**. '**Reports' are bunches of pages on a particular subject. This make-up is presented graphically on Scheme 2.

These elements are described in the next sections: 'pages' in section 4.4, 'collections' in section 4.5 and 'reports' in section 4.6.

4.4 Pages

Four kinds of pages are involved: pages on 1) a particular publication, 2) a particular study, 3) a particular measure of happiness and a 4) particular research finding. All these pages use a standard format and a standard vocabulary[8].

4.4.1 Pages on a particular publication

Pages of this kind are much like an old fashioned catalogue card in a library. They enumerate author, title and bibliographical source. Unlike the traditional library card the pages also contain a link to the full text. As in a systematic library catalog, publication pages also mention the subjects addressed in the publication, using a classification of topics in happiness research. In the case where a publication deals with an empirical study the results of which are entered in a findings collection, the page also gives a link to the excerpt of that study. An example of a publication page is presented on Scheme 3.

4.4.2 Pages on a particular measure of happiness

Pages of this kind describe a particular way of measurement, mostly survey questions. Such pages present the full text of a question and answer categories and in the case of multiple questions also how a sum-score is computed. If available, texts in other languages are added. In the case of survey question using verbal response scales, the page also mentions weights with which scores can be transformed to a numerical 0-10 scale, which weights are obtained in the International Happiness Scale Interval Study (Veenhoven 2009b).

These pages also have links to all the studies in which this particular measure is used and to the findings obtained with that measure in each of these studies. An example of such a page is presented on Scheme 4.

4.4.3 Pages on a particular empirical study

If a publication reports an empirical investigation that used an acceptable measure of

[8] Rules for standard notation of research findings are described at:
http://worlddatabaseofhappiness.eur.nl/hap_cor/introtexts/introcor3.pdf

happiness, that investigation is described briefly on a 'study page'. Standard descriptives are: the population under investigation (i.e. public, place, and time), sampling, response rate, number of participants (N) and method of observation, such as face-to-face interview or web questionnaire.

On each 'study page' is a link to the 'publication page'. which depicts the research report from which the information is drawn. Study pages also have links to the pages discussed below regarding the 'measure of happiness' used and the observed 'distributional' and 'correlational' findings. An example of a study page is presented on Scheme 5.

The full list of study pages is available at:
http://worlddatabaseofhappiness.eur.nl/hap_study/study_fp.htm

4.4.4 Pages on a particular research finding

At the heart of the archive are pages that summarize a particular research finding. Two kinds of findings are involved: a) 'distributional findings', that is, observations on the spreading of happiness in a particular population, and b) 'correlational findings' about the degree to which other things than happiness go together with happiness.

a *Distributional finding*

A page of this kind describes how happy people are in a particular population, as observed using a particular measure of happiness. Next to the frequency distribution, the page reports two summary statistics (mean and standard deviation) and the 95% confidence interval around these. Information about the people under investigation is taken from a 'study page'; information on the measure of happiness is taken from a 'happiness measure page' and information on the original research report from a 'publication page'. An example of such a page on a distributional finding is on Scheme 6.

b Correlational finding

This kind of page contains the description of the observed statistical association between happiness and something else (called 'correlate') in a particular public and using a particular measure of happiness. The page is partly built from the above mentioned pages on a particular 'publication', 'study' and 'happiness measure'. Additional elements are a description of the correlate and the observed statistical association.

The *description of the correlate* consists of three parts: the name by which the correlate is called in the original research report, detail about the measurement of the correlate and a classification of the correlate by subject matter.

Description of the *observed statistical association* of the correlate with happiness involves the following elements: the statistics used for quantifying the degree of association and for assessing statistical significance, the values obtained in the study, particular elaborations and specifications due to the considerable variation in the ways statistical analyses are done.

An example of a page with a correlational finding is shown in Scheme 7.
For a more detailed explanation follow the hyperlink right on top on that page.

4.5 Collections

The above mentioned 'pages' are gathered in 'collections'. The World Database of

Happiness has four such collections: 1) the Bibliography of Happiness, 2) the collection 'Measures of Happiness, 3) the collection of 'Distributional findings' and 4) the collection of 'Correlational Findings. The way in which these collections are linked is depicted in Scheme 8.

4.5.1 Bibliography of Happiness

All publications on happiness that passed a selection on conceptual fit (cf. section 4.2) are entered in the 'Bibliography of Happiness' (Veenhoven 2011b). This involves the making of a 'publication page' as described in section 4.4.1, the bibliography being a collection of such pages.

Most publications in the bibliography are books and journal articles; however, the collection is not limited to `authorized' publications. Grey reports are also included. The main reason for this is that the publication process involves some systematic biases (cf. section 2.2), one of which is under-reporting of non-correlations. By deliberately including `unpublished' findings, this database allows a more realistic view on happiness. Synthetic studies based on this source can therefore yield conclusions that differ from impressions based on reviews of journal articles.

The Bibliography of Happiness involves a detailed systematic subject index, which allows an easy overview of the field and helps us to trace literature on specific issues. An example of a selection on subject matter is presented in Scheme 8. Publications can also be searched on author, key words, place, time and medium of publication and on words used in the title.

To date (1-8-2011) the Bibliography contains 6600 scientific publications on happiness, sorted in some 400 subject categories. The coverage of the literature in English, German and Dutch is almost complete up to 2008.

The direct link to this Bibliography of happiness is:
http://worlddatabaseofhappiness.eur.nl/hap_bib/bib_fp.php

4.5.2 Directory of Happiness Investigators

Authors of publications that are entered in the Bibliography of Happiness are automatically listed in the 'Directory of Happiness Investigators', which also involves names of scholars that are otherwise involved in the study of happiness. To date the directory contains some 7000 names and about 2500 recent addresses, of which some 1200 come with e-mail. Addresses are limited to investigators who published after 1975. The directory is fairly complete up to 2008.

Since the directory is linked to the bibliography, which is indexed by subject, one can easily select specialists on a particular topic within happiness research and because the bibliography is also indexed by year of publication, one can also identify the currently most active researchers. Likewise authors can be selected on the country where they live.

The directory is available on request to peer researchers, for scientific purposes only. In the last few years it has been of great help in creating research networks around the theme of happiness.

4.5.3 Collection of Happiness Measures (Item bank)

As noted in section 4.2, all measures of happiness used in empirical studies are checked for fit with the concept of happiness used here. The selection is quite stringent and about

half of the indicators claimed to measure happiness is rejected. One of these is the much used Satisfaction With Life Scale (Diener 1985), because the last item that reads: "If I could live my life over, I would change nothing". A positive answer to this question does not necessarily mean that the respondent dislikes the life he/she actually lives, and for that reason the entire scale is rejected. This restrictiveness has a price: the results of many otherwise good studies are not included in the findings collections. Yet the gain is that we can be sure about what the selected findings mean.

Accepted indicators of happiness are described on a page which enumerates the full text of questions or observation schedules and contains links to studies in which these measures have been applied (cf. section 4.4.2). Together these pages constitute the collection 'Measures of Happiness' (Veenhoven 2011c).

This collection involves a detailed classification of happiness measures, based on distinctions between happiness-variants, time reference and methods of assessment. To date (1-1-2011) some 1200 variants have been distinguished. This seems to be a lot for the fairly specific concept of happiness at hand (cf. 4.2). Yet most of the differences concern minor variations in wording, such as whether the positive end of a response scale is labeled 'satisfied' or 'very satisfied'.

Though such variations may seems trivial at first sight, they can make a difference, for instance when responses to such near identical questions are used in trend analysis. Variations in wording or timeframe of questions should also be clear when it comes to explaining divergent outcomes. Research synthesis requires systematic and precise information about measurement and that is what this fine grained categorization provides.

The pages link to the studies that used this particular measure of happiness, and thereby the collection provides an easy overview of the scores yielded by the same measures in different populations. The collection is therefore quite useful for selecting happiness measures that allow comparison with earlier research. It is also a valuable tool for identifying instrument effects. Users can search the collection on keywords or use the classification for selection on variant, time reference, method of observation or rating scale used.

The direct link to the collection 'Measures of Happiness' is:
http://worlddatabaseofhappiness.eur.nl/hap_quer/hqi_fp.htm

4.5.4 Collections of Distributional Findings on Happiness

Distributional findings are about how happy people are in a particular population. As indicated above in section 4.4.4, each of such findings is noted on a separate page. These pages provide detail about sampling and interrogation and present the full *frequency distribution* of responses, together with *mean* and *standard deviation*. Comparison is facilitated by additional transformation of means and standard deviations to a *common 0-10 scale* and by presenting the *95% confidence interval* around these central tendency statistics.

These 'pages' are sorted in three 'collections', two of which focus in the first place on happiness in *places* and one on happiness in particular *publics*.

Happiness in Nations

Pages that report a finding on happiness in the general public of a country are gathered in

the collection 'Happiness in Nations' (Veenhoven 2011d). Findings are ordered by country in 'nation reports' (cf. section 4.5.4). In these nation reports findings are grouped by the kinds of happiness measure used and within these categories by year. This sorting provides an easy view on trends over time.

The entire collection can be sorted on nation and on measure of happiness. From this collection several further 'finding reports' are generated, which will be discussed in section 4.6.2.

To date this collection contains some 4500 findings in 150 nations between 1945 and 2010. Though most of the data come from first world countries, the collection contains findings from almost all countries of the world and covers more than 95% of the world's populations. Among these findings are time-series of 25 year and longer for 15 developed nations. The collection is fairly complete up to 20010.

This collection provides a first set of international statistics on happiness. The data on *average happiness* serve to identify the macro-social factors that mark off more and less livable societies. These data are also used for monitoring social progress and decline, e.g. by Veenhoven (2010a). The data on *dispersion of happiness* in nations can be used in comparative studies of inequality in life chances. The uses of these data are spelt out in more detail elsewhere (Veenhoven 1993a chapter 8, Veenhoven 2002).

The direct link to this collection 'Happiness in Nations' is:
http://worlddatabaseofhappiness.eur.nl/hap_nat/nat_fp.php?mode=1

Happiness in Regions

Recently a similar collection of distributional findings has been added on happiness of the general public in geographical area's other than nations. Most of these areas are regions within nations, such as in post-1990 Germany the former East and West. The collection also contains data on transnational regions, such as Sub-Sahara Africa. A comparable collection of distributional findings on '*Happiness in Cities*' is in the making.

Most of the findings in this collection of Happiness in Regions are extracted from national samples, often using pooled data from several surveys that use the same question on happiness and contain information about the place of residence of the respondent. Since such samples are designed to represent the population in the country rather than in regions, the findings in this collection are less representative than the findings in the above mentioned collection of distributional findings on Happiness in Nations.

To date, this collection involves some 700 findings, in 600 regions, mostly provinces.

The direct link to this collection of 'Happiness in Regions' is:
http://worlddatabaseofhappiness.eur.nl/hap_nat/nat_fp.php?mode=2

Happiness in Publics (particular kinds of people)

Next to the above collections on happiness in the general population in *places*, there is also a collection of findings on the degree of happiness among particular *publics*, that is, social categories within nations, such as aged people or psychiatric patients. Some 160 different categories have been discerned, among which are some rather unusual ones such as 'lottery winners' (code L2.2) and 'prisoners' (code P4).

To date (1-8-2011) this collection involves about 1200 distributional findings, most of which concern particular kinds of people in first world nations. The collection is

fairly complete up to 2000 and as such less complete than the collection of Happiness in Nations. The collection can be searched in several ways, not only on public, but also on country, year and measure of happiness.

The direct link to this collection 'Happiness in Publics' (Veenhoven 2011d) is: http://worlddatabaseofhappiness.eur.nl/hap_pub/pub_fp.php

4.5.5 Collection of Correlational Findings

Next to these 'distributional' findings, the database provides a large collection of 'correlational' findings (Veenhoven 2011f). As noted in section 4.4.4, research findings are condensed in standard abstracts, which are presented on 'pages', one of which is shown in Scheme 6. These finding pages provide details about a) the population investigated, b) design of the study, c) measures of happiness used, d) measurement of the correlate, e) the statistics used for quantifying the observed statistical association between happiness and that correlate and f) the observed effect size and statistical significance. Links lead to full detail about the publication in which the finding is reported (ad a), the measure of happiness used (ad c) and the statics applied for quantifying the statistical association between happiness and the correlate (ad e).

To date there are about 13.750 such pages in the collection. Though this is quite a bunch, the collection is far from complete; there are about twice as much research findings waiting to be entered.

Pages on correlational findings are ordered by the kind of correlate involved. For instance, there are 204 pages about findings on the relation between happiness and 'age'. The subject classification used is fine grained and involves some 2600 categories. Though complicated at first sight, this detailed classification is quite helpful for tracing atypical findings that would otherwise fall out of sight in this expanding field. For instance, the few studies on happiness and 'social mobility' can easily be found using this subject category and do not get lost in the pile of findings on happiness and 'social status'.

The collection can also be searched in several more ways, such as on happiness measure, public, nation and time. Something that is particular useful for identifying causality is that follow-up studies can be selected.

The direct link to this collection 'Correlational Findings' on happiness is: http://worlddatabaseofhappiness.eur.nl/hap_cor/cor_fp.htm

4.6 Reports

Selections of 'pages' are assembled automatically from each of the above mentioned 'collections' and presented in 'reports'. Two kinds of reports are particularly useful in research synthesis: 1) 'publication reports' and 2) 'finding reports'.

4.6.1 Publication reports

Reports of this kind list the publications on a particular subject, using the subject classification of the Bibliography of Happiness. Unlike the 'finding reports' mentioned below, these publication reports cover all that is written on the subject, not only research reports but also literature studies and theoretical treatises. Among the research reports mentioned, the publication reports do not limit to publications on studies that used acceptable measures of happiness, but also contain publications on studies that are not

included in the findings collections. As such publication reports provide a complete overview of the literature, which is quite helpful in narrative research synthesis.

An example of a publication report is given in Scheme 9. This report is about a subject that is addressed in only two publications. Most of the publication reports involve many more references, e.g. the publication report on 'happiness and income, which 'gives 225 titles to date.

4.6.2 Finding reports

Reports of this kind are more focused and limit to empirical observations yielded using an accepted measure of happiness, that is, one of the indicators listed in the collection 'Measures of Happiness' (cf. section 4.2). Finding reports may list either distributional findings or correlational findings and in the case of reports on happiness in specific publics they present both. The direct link to an overview of all these reports is: http://worlddatabaseofhappiness.eur.nl/findingreportslinkpage.htm

Reports on distributional findings

As mentioned above in section 4.5.4, distributional findings are about how happy people are in a particular place and time. To date, the archive involves some 6000 pages on this kind of findings and from that pool the following kinds of reports can be gathered:

Nation reports: These reports present an overview of observed distributions of happiness in the general population in nation states. The reports limit to findings in representative samples of the general population. These findings are ordered by the kinds of happiness measure used and within these blocks by year. An example is presented on Scheme 10. The direct links to the list of nation reports is: http://worlddatabaseofhappiness.eur.nl/hap_nat/toc_secondary.php?mode=1

Rank reports: These reports draw on the above nation reports and select findings yielded using the best comparable measure of happiness. Currently this is a single question on life-satisfaction, responses to which are rated on a numerical scale ranging from 0 to 10 (measure types 122D+E). The current rank report is based on responses to this question in the last 10 years. When the question has been used in several surveys during this 10 year period, the average is mentioned in the rank report. The selected findings are marked yellow in the nation reports.

Nation ranks are presented in four separate reports on respectively: 1) *average happiness* in nations, 2) *inequality of happiness* in nations, as measured using the standard deviation, 3) *inequality-adjusted happiness,* which is an index combining mean and standard deviation and 4) *happy life years*, which is a combination of average happiness and life-expectancy.

Within these rank-reports the user can sort either alphabetically on name of the nations or on observed degree of happiness, by clicking in the head of the table.

An example of (part of) a rank report is presented on Scheme 11. The direct link to the full report on the web is: http://worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/RankReport_AverageHappiness.php

Trend reports: These reports also draw on the above mentioned 'nation reports' and focus on the ones that involve repeated responses to the same question over the years. Trend reports are limited to countries in which at least 15 such data points are available over a period of at least 20 years. To date there are 14 such cases.

As with the above 'rank reports' there are four kinds of 'trend reports' on happiness in nations, respectively on change over time in: 1) *average happiness*, 2) *inequality of happiness*, 3) *inequality-adjusted happiness* and 4) *happy life years*.

An example of (part of) the trend report on average happiness is presented on Scheme 12. The direct link to the full report on the web is:
http://worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/TrendReport2007-1.pdf

Reports on Correlational Findings

Finding reports can also be generated from the collection of 'Correlational Findings' on happiness. These reports assemble finding pages on the same subject, using the main topics in the subject classification of that collection. To date there are 104 such reports in the database, some of which contain more than hundred finding pages, such as the report on 'Income', which contains to date 921 correlational findings.

Reports on correlational findings start with a sub-classification of the available findings in this subject category and enumerate the number of findings in each of these categories. This sub-classification follows a standard categorization into: 1) *Over-time* correlations, for instance the relation between earlier income and present happiness. This category is labeled 'career'. 2) *Same-time* correlations, such as the association between present income and present happiness. This sub-category is labeled as 'Current'. 3) *Attitudes* to the subject matter, rather than the subject itself, e.g. the observed correlation between income-satisfaction and happiness.

Further distinctions are made within each of the sub-categories, for instance in the case of 'current income' between 'personal income' and 'household income'. These classifications of correlates of happiness are further tailored to the available findings on the particular topic involved and continuously refined. The richness of the available data is thus brought to the eye of the users. An example of such a classification of correlational findings on happiness is presented on Scheme 13.

These reports lay the foundation for research synthesis. They provide a set of research findings that is about a well defined concept of happiness and these findings are presented in a comparable way, using a standard format and a standard terminology. Conceptual and terminological ambiguities being cleared away, the real synthetic analysis can start.

The full list of reports on Correlational Finding is available at:
http://worlddatabaseofhappiness.eur.nl/correlatereports.htm

Reports on happiness in special publics:

This kind of report gathers both distributional findings and correlational findings observed in a specific public, other than the general population. The findings are not presented as such, but the reports present links to these. To date, there are 160 such finding reports on happiness among particular kinds of people. An example is presented on Scheme 14.

The full list of reports is available at:
http://worlddatabaseofhappiness.eur.nl/hap_pub/pub_fp.php

5 STRENGHTH AND WEAKNESS AS A TOOL FOR RESEARCH SYNTHESIS

Any method for gathering knowledge has its pro's and con's. What are the strengths and weaknesses of this focussed findings archive?

5.1 Strengths

The World Database of Happiness combines large *size* with a *sharp focus* and *detailed description*. It avoids common flaws in research synthesis, such as biased selection and poor documentation. The collection is well structured and easily available on the internet.

Un-biased selection

This collection draws on an almost exhaustive search of research reports on happiness, available in the 'Bibliography of Happiness'. The only criterion for entering of a publication in that collection is that it deals with happiness in the sense of 'subjective appreciation of one's life-as-a-whole'. This definition is made clear and explicit[9].

A next criterion for inclusion of research findings is that these are yielded using acceptable measures of that concept. The criteria for accepting a measure or not are also clear and explicit[10]. All accepted indicators of happiness are listed in the collection 'Measures of Happiness' and described in full detail. The selection is therefore controllable.

Once a study is selected, all the findings it yielded are eligible for entering in the archive. The priorities for entering (longitudinal studies, new variables) do not involve a preference for a particular view on happiness.

Conceptual precision

The above selections result in a clear conceptual focus that is typically lacking in review studies. Publications on other qualities of life than happiness, as defined here, are weeded out from admission to the Bibliography, i.e. some 60% of publications inspected. Investigations that do not use acceptable measures of happiness are barred from inclusion in the findings collections, that is, about 50% of the research reports in the Bibliography.

Detailed description

One of the problems of research synthesis is poor documentation. Unlike primary research, there is no dataset that others can check on. Typically there is little more than a list of publications from which findings are taken. This opens the door for selective reading of the findings. This findings archive on happiness evades that trap by providing precise and standardized description of research findings (cf. section 4.4.4).

Users can also find their way back to the original research reports. Findings pages involve a link to the 'publication' concerned and specify the tables and page in that report from which the information was taken.

[9] http://worlddatabaseofhappiness.eur.nl/hap_bib/introtexts/introbib2.htm
[10] http://worlddatabaseofhappiness.eur.nl/hap_quer/introtext_measures3.pdf

Optimal comparability

Confusion of tongues is the curse of research synthesis. Research reports use different natural languages and within languages, different scientific words for happiness and correlated variables, as well as a different technical jargon for describing the methodology. It is therefore quite difficult to select comparable findings. This problem is tackled by presenting findings in a standard format using a standard language (cf. section 4.4.4).

Comparability is also limited by variations in measurement. These differences cannot be wiped away, but research synthesis can better cope with them if they are explicit. For this purpose the findings pages contain a detailed description of the way in which variables are measured, when possible providing the full text of survey questions or observation schedules. Something that is particular to the measurement of happiness is that the finding pages involve a link to the collection 'Measures of Happiness', which provides an opportunity to check how the same measure has performed in other studies. This is a great help for identifying possible method effects.

Still another limitation of comparability is set by the use of different statistics used to quantify the relatedness of happiness and other variables. This problem is tackled both by making these differences explicit in the excerpts and by computing comparable statistics where possible.

All this does not solve all the comparability problems, but it brings us as far as we can go.

Deep coverage

The findings archive covers the research literature on happiness almost exhaustively up to 2005. On top of that, its findings collections contain many more research results than searches on 'publications' can discover. The main reason is that most of the available research findings are not announced in the title or abstracts of publications, but are hidden in texts and tables.

By now (1-8-2011) the archive stores some 20.000 separate findings, among which many that scholars could not retrieve even if they knew about their existence. For this reason the collection provides better coverage of the research literature than any of the available review studies, even though the collection of correlational findings is still incomplete.

Continuous accumulation

This findings archive is designed for continuous accumulation of research on happiness. That is why so much has been invested in conceptual focus and standardization of description. Scholars need not go back to the early research literature of the 1980s, but can build on solid descriptions of earlier findings available in the archive and restrict their effort to adding the latest ones. The archive provides a platform which scholars can use jointly to accumulate knowledge in their field.

Well structured

The archive is more than a heap of research findings on happiness, since it is organized into different collections from which focused selections can be made, using detailed subject classifications. The collections can also be searched on keywords, on population

studied and on methodological characteristics such as the measure of happiness used. Users can easily select particular kinds of studies, such as longitudinal studies or studies using experience sampling methods.

Well accessible
The collection is freely available on the internet. Many interlinks on the website allow access too much detail and provide opportunities for comparison. As such the information in this collection is better accessible than in reference books or review articles. Soon it will also be possible to add to the archive worldwide.

Unique
To my knowledge, there is no other such tool for research synthesis as yet.

5.2 Weaknesses

The above mentioned strengths have a price, and in several aspects this findings archive on happiness is not yet as good as it could be.

Laborious
The entering of research findings in the archive takes considerable time, on average about 3 hours per finding[11]. This is the price of the above mentioned strengths, and in particular of the detailed description of findings.

Too focused?
The selection on proper measurement of happiness is quite severe and disqualifies commonly used measures such as Diener's SWLS and Lyubomirsky's SHS, because these questionnaires involve one or more items that do not really fit the concept[12]. The price of this conceptual focus is that about half of the research literature is left out. Consequently syntheses using this collection draw on a different data pool than most review studies do.

Incomplete
The archive does not yet hold all the eligible research findings on happiness. Though fairly complete with respect to distributional findings in nations, the collection of Correlational Findings covers less than half of the available findings. Getting it up-to-date would require some 5 person years of work, while hundreds of findings are added to the waiting row every year. A cold comfort is that we at least have an idea of what is missing.

Not flawless
The collection has developed incrementally and the technique for describing and coding

[11] Gathering, selecting, coding entering of a publication in takes about 4 hours. Additionally, the subsequent identification, and description of research findings takes some 3 hours; onaverage 5 hours for a distributional finding and 2 hours for a correlational finding (Veenhoven 2011, section 1.3)
[12] The reasons for excluding findings based on such measures are presented in the 'Introductory text to the collection of Happiness Measures', section 3/3.3
http://worlddatabaseofhappiness.eur.nl/hap_quer/introtext_measures3.pdf

findings has been developed gradually over the last 30 years. Consequently some of the early entries are not quite in line with the current state of the art. Next to that there are mistakes in notation and coding. Many of these errors will be redressed in a planned touch-up of the archive, but some will inevitably remain.

Not fitted to all kinds of findings
The findings collection limit to quantitative research findings and do not include 'qualitative' studies on happiness[13]. A limitation specific to the collection 'Correlational Findings' is that that is better fitted to separate correlates than for full variable models.

Redundant
The collection of Correlational Findings contains many very similar findings, such as on the relation between happiness and variables such as 'age' and 'gender'. This is a consequence of the fact that most studies use these variables and that we enter all the findings published in the reports. This is the price of un-biased selection.

5.3 Better go topic-wise?

This findings archive on happiness has developed into a mega-project and that raises the question whether small is not more beautiful. Rather than first compile all available findings on happiness and then select findings on a particular topic from that, one can restrict to gathering these topical findings from the beginning, thus avoiding that time lost in the entering of many findings one does not need. This is the common practice in research synthesis, among other reasons because it is feasible for individual scholars and even more so since information technology has made it much easier to search the literature. Is not this more effective?

Armchair speculation will not answer that question and for that reason I did a reality test. I considered three exemplary correlates of happiness: 1) education, 2) intelligence and 3) longevity. In each of these cases I checked whether searches in the Web of Science and Google scholar do equally well, that is, a) whether the same number of publications is found on these subjects as currently listed in the 'Bibliography of Happiness', and b) whether these publications report about the same number of correlational findings as available in the collection 'Correlational Findings'. These tests are described in Veenhoven (2010e), appendices C and D. Below I summarize the results.

Search effectiveness
On average searches in the Web of Sciences miss out on 65% of the publications that have reached the Bibliography of Happiness and some 125% of the findings eligible for entering in Correlational Findings. See Scheme 15. Likewise searches in Google Scholar miss 66% of the publications listed in the Bibliography of Happiness and 128% of the correlational findings.

How many publications appear in this search in the Web of Sciences that are not yet in the Bibliography of Happiness? A few: six on happiness and education, one on

[13] Qualitative studies are not suited for identifying conditions for happiness anyway, since they inform us about what people *think* that will make them happy rather than what actually *does* contribute to their happiness. Though not included in the finding collections of this archive, publications about qualitative studies on happiness are included in the 'Bibliography of Happiness' (subject section Aj09).

happiness and intelligence and one on happiness and longevity; together about 10% of the publications and 8% of the findings[14].

Why do these one-time selective searches perform so poorly relative to the continuous broad search strategy used for the World Database of Happiness? One reason is that focused searches are very vulnerable to variation in the use of words, which is endemic in the social sciences. Focused searches probably do a better job in other disciplines. A second reason is that the broad approach does not limit to keywords in texts, but also involves the tracking of references and calls in the research community. A third reason is that the broad strategy involves close reading of texts for findings hidden in tables and appendices. This is one of the reasons why so many findings on 'education' were missed in searches on keywords, education being a common variable in studies that do not aim at this subject in the first place.

All this underlines my earlier point that a great deal of the findings the science system produces gets 'lost' (cf. sections 1 and 2.2)

Cost effectiveness

How much time do the different search methods take for finding an apt publication? In the broad search approach of the World Database of Happiness the average investment is some 4 hours per publication. A focused search in the Web of Science take only a fraction of that time (0,2 hours per publication), but finds only a fraction of the relevant literature. Searches in Google Scholar are likely to get to more of the relevant publications, but at the price of a much higher time investment of about 15 hours per finding.

Long-term efficiency

Accumulation of knowledge requires periodical synthesis of the available research results. It not efficient to start these with a new literature search over and again. Not only does one miss out on about half the findings, but it involves doing double the work and typically also bad work. Continuous archiving is clearly better and also feasible, as this case of accumulation of research findings on happiness illustrates.

[14] These missing cases have now been added to the Bibliography of Happiness, which fits the policy of continuously adding to this collection.

6 USE OF THIS FINDINGS ARCHIVE

Some 65 years of work have been invested in putting this findings archive together, which equals a money investment of about 6.500.000 Euro in current prices (Veenhoven 2011: §1.3). What is the return on that investment? How often is this source used, by what kind of people and for what purposes? And lastly, how does the cost effectiveness of this findings archive compare to the cost effectiveness of primary research?

6.1 Users

The website www.worlddatabaseofhappiness.nl attracts many visitors, at the start in 1998 some 25.000 per year and in the year 2010 about 130.000. The yearly growth rate is 16%. See scheme 16 . This which is about trice as much as the 5% yearly growth of the number of publications on happiness (cf. section 3.1).

Visitors come from all over the world, mostly from western nations. About 30% of the visitors is from the USA, 10% from the Netherlands, 6% from Germany, 5% from the UK and 3% from Canada.

Half of these visitors spend less than a minute on the site and merely hop and see, which leaves us with some 65.000 serious visitors. How many of these really shop in the archive? Some indications are: 1) about 34.000 of the visitors seem to be scholars[15], 2) 27.000 users visited the website earlier and 3) 27.000 visitors consulted specific sections of the archive, such as the Bibliography or particular finding reports. This all suggests considerable use of the archive.

Scientific citations

A search in Google Scholar using the 'Publish or Perish' search engine yields 950 citations over the last 10 years. A separate search in Google Scholar itself reveals that the source was mentioned about twice as much[16], but not always formally cited[17]. A search in the Web of Science yield only 427 hits[18], among other things because this source does not cover books.

Is this much or modest? Comparison with reputed research programs shows that it is very much, about 15% of the hits on 'German Socio Economic Panel' and 45% of the hits on World Value Survey. Given the relative investment this is not a very good score.

The number of citations is rising over time at a similar pace as the number of visits to the website. See Figure 1. About 1 in 1000 visits results in a scientific citation.

Press references

Since 1994 the database has been mentioned 190 times in major newspapers, mostly in the last 5 years. Most of these 'social citations' have been in quality newspapers, such as

[15] Estimate based on extension '.edu' of US users.

[16] Between 1991-2011 the World Database of Happiness was mentioned 1.772 time in scientific texts covered by Google Scholar.

[17] Mentioning without citation is common practice. For example, the World Values Survey is often mentioned in scientific texts but really cited in only 5%.

[18] References to the World Database of Happiness appear under different names in a search on author 'veenhoven, r'. Search on title yields no hits in the Web of Science. Of the 427 references 208 concern Veenhoven's 1984 'Conditions of Happiness'.

'Le Monde', 'El Pais, 'Die Zeit', 'Politiken' and 'The New York Times'[19].

6.2 Uses

The sections about happiness in nations attract most visitors, both reports on distributional findings on happiness in nations (nation reports, rank reports and trend reports) and reports on observed correlations between average happiness and societal characteristics (subject sections 'Nation' in the collection of correlational findings). Reports about correlational findings on happiness and intimate relations are also well visited.

At this moment I have no clear view on how all these users apply the information they see on the World Database of Happiness. So I limit to some illustrative examples of how I have used this source myself.

Summing up

I have used the archive for taking stock of the research on several topics. One of these topics was the effect of *happiness on physical health and longevity*. A review of 32 follow-up studies showed that happy people live longer. A split-up between studies among healthy and sick populations suggested that happiness protects against falling ill, but does not cure serious illness (Veenhoven 2008a). Recently I have gathered the available research findings on *happiness and IQ*. In a set of 24 studies at the micro level I found no correlation, smart people being about equally happy as their less smart compatriots. However at the macro level I found a strong correlation, average happiness being higher in nations with a high average IQ (Veenhoven & Choi, submitted). A similar analysis of *happiness and education* is in preparation (Veenhoven & VandeVooren). In the context of a paper on *happiness and 'capability'*, I used the collection of Correlational Findings to list the personal abilities that appear to be most helpful for happiness (Veenhoven 2010d).

Comparison across nations

Using this archive I could compare average happiness in some 130 nations, which is far more than any cross-national survey program allows. This provided a new view on the relation between happiness and *income inequality.* While earlier studies in smaller data sets had found a negative correlation, I found no correlation, which suggests that the advantages and disadvantages of income inequality tend to balance (Veenhoven & Berg 2010). Similar cross national comparisons revealed a positive effect of *modernity* and a negative effect of *religiousness* in nations and no effect of the *death penalty* (Berg 2010). Next to such analyses of average happiness across nations, I have also compared correlates of happiness across nations, such as the correlation between *happiness and income*. Thos showed that this correlation tends to be higher in poor nations (Veenhoven 1991, scheme II).

Comparison over time

The archive provides unprecedented possibilities for comparing happiness over time and on this basis I could establish that *average happiness has risen* in most nations over the

[19] Search in Lexus Nexus on 'world data-base of happiness', 'worlddatabaseofhappiness.eur.nl' and 'veenhoven AND database'.

last 30 years (Veenhoven & Hagerty 2005), while *inequality of happiness has gone down* (Veenhoven 2002). Next to these comparisons of the distribution of happiness, the archive also allows for cross-temporal change in conditions for happiness, such as the growing impact of *marriage* (Veenhoven 1984b).

Getting view on causality
One of the curses in this field is the chicken and egg problem: does the correlation between happiness and income mean that money buys happiness or that happiness boosts earning chances? Follow-up studies are required to answer such questions and for that reason findings yielded by such studies are entered with priority in the archive and coded in such a way that they can be easily retrieved. My first application was in 1989 on the few longitudinal findings on *marriage* available at that time. I concluded that marriage adds to happiness and that happier people also have better marriage chances (Veenhoven 1989), a findings which has been corroborated in later large scale panel studies such as the SOEP (Stutzer & Frey 2006). I have also used the archive for taking stock of all the observed *consequences of enjoying life or not* (Veenhoven 1988, 1989).

Testing theory
Another road to understanding is to derive predictions about happiness from a theory and then test these inferences. In that context I have used the archive for testing the theory that happiness depends on *social comparison* (Veenhoven 1991). In a similar vein I have scrutinized the archive for findings that plea for or against the *set-point theory* of happiness (Veenhoven 1994) and have taken stock of the evidence for common *sociological theories* of happiness (Veenhoven 2008b).

Inductive illumination
Still another way to the understanding of happiness is to go through the facts and consider their theoretical relevance. This is sometime called 'harking', hypothesing after results are known. I call it the 'drag-net method' and in that metaphor the fact stand for *fish* and the *dragnet* is all the explanatory notions. This method allows us to detect the findings that fit preexisting theories and it makes us aware of phenomena that current theory cannot explain. My first systematic application of this approach was in Veenhoven (1984). In that vein I have further explored the societal conditions for happiness (Veenhoven 1993a) in the context of which I have found unexpected things, such as the earlier mentioned non-correlation with income inequality (Veenhoven & Berg 2010) and social security (Veenhoven 2000b).

6.3 Cost effectiveness

The investment in this findings archive are considerable; as noted in section 5.2 the entering of a publication in the Bibliography takes about 4 hours and the description of separate findings some 3 hours each[20]. Still this is only a fraction of the costs involved in the gathering and publication of the primary research[21]. Inclusion in the data archive

[20] Given these numbers the present collection of 6500 publications and 20.000 findings would have cost some 86.000 hours, which equals about 57 men years of work. The real investment since 1980 was 67 men years (Veenhoven 2010e section 1.3) The 10 year difference is in increased efficiency

saves much of this costly primary research from oblivion and comparative analysis of the findings provides additional information at low cost.

The money investment per visit is about € 10[22], which is quite cheap compared to the costs usually made for having someone read a scientific book or journal article[23]. Since the use of the archive increases some 15% each year, the return of investment in terms of use will rise in the future.

[21] The average time investment for the production of an academic publication in this field involves typically the writing an application, data gathering, data cleaning, data analysis, writing the report, presentation of preliminary versions and revising. Next to the time investment of the investigator , there is also time spend by selection boards, interviewers, IT specialists, assistants, reviewers, editors and publishers. Together the average time investment for a scientific publication will be about 3000 hours. Assuming that an average publication reports about 10 findings, the production of a research finding takes some 300 hours. If so, the storing of a finding in this archive takes 1% of the time invested in producing the finding.

[22] Assuming that the website has attracted about half a million visitors 'serious' visits since 1998, the average investment per visit was € 13. Taking the use of earlier book publications into account, the average costs for a visit is probably some € 10. The

[23] Assuming that a scientific publication attracts on average some 1000 serious 'readings' and that the average cost of underlying research and writing is about €100.000, the investment for each reading is € 100.

7 FUTURE OF THE WORLD DATABASE OF HAPPINESS

The World Database of Happiness started in the 1980s at Erasmus University Rotterdam as a one-person project in the department of sociology. Over the years it has been funded by Erasmus University Rotterdam, together with a subsidy of the Dutch science foundation NWO. The library of Erasmus University has committed to keep the archive available after my time and for that reason the software is now being made future proof. Now that the stream of new research findings is growing by the day, it is no longer possible to keep the collection up-to-date by a few people in Rotterdam. In that context the following changes are being made.

7.1 Redesign of the data structure

The software has developed incrementally over the years and involves currently some 15 programs, some of which are at risk of becoming outdated. For that reason the software is now being redesigned. This overhaul serves to ensure that the archive will remain accessible in the future. A second aim is to streamline the system and make it more user friendly, which will reduce the time required for entering new findings. A third aim is to make it possible for additions to be made from outside Erasmus University. This will set the scene for a change to maintenance of The World Database of Happiness by a network of scholars from all over the world.

7.2 Spread the work: Change to a Wiki-like structure

In the 1980s I could easily keep the archive up-to-date by myself, since the research output on happiness was quite modest at that time. Now 30 years later we cannot keep pace with a team of five. Though the Bibliography and the collections of distributional findings are up-to-date, we lag behind on entering correlational findings. Keeping up with research on happiness will become more difficult in the future, since the stream keeps growing. For this reason our aim is to spread the work and change to a Wiki-like structure for the input of data.

Now that happiness research has matured; there are a lot of scholars who specialized on particular topics, such as the relation between happiness and income or happiness and personality. These scholars keep track of the research literature anyway and several of them would welcome the opportunity to do that more systematically in the context of this findings archive. Such scholars can take responsibility for keeping particular sections of the archive up-to-date. Among the rewards is first of all that this is helpful in getting a more complete overview on their field and secondly that they will author the finding reports on their topic. In this approach the role of the central group at Erasmus University Rotterdam will shift gradually from filling the archive to maintenance of the data-structure and quality control of entries made elsewhere.

Call for research associates

For these reasons we are looking for scholars, willing to act as a *research associate* at the World Database of Happiness. Research associates take responsibility for keeping particular sections of the archive up-to-date. They will be expected to commit for 4-year periods and will be cited as the first author on the 'finding-report' of their section, which

is extracted from the database every year. Research associates can apply to carry out the following tasks.

Particular country: As a research associate for your country you will keep track of survey studies on happiness in your home land and enter the observed distribution of responses in the collection of Happiness in Nations. Your name will appear on top of the nation report that is generated from that collection and updated every year.

In this function you can also gather further reports of research on happiness published in your country and enter these in the Bibliography of Happiness. In this case your name will also be mentioned in the list of associates to the Bibliography of happiness.

Particular topic: As a research associate for a particular topic you will keep the track of the findings on that matter. Topics can be the happiness in particular *publics*, such as the happiness of widows, or the relationship between happiness and a particular *subject* matter, such as 'Income'. You will add new publications on your topic to the Bibliography of Happiness and enter the findings in the collection Correlational Findings. Your name will appear as first author on top of the 'Findings reports' on that particular issue that are extracted from the database every year.

Your own work: As noted we are far behind with entering correlational findings. The reason is simply that this takes a lot of work and that we are short of money. In that context it is helpful if investigators enter their own work and that will be technically possible by the end of 2011.

Though possible, this is not very efficient in most cases. Entering correlational findings is not easy, in particular the use of the standard terminology and the notation of results based on advanced statistical techniques. Entries made by inexperienced colleagues need to be checked and corrected, which requires considerable time. What is most efficient in such incidental entries is to have the job done by one of the experienced bright students in our team. In that case we will select one for you, and you will pay the student. The usual tariff is € 15 per hour (2011) and entering of a correlational finding takes on average some 3 hours. We are also open to deals with institutes for entering their research output on happiness on a continuous basis.

Contact: prof. Ruut Veenhoven, Erasmus University Rotterdam, POB 1738, 3000DR Rotterdam, The Netherlands. E-mail: veenhoven@fsw.eur.nl

7.3 Funding opportunities

Up to now, the project has been financed in the Netherlands, both by Erasmus University and the Dutch Science Foundation NWO. Now that the subject has reached the political agenda[24], more money for happiness research will become available elsewhere. This

[24] On July 20th 2011 the General assembly of the United Nations adopted a resolution on happiness. Calling the "pursuit of happiness" a "fundamental human goal," the resolution recognized that it is a universal goal in the spirit of the UN Millennium Development Goals.

project in new style has good chances in international research programs, in which accumulation of knowledge and network have typically high priority.

Funding for parts of the collection

Next to funding for the project as a whole, there are also chances for raising money for parts of it. Research associates can apply for financial support in their own area, for instance for adding the available research finding on happiness in their country to the archive, as currently happens in France. Associates can also seek money for the available findings on a particular topic, such as' happiness and work.

Next to scientific subsidies, *sponsoring* by commercial firms is also possible, for instance sponsoring of the collection of findings on 'happiness and work' by an employment agency. Conflict of interest is unlikely in this case, since the job is to gather the available research findings.

Funding for one-time updates on a particular topic

Funding can also be obtained for in the context of reviews of research on a particular topic, such as on the effect of happiness on health. Such applications will make a better chance if the gathered research findings are added to this archive.

8 OTHER APPLICATIONS OF THIS FINDINGS ARCHIVE

This findings archive has been developed as a tool for the gathering of research on happiness. The subject classifications in its collections are tailored to that subject. Still the tool is also applicable to other subjects. This is most evident in the case of attitudinal matters, such as 'self-esteem' and 'trust'. Research on such matters is quite similar and for that reason much of the 'furniture' in the World Database of Happiness can be used, for example the classification of statistics. Application of the tool to more distant subjects requires more adjustment of the details, but the general structure of the archive can be applied to almost all subjects of empirical research. The software is available free for interested scholars.

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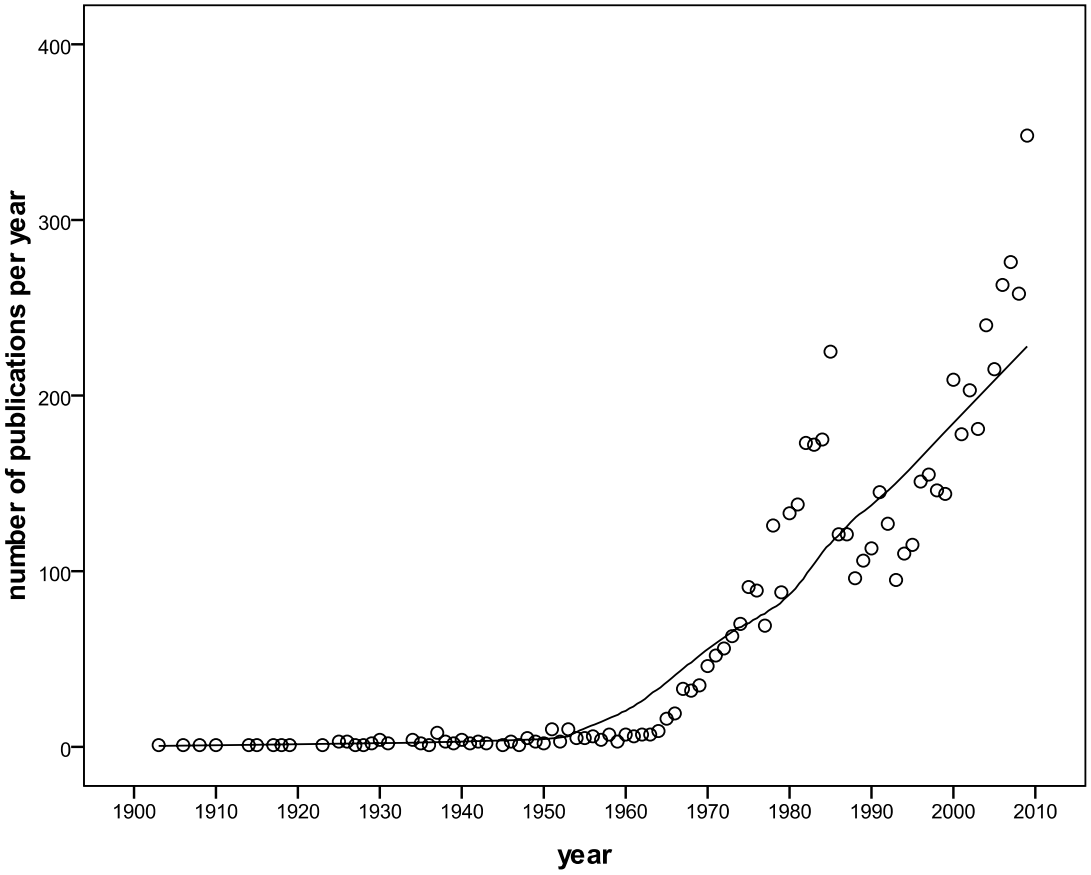
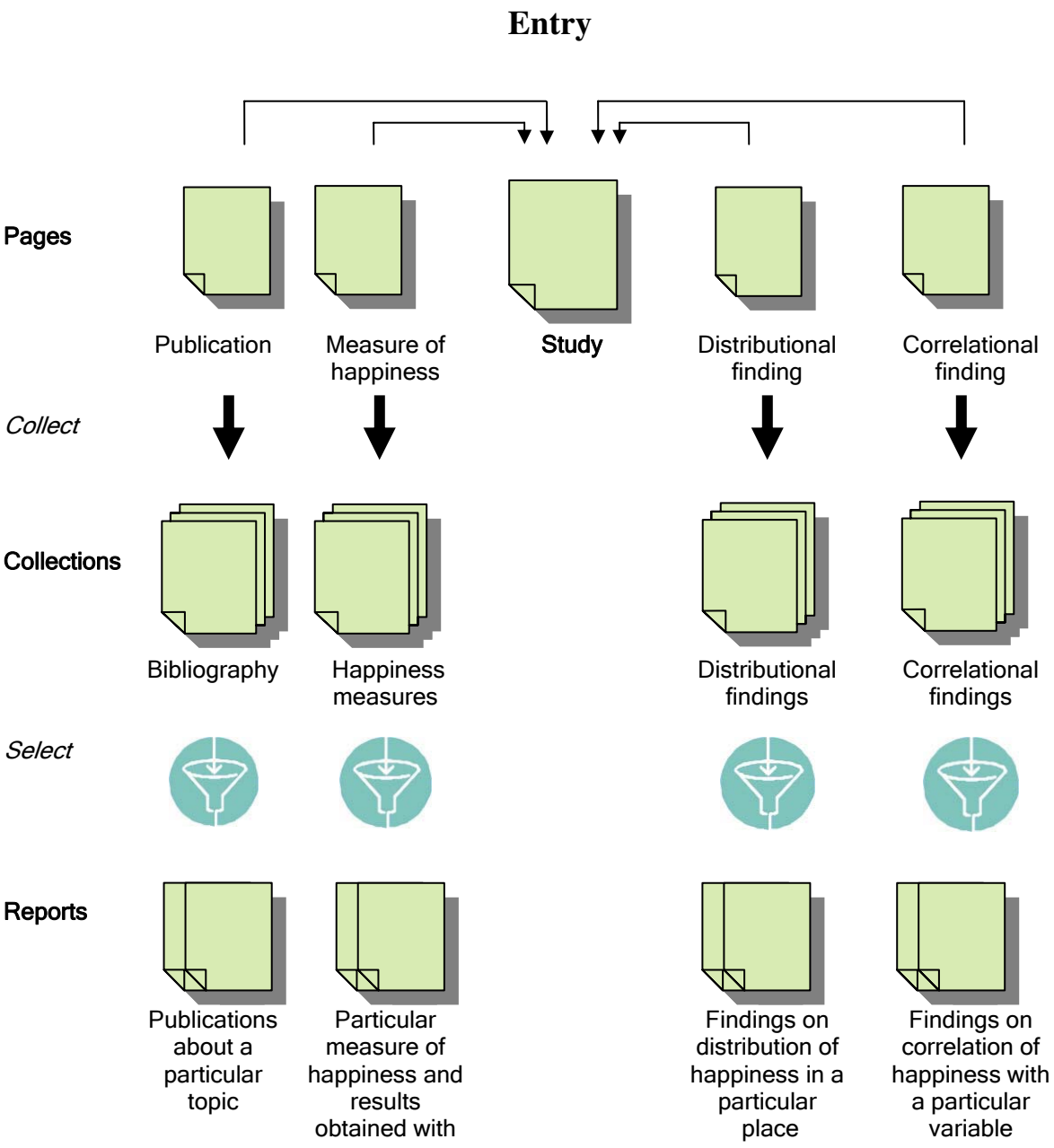
Scheme 1

Yearly number of scientific publications on happiness since 1900



Source: Bibliography of Happiness: http://worlddatabaseofhappiness.eur.nl/hap_bib/bib_fp.php

Scheme 2
Building blocks of the findings archive



Scheme 3

Example of a 'publication page' in the Bibliography of Happiness

Author	Headey, B.
Title	Life Goals Matter to Happiness: A Revision of Set-Point Theory.
Source	Social Indicators Research, 2008, 86: 213 – 231 (earlier published as working paper nr. 639, DIW, Berlin, Germany, 2006)
Year	2008
DOI link	DOI:10.1007/s11205-007-9138-y
ISSN	0303 8300
ISSN_online	1573 0921
WDH excerpt	HEADE 2008B/1
WDH excerpt	HEADE 2008B/2

Scheme 4
Example of a page in collection 'Measures of Happiness'

Happiness Measure code: O-SLW/c/sq/n/11/ba *Entered by: Paul Wartena*

Self report on single question: What do you think, how satisfied are you at this moment- all in all - with your life?' 'If for instance you are totally satisfied with your life, please mark a '10'.If you are totally unsatisfied with your life, mark a '0'.If you are not completely unsatisfied nor totally satisfied range yourself somewhere between '1' and '9" 10 completely satisfied 9 8 7 6 5 4 3 2 1 0 completely dissatisfied

Classification		
Focus	O-SLW	Overall: Satisfaction w Life as a Whole
Time-Frame	c	currently (today, these days, presently)
Mode	sq	1 question
Scale type	n	numerical scale Range=11

Used in studies:

Study Code	***Population studied***
GLATZ 1980	18+ aged, general public, West-Germany, 1978 Distribution of responses
MOLLE 2002	55+ aged, East and West Germany, 1995 and 1999 Distribution of responses
MOLLE 2005A	55+, general public, rural areas, East and West Germany, 2000 Distribution of responses
WEICK 1994B	18+ aged, general public, Germany, 1993 Distribution of responses
ZUMA 1989	18+ aged, general public, West-Germany, 1978-88 Distribution of responses

Used in Nation Surveys:

Nation	**Year / Month**	**Original Range**	**On Original Range**		**On Range 10-0**	
			Mean	**SD**	**Mean**	**SD**
Germany	2002/10-12	0 - 10	7.31	1.79	7.31	1.79

Scheme 5
Example of a 'study page' in collection of Correlational Findings

Study HEADE 2008B/1 *Excerpt made by: Jan Ott*

Headey, B.	**Life Goals Matter to Happiness: A Revision of Set-Point Theory**
Source	Social Indicators Research, 2008, Vol. 86, 213 - 231 (earlier published as working paper nr. 639, Berlin, Germany 2006) DOI:10.1007/s11205-007-9138-y
Public	16+ aged, Germany, followed 14 years 1990-2004.
Collect period	T1:1990; T2: 1995; T3: 2004.
Sample	Probability multi-stage cluster sample
	Probability sample of households. All 16+ aged household members included.
Non Response	
N	3553
Data Gathering	face-to-face interviews
Data Source	German Socio-Economic Panel (GSOEP)

Happiness measures used:

Full Code: O-SLW/c/sq/n/11/d — Distribution of Responses

Correlational Findings

Author's label	*Subject Code Finding*	*Subject description*
Age	A4.2	Current age (in years)
Years of education	E1.2.1	Level of school-education
Gender	G1.1	Sexe (male vs. female)
Partner	H12.2.1	Living alone or not
Health disability	H2.2	Current handicap
Past life-satisfaction at T1	H5.2.1.2	. past happiness (1 to 10 years ago)
Disposable household income	I1.2.2	Household income
Earlier average priority for life-goals	L7.1.1.2	. object of earlier goals
Current priority for life-goals	L7.2	Current life-goals
Earlier average priority for life-goals	L7.2.2	Object of life-goals
Partner	M2.1	Married state (compared to non-married states)
Neuroticism	M7.3.5.3	. Neurotic (F48)
Extraversion	P4.39	Extraverted
Locus of control	P4.58	Inner locus of control
Effect of current priorities & conditions	S15.2.19	Socio-demographic+personality+lifegoals

Scheme 6

Example of a page on a distributional finding in a nation

Distributional finding on happiness in nation Germany *Entered by: Paul Wartena*

Study

Public	General public 16+
Time	2003, Month: 11/02-05/03
Sample	Probability multi-stage random
Weighted	Y
% non response	44.3
N	2915
Interrogation	Face to face

Happiness measure

Question code	O-SLW/c/sq/n/11/cd
Full text	Self report on single question: All things considered, how satisfied are you with your life as a whole nowadays? 0 extremely dissatisfied 1 2 3 4 5 6 7 8 9 10 extremely satisfied - don't know - no answer

Distribution of happiness

% responses by category	0	1	2	3	4	5	6	7	8	9	10
	1.68	0.77	2.28	4.55	5.01	9.86	8.06	16.44	28.01	13.16	10.05

% don't know, no answer .13

	on original scale	*transformed to scale 0-10*
Mean	6.96	6.96
Standard deviation	2.24	2.24

Source

Survey name	ESS 2002
Report	Homepage European Social Survey. ~ESS homepage, http://www.europeansocialsurvey.org/
Finding used in nation ranks	Yes

Scheme 7
Example of a page on a correlational finding

Correlational finding on Happiness and Change in income level
Subject code: I1.1.2.1 *Entered by: George VanderPoel*

Study	**EVANS 2005**
Source	Evans, S.; Huxley, P.J. Adaptation, Response-shift and Quality of Life Ratings in Mentally Well and Unwell Groups. Quality of Life Research, 2005, Vol. 14, 1719 - 1732 Page in Report 1729/1730 DOI:10.1007/s 1136-005-1742-I
Public	18-65 aged in good, moderate and poor mental health, UK, followed 2 years, 1999-2001
Sample	Mixed samples
Non-response	Non-response at T1: 83% Drop-out at T2: 50%)
N	1912

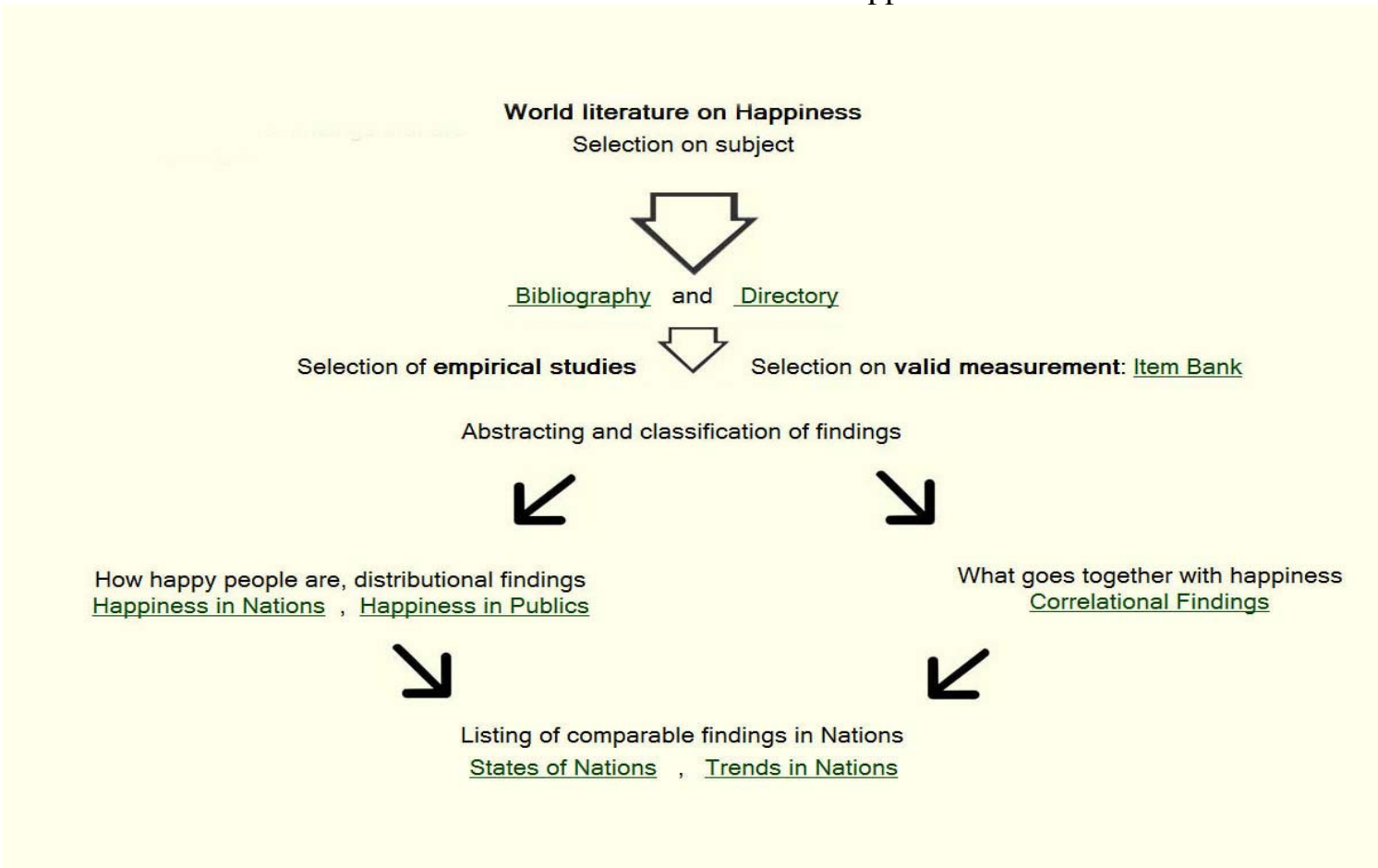
Correlate

Author's label	Change in income
Our classification	. change in income level, code I1.1.2.1
Operationalization	T1-T2 change in response to question about monthly income from earnings and/or benefits
Remarks	Assessed at T1 and T2 (2 years interval)

Observed relation with happiness

Happiness Measure	*Statistics*	*Elaboration/Remarks*
O-DT/u/sqt/v/7/a	B=+.20 p<.05	T1-T2 INCREASE in income by T2 happiness
O-DT/u/sqt/v/7/a	B= -.18 p<.05	T1-T2 DECREASE in income by T2 happiness
		B's controlled for: - T1 happiness - T1 mental health status (good, moderate, poor) - T1 objective conditions

Scheme 8
Structure of collections in the World Database of Happiness



Scheme 9
Example of a report of publications on a specific subject, generated from the Bibliography of Happiness

Overview of publications on Happiness and Working hours

Subject code Lc03.07 *collected by Ruut Veenhoven (since 1984)*

Additional keywords: work load, working time

See also the Bibliography subjects:

La	Happiness and time use	, with 19 publications.

See also studies with correlational findings on:
Happiness and W4 WORK: CONDITIONS

Author(s)	Gash, V.; Mertens, A.; Romeu Gordo, L.
Title	Women between Part-Time and Full-Time Work: The Influence of Changing Hours of Work on Happiness and Life Satisfaction.
Source	Working paper SOEP no. 268, DIW, 2010, Berlin, Germany
Year	2010
WWW link	http://www.diw.de/soeppapers
ISSN_online	1864 6689

Author(s)	Knabe, A.; Rätzel, S.
Title	Income, Happiness, and the Disutility of Labour.
Source	Economics Letters, 2010, Vol. 107, 77 - 79 (also Discussion Paper Economics 2009/12, Free University Berlin, Germany)
Year	2010
WWW link	http://econstor.eu/bitstream/10419/28101/1/608759643.PDF
DOI link	DOI:10.1016/j.econlet.2009.12.032
ISSN	0165 1765

Number of publications: 2

Scheme 10
Example of a nation report

Overview of Happiness Surveys in Nation: **Albania** (AL)

collected by: Ruut Veenhoven (since 1984)

Measure type: 111C 4-step verbal Happiness

Taking all things together, would you say you are?:
- very happy
- quite happy
- not very happy
- not at all happy
very = 4 .....not at all = 1

De-tails	Measure Code	Year	Original Range	On Original Range		On Range 0-10	
				Mean	SD	Mean	SD
	O-HL/u/sq/v/4/a	1998	1 - 4	2.26	0.7	4.67	2.17
	O-HL/u/sq/v/4/a	2002	1 - 4	2.59	0.8	5.71	2.41
Average				2.43	0.75	5.19	2.29

Measure type: 121D 5-step verbal Life Satisfaction

Overall, how satisfied are you with your present life?
- very satisfied
- fairly satisfied
- neither satisfied nor dissatisfied
- fairly dissatisfied
- very dissatisfied
very satisfied = 5 ..... very dissatisfied = 1

De-tails	Measure Code	Year	Original Range	On Original Range		On Range 0-10	
				Mean	SD	Mean	SD
	O-SLW/c/sq/v/5/u	2006	1 - 5	3.26	1.09	0	0
Average				3.26	1.09		

Measure type: 122D 10-step numeral Life Satisfaction

All things considered, how satisfied are you with your life as-a-whole now?
10 satisfied
.
. .
1 dissatisfied

De-tails	Measure Code	Year	Original Range	On Original Range		On Range 0-10	
				Mean	SD	Mean	SD
	O-SLW/c/sq/n/10/a	1998	1 - 10	4.77	1.82	4.18	2.02
	O-SLW/c/sq/n/10/a	2002	1 - 10	5.17	2.25	4.63	2.5

Average	4.97	2.04	4.41	2.26

Measure type: 235 More days like yesterday

Do you want more days like yesterday?
- yes
- no
% yes

De-tails	Measure Code	Year	Original Range	On Original Range		On Range 0-10	
				Mean	SD	Mean	SD
	A-AOL/yd/sq/v/2/a	2007	0 - 100	47	0	0	0
Average				47			

Measure type: 236 14-item Yesterday's Affect Balance

Did you feel yesterday.. (yes/no)?
- well rested
- worried
- proud
- depressed
- ...etc
Computation: % positive affect minus % negative affect

De-tails	Measure Code	Year	Original Range	On Original Range		On Range 0-10	
				Mean	SD	Mean	SD
	A-AB/yd/mq/v/2/b	2007	-100 - 100	28	0	0	0
	A-AB/yd/mq/v/2/b	2008	-100 - 100	28	0	0	0
Average				28			

Measure type: 31D 11-step numeral Best-Worst possible Life

Suppose the top of the ladder represents the best possible life for you and the bottom of the ladder the worst possible life. Where on this ladder do you feel you personally stand at the present time?
- 10
- .
- .
- 0

De-tails	Measure Code	Year	Original Range	On Original Range		On Range 0-10	
				Mean	SD	Mean	SD
	C-BW/c/sq/l/11/c	2006	0 - 10	4.74	1.81	4.74	1.81
	C-BW/c/sq/l/11/c	2007	0 - 10	4.6	0	4.6	0
Average				4.67	1.81	4.67	1.81

Cite as: R. Veenhoven, Overview of happiness surveys in Albania, World Database of Happiness, collection of Happiness in Nations, Erasmus University Rotterdam
Assessed on (date) at: http://worlddatabaseofhappiness.eur.nl/hap_nat/desc_na.php?cntry=89

Scheme 11

Example of a rank report of happiness in nations (first page only)

AVERAGE HAPPINESS IN 146 NATIONS 2000-2009

How much people enjoy their life-as-a-whole on scale 0 to 10

Collected by: Ruut Veenhoven

	Code	Nation	Satisfaction with life (scale 0 - 10)	Number of surveys
1	CR	Costa Rica	8.5	1
2	DK	Denmark	8.3	8
3	IS	Iceland	8.2	2
4	CH	Switzerland	8.0	15
5	FI	Finland	7.9	9
6	MX	Mexico	7.9	3
7	NO	Norway	7.9	6
8	CA	Canada	7.8	2
9	PA	Panama	7.8	1
10	SE	Sweden	7.8	10
11	AU	Australia	7.7	23
12	CO	Colombia	7.7	2
13	LU	Luxembourg	7.7	5
14	AT	Austria	7.6	6
15	DO	Dominican Republic	7.6	2
16	IE	Ireland	7.6	5
17	NL	Netherlands	7.6	10
18	BR	Brazil	7.5	2
19	NZ	New Zealand	7.4	2
20	US	United States	7.4	2
21	AR	Argentina	7.3	2
22	BE	Belgium	7.3	9
23	AE	United Arab Emirate	7.3	2
24	GT	Guatemala	7.2	3
25	ES	Spain	7.2	10
26	VE	Venezuela	7.2	1
27	CY	Cyprus	7.1	6
28	DE	Germany	7.1	14
29	MT	Malta	7.1	3

Full report available at:
http://worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/RankReport_AverageHappiness.php

Scheme 12
Example of a trend report on happiness in nations (first page only)

Trend Average Happiness in Nations 1946-2010
How much people like the life they live

Collected by: Ruut Veenhoven

Table 1
Change average happiness 1973-2010 in points on scale 0-10

Rise Significant increase		*Stable* No significant change		*Decline* Significant decrease	
Italy	+ 0.63	Ireland	+ 0.19	Portugal*	– 0.68
Denmark	+ 0.55	UK	+ 0.26	Belgium	– 0.33
Spain*	+ 0.41	Netherlands	+ 0.26	Greece*	- 0.30
France	+ 0.55	Japan	+ 0.19		
Luxembourg	+ 0.41	Germany	+0.02		
EU9	+0.32	West-Germany	+ 0.00		
		East-Germany#	+ 0.04		
		USA	+ 0.13		

* Greece since 1981, Portugal and Spain since 1985, EU9 until 2009

Full report available at:
http://worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/TrendReport_AverageHappiness.pdf

Scheme 13
Example of a report of correlational findings on a specific subject (contents only)

World Database of Happiness

Correlational Findings on Happiness and INCOME
Subject Code: I1

Collected by: Ruut Veenhoven (since 1984)

Classification of Findings

Subject Code	*Description*	*Nr of Studies on this Subject*
I1.1	**Income career**	0
I1.1.1	Earlier income	1
I1.1.1.1	. earlier level of income	2
I1.1.1.2	. earlier sufficiency of income	0
I1.1.1.7	. earlier satisfaction with income	2
I1.1.2	Change in income	5
I1.1.2.1	. change in income level	12
I1.1.2.2	. change in income sufficiency	0
I1.1.2.4	. change in source of income	2
I1.1.2.7	. change in attitude to income	2
I1.1.2.8	. attitude to change in income	3
I1.1.4	Later income	1
I1.1.4.1	. later level of income	6
I1.1.4.4	. later source of income	0
I1.1.4.7	. later satisfaction with income	2
I1.2	**Current income**	69
I1.2.1	Personal income	23
I1.2.2	Household income	173
I1.3	**Sufficiency of current income**	10
I1.3.1	`Objective` poverty	8
I1.3.2	Subjective poverty	13
I1.3.3	Being able to save	1
I1.4	**Source of current income**	2
I1.4.1	Own income or not	4
I1.4.2	Main breadwinner	0
I1.4.3	Type of income	2
I1.4.3.1	. parents	1
I1.4.3.2	. pension	1
I1.4.3.3	. welfare	7

I1.4.3.4	. paid work	1
I1.4.3.5	. non-money income from farming	2
I1.6	**Relative income**	9
I1.6.1	Relative to family of origin	0
I1.6.2	Relative to neighbourhood	4
I1.6.3	Relative to nation	2
I1.7	**Attitudes to own income**	2
I1.7.1	Concerns about income	7
I1.7.1.1	. aspired income-increase	3
I1.7.1.2	. worrying about money	5
I1.7.2	Income aspirations	17
I1.7.3	Income expectations	5
I1.7.4	Satisfaction with income/finances	9
I1.7.4.1	. satisfaction with income	21
I1.7.4.2	. satisfaction with financial situation	95
I1.7.4.3	. satisfaction with financial security	18
I1.7.4.4	. satisfaction with opportunity to save	2
I1.7.4.5	. satisfaction with standard of living	45
I1.7.4.6	. satisfaction with physical needs met	4

Appendices

Appendix 1	Happiness measures used
Appendix 2	Statistics used
Appendix 3	About the World Database of Happiness
Appendix 4	Further Findings in the World Database of Happiness
Appendix 5	Related Subjects

Cite as: Veenhoven, R.: Findings on Happiness and INCOME, World Database of Happiness, Collection of Correlational Findings, Erasmus University Rotterdam
Assessed on (date) at: http://worlddatabaseofhappiness.eur.nl/hap_cor/top_sub.php?code=I1

Scheme 14
Example of a report on happiness in a particular public

Studies among selected public: LIFE STYLE: L 2.2 Lottery players/winners

Collected by: Ruut Veenhoven (since 1984)

BRICK 1978/1 Brickman, P.; Coates, D.; Janoff-Bulman, R.
Lottery Winners and Accident Victims: Is Happiness Relative?

Happiness measures used

Full Code: O-HL/c/sq/n/6/c Distribution of Responses

Correlational Findings

H2.2.1.3 . physical handicap

L11.2.2 Lottery winning

L6.2.2 Specific current life-events

L6.2.2 Specific current life-events

V6.2.2 Victim of accident

BRICK 1978/2 Brickman, P.; Coates, D.; Janoff-Bulman, R.
Lottery Winners and Accident Victims: Is Happiness Relative?

Happiness measures used

Full Code: O-HL/c/sq/n/6/a Distribution of Responses

Correlational Findings

L11.2.1 Lottery playing

L11.2.2 Lottery winning

L6.2.2 Specific current life-events

BRICK 1978/3 Brickman, P.; Coates, D.; Janoff-Bulman, R.
Lottery Winners and Accident Victims: Is Happiness Relative?

Happiness measures used

Full Code: O-HL/c/sq/n/6/a Distribution of Responses

Correlational Findings

L11.2.1 Lottery playing

SMITH 1975/1 Smith, S,; Razzall, P.
The Pools Winners

Happiness measures used

Full Code: M-AC/u/sq/v/4/a Distribution of Responses

Full Code: O-HL/c/sq/v/4/ca Distribution of Responses

Correlational Findings

L11.2.2 Lottery winning

SMITH 1975/2 Smith, S.; Razzall, P.
The Pools Winners.

Happiness measures used

Full Code: M-AC/u/sq/v/4/a Distribution of Responses

Full Code: O-HL/c/sq/v/4/ca Distribution of Responses

Correlational Findings

L11.2.2 Lottery winning

TUNNE 2006 Tunney, R.J.
The Effects of Winning the Lottery on Happiness, Life Satisfaction, and Mood.

Happiness measures used

Full Code: A-AB/c/mq/v/4/a Distribution of Responses

Full Code: O-Sum/u/mq/v/7/a Distribution of Responses

Correlational Findings

L11.2.2 Lottery winning

Report contains 6 studies and 9 measuring techniques

Cite as: Veenhoven, R. Findings on happiness and lottery playing/winning, World Database of Happiness, Collection of happiness in Publics, Erasmus University Rotterdam
Assessed on (date) at: http://worlddatabaseofhappiness.eur.nl/hap_pub/list_stud.php?popid=50

Scheme 15
Publications listed in Bibliography of Happiness not found in search on subject in Web of Science

Topic	*Missed publications*		*Missed findings*[25]	
	number	*%*	*number*	*%*
Happiness and Education	6	**29**	330	**250**
Happiness and Intelligence	14	**78**	3	**50**
Happiness and Longevity	20	**91**	5	**83**
Average		**67**		**125**

Source: Veenhoven 2011, Appendix

[25] Estimate based on average number of acceptable research findings per publication in this category

Scheme 16
Use of the database