

WORLD DATABASE OF HAPPINESS

Tool for dealing with the 'data-deluge'

Ruut Veenhoven

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ABSTRACT

Social scientists produce an ever growing stream of research findings, which is ever more difficult to oversee. This calls for new methods of research synthesis and in particular methods for bringing research findings together and presenting these in a comparable way.

The World Database of Happiness is an example of such a method and assembles research findings on happiness; both distributional findings (how happy people are) and correlational findings (concomitants of happiness). In 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 word for this tool for research synthesis. I call it a 'findings catalog'.

The substantive focus of this database is on subjective enjoyment of one's life as-a-whole. The database involves five related collections on this matter: 1) The Bibliography of Happiness, which involves some 4000 publications, 2) a collection of acceptable Measures of Happiness that contains about 800 variants. 3) the collection of Happiness in Nations that list the distributional findings of some 3000 general population surveys in nations studies, 4) the collection of Happiness in Publics containing the results of some 3000 studies among particular categories within nations and 5) The collection of Correlational findings, which involves some 11000 findings on covariates of happiness. These collections can be browsed on the internet at <http://worlddatabaseofhappiness.eur.nl>

This paper describes the data system and the collection. It calls for cooperation in keeping the database up to date.

Key words: research synthesis, happiness, life satisfaction subjective wellbeing

1 THE PROBLEM

The social sciences have expanded over the last century and became more empirical. This has resulted in a growing stream of research findings that are reported in an ever growing number of publications. The yearly number of publications in psychology has grown from 8,778 in 1950 to 137,168 in 2008. Positive Psychology appeared only recently on the scene, but will be no exception, the yearly number of publications in this field is now about 900 (PsychInfo).

Data deluge

As the heap of research findings is growing, 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 brought up over and over again. Most fruits of empirical research get out of sight and are often hardly retrievable, not even for interested specialists. As a result, there is less accumulation of knowledge than the available data would permit and a lot of double work. This is a remarkable failure in the science system.

Ways of dealing with that flood

The scientific community has dealt with this problem in four ways: One approach is the 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 that and is descriptive analysis more appropriate. Now that modern data technology makes descriptive accounts better possible, there is even talk about the ‘end of theory’ (Anderson 2008).

Another common approach is *specialization*, that is, knowing more about less. Psychology has split-up in a myriad of research fields the members of which gather in separate rooms at psychology conferences and communicate in separate journals. Positive Psychology is just one example of this trend, with its new specialized journals and research associations. Specialization involves smaller heaps of research findings, but otherwise encounters the same problem of growing mounds. Even in the young specialization of Positive Psychology it is almost impossible to oversee all the research findings that are being produced.

A third approach is the use of *information technology* for getting to know more in less time. In that context academics read fewer books and spend less time in libraries but download more text from the internet and use more often search machines. 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 review studies and quantitative meta-analysis. This paper is about a tool for research synthesis and for that reason I take a closer look at that approach.

Research synthesis

Research synthesis is taking stock of 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 Wolf (1993), Light & Pillemer (1984) and Cooper and Hedges (1994). Since 2009 there is also a scientific journal on Research Synthesis Methods (Editors: Lipsey & Schmidt).

Research synthesis should not be mixed up with ‘secondary analyses of available data, that is, re-analysis of data initially gathered by someone 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 in order to get a broader view and to reduce bias.

Traditionally research synthesis is done in periodical literature reviews, 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 don't we know'. This is called *narrative research synthesis*. The term 'narrative' denotes both that reviewers interpret the research findings for constructing a bigger story and also that they draw heavily on the interpretations found in the literature under review. 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 that 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. Since short this approach is facilitated with new statistical tools and specialized computer programs (e.g. NCSS software for meta analysis). This approach requires the existence of a large and homogenous body of research findings and this condition is more often met in the medical field than in the social sciences.

Limitations of research synthesis

Summing-up of research findings sounds easier than it is. Several problems blur the view.

One of the problems is in the *conceptual focus*. Research on what precisely should be summarized? Narrative reviewers are often not very precise and fail to come up with a clear definition. Quantitative reviewers are mostly more precise but often take a different view. As a result, synthetic studies are typically not very compatible and as such remain a one-time assessment rather than being a step in ongoing accumulation of knowledge in the field.

A related problem is that synthetic studies tend to be *selective* in several ways. 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. Recent findings from modern English speaking nations are typically overrepresented, which limits the view on cultural variation and change over time.

A related problem is that synthetic studies are mostly *incomplete*. Their coverage is typically restricted to what one scholar can handle within the restrictions of teaching load and a temporary grant. Wider programs for research synthesis are scarce as yet, at least in the social sciences.

Research money is more easily found for the production of new findings than for the accumulation of past research and as a result there is not only little research synthesis, but also *little continuity* in that strand. Synthetic studies are typically one-time assessments and get soon 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 reference, but provide typically little detail about the research findings they summarize. Scientific journals limit length for such detail and book publishers tend not to be enthusiastic either for printing much detail for a small readership. Consequently, much research synthesis starts from zero. There is little accumulation in the research strand that aims at accumulation.

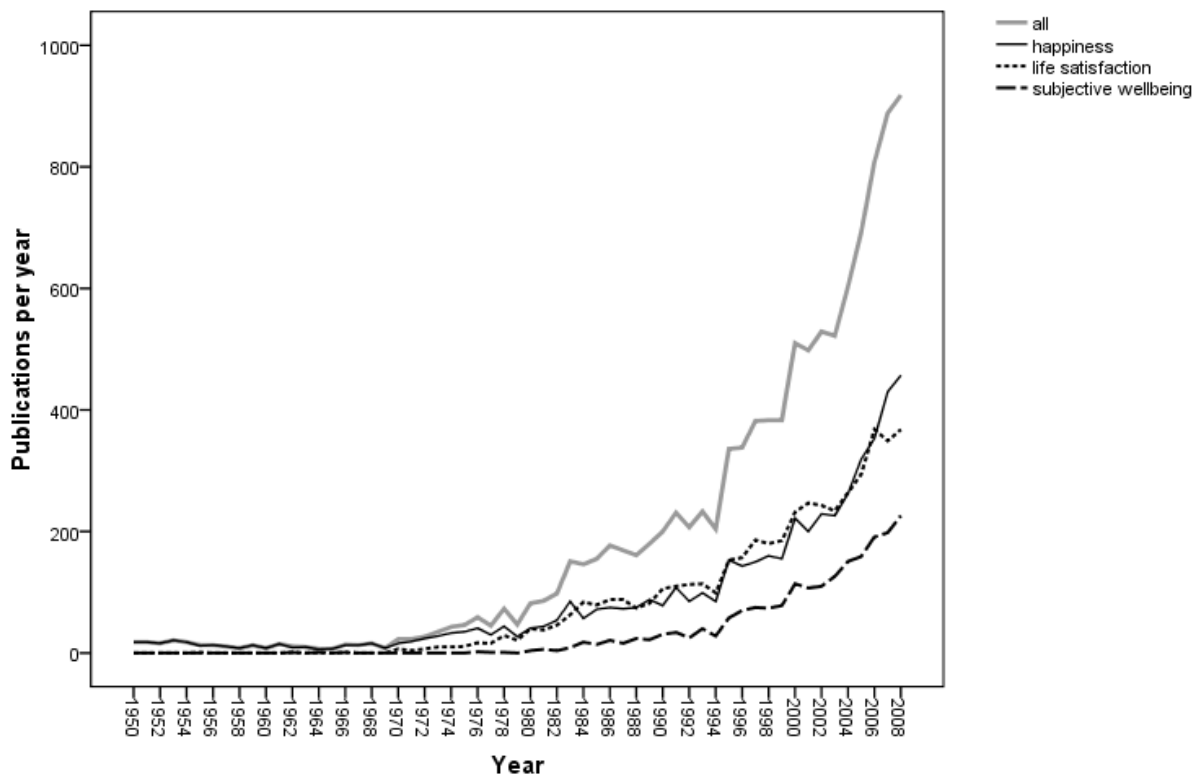
2 THE CASE OF HAPPINESS

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 in the later West-European Enlightenment. The philosophic tradition has produced a lot of ideas, but little factual knowledge. In fact, 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. Settlement on the basis of reality checks has long been encumbered by lack of adequate research techniques.

In the 20th century, the social sciences brought 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 also 'positive psychology'. This stream of research is growing fast. Scheme 1 depicts the rising number of publications on happiness in psychology. The subject is on the rise in other disciplines as well, in particular in economics (e.g. Frey & Stutzer 2002).

Reviews of this research literature have been published by Argyle (1987), Diener (1999), Dolan et. al. (2006) and Veenhoven (1984, 1995). Since 2000 there is also a scientific Journal of Happiness Studies (current editor in chief Alex Michalos).

Scheme 1
Publications on happiness in psychology 1950-2008



Intriguing findings

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

- Happiness is not relative. Enjoyment of life appears not to depend on comparison, in particular not on social comparison. This finding contradicts cognitive theories of happiness and supports affective explanations (Veenhoven 1991, 1995).
- Happiness is not very trait like; over a lifetime it appears to be quite variable. This finding does not fit notions of stable personality in psychology (Veenhoven 1994b, Ehrhardt et al 2000).
- The majority of mankind appears to enjoy life. Unhappiness is the exception rather than the rule. This is at odds with the results of misery counting in sociology (Veenhoven 1993a).
- Happiness tends to rise in modern societies. This contradicts longstanding pessimism about modernization (Cummins 2000).
- 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 current sociology of deprivation.
- Differences in happiness within nations (as measured by standard deviations) tend to get smaller. This contradicts notions about growing inequality in sociology. (Veenhoven 2002.)
- Liberalist intuition is confirmed in the finding that people tend to be happiest in individualistic society, but the socialist expectation that people will be happier in a welfare state is not corroborated. (Veenhoven 1999, 2000b)

Stagnating progress

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 the 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, it is quite difficult to select the data that pertain to happiness as defined here. Moreover the matter is measured in different ways. Getting an overview of the research findings requires first of all selecting studies that measured happiness as defined here. The next step is grouping studies that used comparable indicators.

Lack of overview

The second reason for the stagnation is lack of coordination. There is high redundancy in the research effort; 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. Most observations are in fact bibliographically irretrievable. Consequently, many of the findings get lost.

Little view on contingencies

A more basic reason for the stagnation lies in the dominant research approach. The bulk of empirical happiness studies consist of cross-sections within particular countries. Typically investigators try to identify universal conditions for happiness using their 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 (such as food and possibly meaning), 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. This requires first of all that the available findings be compiled.

Little view on causality

Lastly, correlations say little about cause and effect. If rich Americans tend to 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.

Growing need for research compilation

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 data, there will be little cumulation of knowledge. This need for a focused collection of research-findings becomes ever more pressing. The higher the pile of research reports, the greater the need for a good overview of findings.

Now that some 1000 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 becomes 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 uncommonly in the social sciences. The few meta-analyses of empirical happiness research are based on small collections, e.g. Stock et. al. (1983). As yet, all 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 THE WORLD DATABASE OF HAPPINESS

The World Database of Happiness is meant to overcome these problems. It does so in the first place by focusing on a well defined concept of happiness. On that basis the following steps are made: 1) listing of all reports of empirical research on that matter, 2) selection of studies of that use an acceptable measure of happiness, 3) description of the observed findings in standard abstracts, using a common terminology and statistics, 4)

ordering these finding abstracts by subject, method and population, and 5) homogenizing statistics as far as possible.

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'. Within this concept of overall happiness, two 'components' of happiness are discerned: an affective component and a cognitive component, respectively called *hedonic level of affect* and *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 the basic work 'Conditions of Happiness' (Veenhoven 1984) and more recently in a paper entitled 'How do we assess how happy we are?' (Veenhoven 2009a). This concept of happiness is currently the most used in the social sciences and philosophy, as Feldman (2008) notes with regret.

Selection of studies

All publications that deal with happiness in the above defined sense are entered in the Bibliography of Happiness. The word 'happiness' is not always used in these works and neither is happiness always the central issue. Inspection of conceptual fit is made by reading the texts. Within this assortment a further selection is made for publications that report the results of empirical research and within that set a further selection is made of empirical studies that use acceptable measures of happiness. Measures are deemed acceptable if they fit the above definition of overall happiness or its components. Accepted indicators are listed in the collection of 'Happiness Measures'.

Findings collections

The database lists two kinds of research findings: 1) *distributional findings* that are about how happy or unhappy people are in particular time and place and 2) *correlational findings* that are about things that go together with happiness. Both selections are based on the same concept of happiness and consequently on the same array of happiness measures.

Distributional findings. Findings on observed degree of happiness are sorted by population. About half of these concerns the general population in countries and are put in the collection of *Happiness in Nations*. Another half concerns specific populations within nations and are entered in the collection of *Happiness in Publics*. Both these collections provide the full distribution of observations on measures of happiness as well as summary statistics such as the mean and standard deviation.

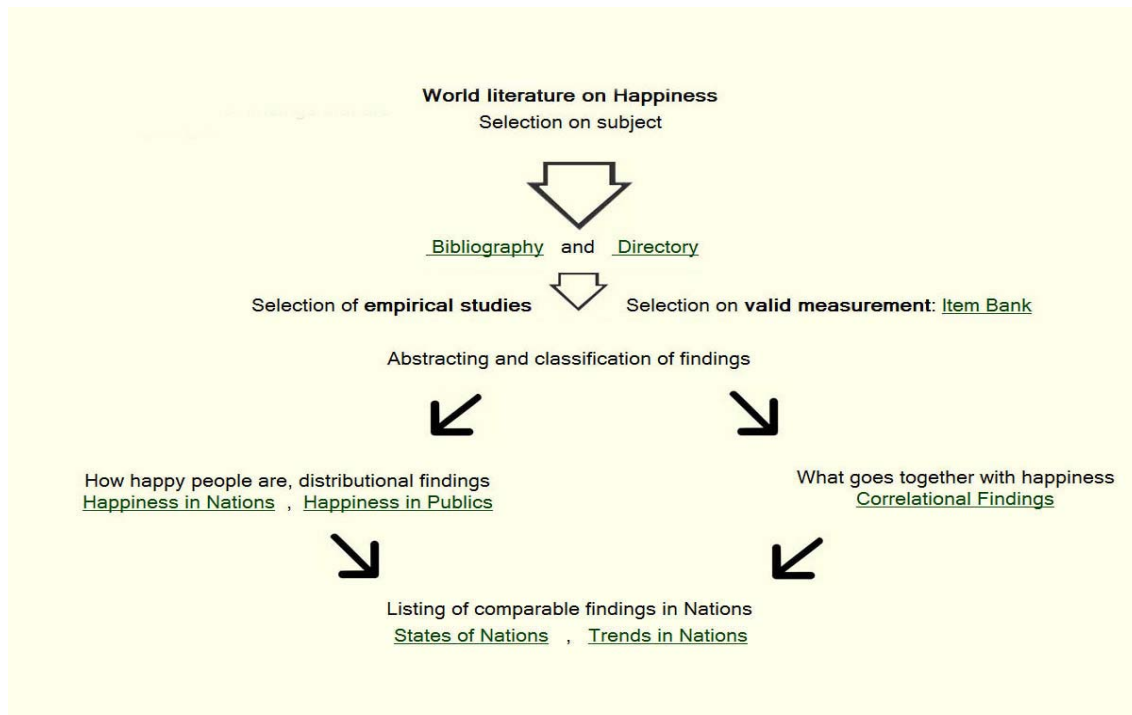
Correlational findings. Findings on covariates of happiness are recorded in the collection of *Correlational Findings*. These findings are sorted by subject matter and within subject categories further on population, among which again the general public nations and specific publics within nations.

Subsidiary collections: The cross national analysis of these findings on happiness is facilitated by a collection of societal characteristics, such as its economic development of countries, their age-composition and dominant religion. These data are in the file *States of Nations*. Cross temporal analysis of happiness in nations can draw on the data file

Trends in Nations. The *Directory of Investigators* lists addresses of scientists who have published on happiness and is meant to facilitate communication in the field.

Scheme 2 depicts the way in which the above mentioned collections are linked

Scheme 2 World Database of Happiness: Structure of collections



4 COLLECTIONS IN THE DATABASE

The collections mentioned above can be characterized by 1) scope, 2) coverage, 3) current contents and 4) search options:

4.1 Bibliography of Happiness

All publications on happiness are entered in the 'Bibliography of Happiness'. Most entries in the Bibliography provide also a link to the full text of the publication. The bibliography involves a detailed subject index, which allows an easy overview of the field and helps to trace literature on specific issues.

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 is that the publication process involves some systematic biases, one of which is under-reporting of non-correlations. By deliberately including 'unpublished' findings, this database allows a more realistic view on happiness. Therefore, meta-analyses based on this database can yield conclusions that differ from impressions based on narrative literature reviews.

Scope

- Any research report that refers to the subjective appreciation of life-as-a-whole, even if this subject is only a side issue. Not included are works on related issues like 'positive mental health' and satisfaction with 'domains of life'.

Coverage 1-1-2010:

- 3874 titles.
- Almost complete coverage of the social-science literature up to 2005 in English, German, and Dutch.
- Includes not only journal articles, but also books, dissertations, conference papers and unpublished research reports.

Contents:

- Title descriptions involving:
 - Author, title, publisher or journal, year of publication
 - Language of the report
 - Type of study
- Subject classification (400 subject categories)
- Data classification (empirical studies only)
 - Time frame: past / present / future / perceived change
 - Variant measured: overall happiness / hedonic level / contentment
 - Included or not in the findings collections ('Distributional Findings' or 'Correlational Findings'), depending on whether the happiness measure fits our conceptualization.

Search facilities

- The Bibliography can be searched on: name of (co)author, country of author, name of journal or publisher, words in the title, subject classification and keywords
- Selections can be made on: year of publication, on type of study, measure of happiness (time-frame, variant of happiness)

4.2 Directory of Happiness Investigators

Names of interested scholars are stored in the 'Directory of Happiness Investigators'. The directory is linked to the bibliography, which is indexed by subject. Therefore one can easily select specialists. Because the bibliography is also indexed by year of publication, one can also identify the currently most active researchers. The directory is available on request to peer researchers. In the last few years it has been of great help in creating research networks around this theme. Obviously it is also a good help for bringing this database to the attention of the field.

Scope:

- Address data of scientists who have published on the subject of subjective appreciation of life. Includes most authors of works in the 'Bibliography of Happiness'.
- Research groups that focus on the quality-of-life.

Coverage at 1-1-2010:

- 6938 names
- About 2500 recent addresses, of which some 1100 with e-mail.
- Mainly investigators who published after 1975.
- Fairly complete up to 2008.

Contents:

- Name
- Institution
- Address
- Year of publications on happiness
- Link to publications

Availability:

- The addresses are available to peer-researchers for scientific purposes only.
- The list (or selection on subject, countries) is sent on request as an E-mail attachment or paper print (labels). Investigators can be selected by subject or by nation.

Search facilities

- Search on, name, years, institution
- Select on subject matter

4.3 Happiness Measures (Item bank)

All the acceptable indicators of happiness are listed in a collection that is ordered by: happiness-variant, time reference and method of assessment. This collection provides full text of questions and observation schedules, and summarizes the available psychometric data. Texts in other languages than English are available, part of which with language particular weights of response options as assessed in the international happiness scale interval study (Veenhoven 2009b and section 8.3 of this paper)

The collection links to the studies that used these measures, and thereby provides an easy overview of the scores yielded by the same measures in different populations. The collection is quite useful for selecting happiness measures that allow comparison with earlier research. It is also a valuable tool for identifying instrument effects.

Scope:

- Valid measures of happiness in the sense of: “the overall appreciation of one’s own life-as-a-whole”.
- Not included are multiple item scales that involve a question that does not fit this definition, e.g. the much used SWLS (Diener 1985)

Coverage at 1-1-2010

- 689 measures, mainly single questions

Contents:

- Full text in English, occasionally in other languages
- Classification of measures by:

- Happiness variant
- Time reference
- Method of observation
- Rating of responses
- Reference to
 - Observed distribution of responses
 - Observed reliabilities
- In case of single questions with verbal response options: weights derived from the international happiness scale interval study (cf. section 8.3)

Search facilities

- Search on keywords
- Select in classification on variant, time reference, method of observation, and rating scale used

4.4 Distributional Findings on Happiness in Nations

Responses to questions about happiness in general population surveys are gathered in the collection 'Happiness in Nations'. Findings are ordered by country, year and happiness measure. Standard abstracts of findings provide detail about sampling and interrogation and provide the full frequency distribution of responses, as well as means and standard deviations. 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 the central tendency statistics.

This collection provides a first international statistic 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 of use for monitoring social progress and decline. 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).

Scope:

- Distributions of happiness in nations, as observed in representative samples of the adult population.
- Only findings based on survey questions that validly tap individual's 'overall appreciation of his own life-as-a-whole'.

Coverage at 1-1-2010

- 4000 distributions in 150 countries between 1945-2009.
- Time series for 15 countries of 25 years and more.
- Mainly first world countries, but also data from some third and second world nations.
- Fairly complete up to 2009.

Contents:

- Standard abstracts of findings involving:
 - Happiness indicator: full description.
 - Statistics: frequency distribution in %, mean and standard deviation. Comparison is facilitated by transformation of all scores to range 0-10.

- Number of respondents, non-response.
- Bibliographics: author, title, year of publication, page reference.
- Survey name: name of survey program or institute, location of data file.
- Summary reports of nation rankings and trends over time that are updated every half year.

Search facilities

- On nation and year
- On happiness measure

4.5 Distributional findings on Happiness in Publics (kinds of people)

Another collection lists distributional findings in particular categories within nations, such as aged people or mental patients. Findings are ordered by category.

Scope:

- Distributions of happiness in special publics.
- Only findings based on survey questions that validly tap an individual's 'overall appreciation of his own life-as-a-whole'.

Coverage at 1-1-2010

- 772 studies in 97 nations between 1911 and 2009.
- 1133 distributional findings in 149 different publics.
- Mainly first world countries, but also data from some third and second world nations.
- Fairly complete up to 2005.

Contents:

- Happiness indicator: full description.
- Statistics: frequency distribution in %, mean and standard deviation. Comparison is facilitated by transformation of all scores to range 0-10.
- Number of respondents, non-response.
- Bibliographics: author, title, year of publication, page reference.
- Survey name: name of survey program or institute, location of data file.

Search facilities

- Select on public type, country, time and happiness measure

4.6 Correlational Findings

Next to these distributional findings, the database provides an inventory of correlational findings. These research findings are condensed in standard abstracts, which provide detail about measurement, population and time. These abstracts are each presented on separate pages that are ordered by subject matter. For instance, there are 204 abstracts of research findings on the relation between happiness and 'age'. These abstracts are easily retrieved.

This collection of well comparable research findings provides a basis for synthetic analysis of research on conditions for happiness. It facilitates both narrative reviews and quantitative meta-analysis. The collection also helps to guide future research, by marking

white spots. As the collection covers data from different nations and social categories, it can reveal universal patterns as well as contingencies.

Scope:

- Empirical research findings on covariates of happiness. Not only factors found to be statistically associated to happiness, but also non-correlates.
- Only findings yielded by indicators that validly tap happiness as the 'overall appreciation of one's life-as-a-whole'.
- All findings that could be traced. Not only the ones that reached scientific journals.

Coverage at 1-1-2010:

- 772 studies in 97 nations between 1911 and 2009
- 11,000 correlational findings
- Fairly complete up to 2000, but lags behind on more recent studies. About 500 research reports are currently on the waiting list

Contents:

- Standard abstracts of correlational research findings ordered by subject, country and time. The abstracts include detail about:
 - Bibliographic source: author, year, page reference
 - Study design: population, sample, number of subjects, year
 - Co-variate: label, measurement, subject-category.
 - Happiness-measure: type
 - Statistics: association, significance
 - Elaborations of the statistical relationship
- Text reports of findings by subject category, such as 'age' or 'income'. These reports are in pdf and can be downloaded.

Search facilities

- Search on keyword
- Select on subject class, happiness measure, research method (longitudinal, cross-national), public, nation and time

4.7 States of nations

Comparative analysis of the above findings is facilitated by a data file that involves both findings on happiness and characteristics of the nations in which these results were found.

Scope

- Characteristics of nations that are relevant for the cross-national analysis of findings on happiness

Coverage at 1-1-2010

- 183 nations, covering about 95% of the present day world

Contents

- Societal characteristics such as wealth, individualism and religiousness

- Findings on happiness in these nations, both distributional and correlational

Availability

- The codebook is available on the web
- The SPSS data file is available on request

4.8 Trends in Nations

Comparison of happiness over time is facilitated by the data file 'Trends in Nations'. This data set restricts to nations on which time series on happiness are available of at least 20 years are available, involving at least 10 data points

Scope

- Time series of happiness in the general population in nations
- Time series of happiness in particular segments in nations, such as among women

Coverage at 1-1-2010

- 15 western nations 1945-2008

Contents

- Average happiness
- Inequality in happiness, inequality adjusted happiness
- Happy life years

Availability

- The codebook is available on the web
- The SPSS data file is available on request

4.9 Website

The above collections are free available on Internet. The address is:

<http://worlddatabaseofhappiness.eur.nl>. On the site are also text reports that summarize findings, both reports on distributional findings in nations and reports of correlational findings by category. These reports are refreshed periodically.

5 USES OF THIS DATABASE

This findings catalog on happiness will first of all be used for scientific purposes, for a better understanding of happiness and related matters. The collection will also facilitate policy orientation and public enlightenment.

5.1 Scientific understanding of happiness

This collection of research findings can improve our understanding of happiness in the following ways:

Inductive illumination

One way to understanding is to go through the facts and consider their theoretical relevance. This can be called a 'drag-net method'. In that metaphor the facts stand for *fish*

and is the *net* the whole of explanatory notions. This method does not only detect the findings that fit preexisting theories; it also makes us aware of phenomena we cannot easily explain. A systematic application of this approach can be found in Veenhoven (1984).

This collection of findings is quite suited to this method. Firstly it provides a broader scope than separate primary studies can offer. Secondly, the standard abstracts of research findings provide more condensed information than most reports of primary studies do. Thirdly, the collection brings unexpected findings to light, often findings that were marginal in the original investigation and hence not saliently reported.

For example, if we go through the rich data on the relationship between happiness and age (collection of Correlational Findings, subject code A4), we see easily that there is a universal pattern of non-difference in overall life-satisfaction. This is at odds with current theorizing about both age-deprivation and cultural specificity. At a closer look we can also see that contentment rises with age, while mood tends to decline. This bears an important suggestion about variability in the way we strike the balance of life.

Deductive theory testing

Another road to understanding is to derive predictions about happiness from a theory and then test these inferences. Such tests can be performed on the findings in this collection. An example is the above-mentioned test of the theory that happiness is relative (Veenhoven 1991). Ideally one might prefer tests on primary data that are especially gathered for a particular test, but practically test on such secondary data is often the best feasible, especially when the test requires costly comparison across time and nations.

Synthesis of past research

Both approaches figure in current techniques for research synthesis, in narrative review studies as well as in quantitative meta-analyses. The greatest problem for such studies is to get a focused view on all the relevant research, and that is precisely what this collection of findings provides.

Regular state-of-the-art reviews are essential for the cumulating of knowledge on happiness. Yet such studies have become scarcer over the years because the field is ever more difficult to oversee. This collection of research findings solves that problem largely, because it presents a complete overview of the available findings in a well-accessible format.

On several subjects the data are sufficiently rich and homogenous to allow quantitative meta-analysis. This is for instance the case with data on the relationship of happiness to 'sex', 'age' and 'income'. Meta-analytic techniques allow a better estimate of general tendencies and of differences across time, nation and social categories.

For these purposes it is important that the collection is complete and well indexed. If only half the available research is covered, reviewers still have to go through the entire literature. Completeness is also important for keeping sight of exceptional findings and of methodologically outstanding studies.

Comparative studies

The data-collection is quite suited to grasp differences in happiness and its determinants across time and culture. Comparison of the many observations of average happiness in nations helps to identify macro variables that render society more or less livable. Comparison of the rich correlational data enables distinction between universal

requirements for happiness and cultural specific conditions. Size and homogeneity of the collection are crucial for this purpose.

Orientation for new research

Further the database will improve the yields of further research. Research will at least be more innovative, because the white spots are better visible, and research will be better comparable because investigators have a more complete view of the measures used in earlier research. Hopefully research questions will also be better focused as a result of improved understanding. Completeness of the collection is most important for this purpose.

5.2 Policy information

Happiness is of relevance in various policy issues and gains an ever more prominent place on the political agenda. In social policy, happiness is at least one of the goals. In some of the care domains it is even a quite important goal, for instance in palliative healthcare and in psychotherapy.

Social policy

Findings on happiness can serve social policy in several ways. First they can help to identify pockets of dissatisfaction that are not recognized in the political process, or reversed, dismiss the exaggerations of lobbyists. Secondly, the findings provide clues about the probable effects of interventions, such as income supplementation, job creation and housing schemes. Lastly, the findings bear information about the relative effectiveness of the policy regime as-a-whole. This use of the findings is discussed in more detail in Veenhoven 1993b, 1995 and 2000b.

Part of the research on happiness has been instigated for these reasons, but the use of the outcomes has been limited so far. One reason is that voiced demand still carries more weight than silent suffering. Another reason is that some policy makers are disenchanted with the results, for instance, that people thrive equally well in nations with modest social security. This does not mean that happiness is insensitive to all policy. The findings suggest that happiness is quite responsive to improvements in legal security, interest articulation and tolerance (e.g. Ott, 2010).

Therapy

Findings on happiness can also guide therapeutic interventions at the individual level, both in curative medicine and in psychotherapy. The need for monitoring quality-of-life outcomes is now widely recognized in the therapeutic professions and has given rise to a broad stream of research, with its own journals and research associations. In that tradition quality of life is typically measured using multi-dimensional inventories. These inventories tap not just subjective enjoyment of life, but also performance status and that practice devoids the findings of a clear meaning. Therefore the field can profit very much from the selection of findings on happiness in this collection.

Care

Happiness is a more prominent aim in the care professions and is particularly relevant when chances for autonomy and improvement are small. Hence happiness is an important outcome variable in this area. At the individual level it can serve to monitor the treatment of particular patients. At the organizational level it informs about the performance of

clinics and departments. In this field there is also an established tradition of quality-of-life monitoring, but again the measures used for that purpose lack a clear meaning. Again a lot of more focused findings on happiness can be plucked from this research. When made well accessible for professionals, that information will give voice to the needs of clients.

5.3 Public enlightenment

Journalists often use the collection and this use will probably increase in the future. As noted in the introduction, there is an increasing demand for information about happiness for personal clarification and for orientation in lifestyle choices. This demand materializes in a continuous stream of documentaries on happiness. Such use of the collection will increase when its availability and accessibility is improved.

6 WIDER USES OF THE DATA-SYSTEM

Though developed for the study of happiness, this data-system can also be used for synthetic studies on other subjects. The basic software can be applied in quite different fields, such as in medical research or in cross-cultural psychology. Field specific elements, such as the classification of indicators and the list of statistics can easily be adapted. When applied on related matters, such as depression or self-esteem, the current classifications can be largely copied.

7 HOW TO INCLUDE YOUR WORK

This database is updated continuously. If you deem your work relevant to this bibliography of happiness, please send a copy to the address below. 'Grey' papers are also welcomed.

- All scientific work on subjective appreciation of life-as-a-whole will be included in the bibliography.
- Results of empirical work will also be summarized in the findings collections provided that the measures of happiness used fit our validity demands.
- Not all the work eligible for the catalogs is entered at the moment. About 500 reports wait for extraction. You can speed up inclusion of your work if you enter the results on an electronic form that can be downloaded from the website. You can also ask us to hire an experienced student for entering your findings.
- Send your work to: World Database of Happiness, c/o Prof. Ruut Veenhoven, Erasmus University Rotterdam, Faculty of Social Sciences, POB 1738, NL 3000 DR Rotterdam, Netherlands, e-mail: veenhoven@fsw.eur.nl

8 CALL FOR RESEARCH-ASSOCIATES

The World Database of Happiness started in the 1980s as a one-person project at Erasmus University Rotterdam. At that time I could easily enter all the research findings on happiness, because these were not many. The amount of research findings has grown much since and today we cannot handle the growing stream of findings with a team of

five (full time equivalents). We also realize that we miss much of the research results in non-English speaking countries and in various pockets of specialization.

For these reasons we want to expand the team with interested scholars, willing to act as a ‘research associate’ to the database. Research associates take responsibility for keeping particular sections of the database up-to-date. They commit for 4-year periods and are mentioned as the first author on the ‘finding-reports’ of their section, which are extracted from the database every year.

This implies that the database will shift to a more decentralized structure, somewhat like Wikipedia, be it with a strong central control of quality and homogeneity. The software is being adjusted to that purpose and will soon allow entry from all over the world.

8.1 Be a research associate for your country

As a research associate for your country you 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 appears on top of the country reports that are part of that collection.

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. Your name is mentioned in the list of associates to the Bibliography.

8.2 Be a research associate for a particular issue

As a research associate for an issue you keep track of happiness research on particular topics. 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 add new publications on your issue to the Bibliography of Happiness and enter the findings in the collection Correlational Findings. Your name appears as first author on top of the ‘Findings reports’ on that particular issue that are extracted from the database. As a result of the task you are also the first to have the most recent overview of research in their field, which you can incorporate in your own research.

This task is most suited for scholars who follow this field anyway and see an advantage in getting a more systematic view. Abstracting research findings in the standard format of the World Database of Happiness is not always easy and requires some training.

8.3 Be a co-investigator in the International Happiness Scale Interval Study

Happiness is typically measured using single questions such as:

Taking all things together, how happy would you would you say you are these days...?

- Very happy*
- Quite happy*
- Not very happy*
- Not at all happy*

Researchers have used slightly different questions, and this limits our ability to compare across countries and between studies. The following problems are involved.

Distance of response options It is typically assumed that the distances between answer options are equal and on this basis responses are given numerical values, e.g. 1 for 'not happy at all' and 2 for 'not very happy', 3 for 'quite happy' and 4 for 'very happy'. Is this assumption just? Is the difference between 'very happy' and 'quite happy' really the same as the difference between 'quite happy' and 'not very happy'?

Wording of response options Questions differ in the words used for response options, e.g. 'pretty happy' instead of 'quite happy'. Do such subtle differences in phrasing make a difference? And if so: How much difference?

Language Although in international studies often the same question is used in different countries, a problem remains. Can we be sure that verbal labels have exact equivalents in other languages? Does 'happy' in English mean exactly the same as 'heureux' in French or 'feliz' in Spanish or does translation introduce subtle differences?

8.4 Solution: transformation to one common scale

Many of these problems can be dealt with if native speakers rate the degree of happiness denoted by the words used for response options, such as 'very' and 'pretty' happy. This can be done using a scale on which native speakers mark intervals. This method allows us to derive numerical values for particular response options in particular languages, which we can then use to produce more accurate mean scores.

Scale interval study

This method is applied in a web based study, in which university students rate response options. Students are presented with a few questions on happiness that have ever been used in survey studies in their country. For each question separately, they rate the relative value of each of the response options in their language. They do this on a computer screen on which they see a vertical bar scale that they can divide into sections by shifting separation lines. The response options are presented next to the scale and move with the bars. The student's task is to move the separation lines with the cursor until they feel that the intervals on the scale correspond with the degree of happiness denoted by each of the verbal response options. The task takes about 10 minutes. Responses are automatically recorded. Participating students log on to a website, using a password that is provided by the local co-investigator.

The aim is to cover 74 languages. Given the precision required we need at least 200 respondents per language, so this study will require the participation of some 15.000 students. By now some 3000 students have participated. We still need studies in the following languages: Afrikaans, Albanian, Armenian, Azerbaijani, Bengali, Bulgarian, Catalan, Czech, Chinese, English (still, because there are so many questions in that language), Estonian, Danish, Farsi (Iran), Finnish, Fukunese (Taiwan), Georgian, Greek, Gujarati (India), Hausa (Nigeria), Hebrew (Israel), Icelandic, Igbo (Nigeria), Indonesian, Japanese, Kirgiz, Korean, Latvian, Lithuanian, Luganda (Uganda) Macedonian, Malay, Marathi (India), Polish, Portuguese, Punjabi (India, Pakistan), Pashto (Pakistan) Rutoro (Uganda) Sindebele (Zimbabwe) Shindi (Pakistan), Shona (Zimbabwe) Slovak, Swahili (Kenya, Tanzania), Swedish, Tagalog (Philippines), Tamil (India), Thai, Turkish, Tswana (South Africa) Ukrainian, Urdu (India, Pakistan), Vietnamese, Xhosa (South Africa), Yoruba (Nigeria) and Zulu (South Africa)

Student-respondents are recruited by university professors who act as a co-investigator in this project. Co-investigators get access to the data they gather and will be mentioned in publications on the entire project. They are also mentioned on the web site of this project: http://worlddatabaseofhappiness.eur.nl/scalestudy/scale_fp.htm

Application on other subject matter

This method can also be applied on questions on other things than happiness, e.g. on survey questions about health with answer options such as ‘excellent’, ‘good’, ‘fair’ and ‘poor’. Interested scholars can get access to the software or can contract out the web work¹.

Colleagues interested in participation can contact me at veenhoven@fsw.eur.nl

¹ The Scale Interval Recorder is developed at the RISBO

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