# **CHARTING HAPPINESS IN REGIONS Using the World Database of Happiness**

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#### **ABSTRACT**

Regional policies require information on regional quality of life the most inclusive indicator of which is how happy its inhabitants are. Happiness in the sense life-satisfaction is well measurable and comparable across place and time. Survey studies can provide information on the distribution of happiness in regions (average level and inequality) as well as on correlates of happiness. Such data have been collected in various studies all over the world, but reports are scattered and the data are often presented in incomparable ways.

Much of these findings are gathered in the World Database of Happiness and presented in a standard format and terminology. To date (November 2023), this archive holds 6782 findings on happiness in regions and cities, of which 4420 distributional findings and 2362 correlational findings. In this article I demonstrate how these findings can be assessed and used in review studies. I also show how colleagues can add to this source.

Keywords: subjective wellbeing, research synthesis, finding archive

### 1 Why chart happiness in regions?

A main aim of regional policy is to provide a good quality of life for its inhabitants, not only because voters want that but also because citizen's quality of life typically fosters economic development and political stability. For that reason, policy makers want to know how well the region is doing in this respect. Information on regional quality of life is also welcomed by organizations who consider to invest in the region and by individuals who consider settling there.

Such information is provided by 'social statistics' in which the development of various aspects of quality of life is compared across regions and followed over the years. Common topics in these region statistics are income, education, employment, health, and suicide. There is a plethora of quality-of-life indexes, which all present a different mix of such qualities. Some examples are the OECD Regional Wellbeing Index (OECD 2023) and the PBL Regional Quality of Living Index (Lagas et al 2014).

#### Limitations of quality-of-life indexes

There are several problems with these sum-scores, which appear in my distinction between four qualities of life in Figure 1.

Items in current quality of life indexes figure in all quadrants of that scheme

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and combine items on *chances* for a good life, such as rates of crime and employment, together with *outcomes* of life such as longevity and life-satisfaction. However, putting chances and outcome in one hat makes no sense. It is the interaction of these qualities that matter, not their sum (Veenhoven 2000, section 4).

A related problem is that selection of chances for a good life, depends heavily on assumptions on what is good or bad, e.g., that the level of education in the region should count as positive in the index and the divorce rate as negative. I referred to such indexes as indicators of assumed quality of life and argued that we better orient on indicators of apparent quality of life such as life-satisfaction and longevity, thus on the outcomes of life (Veenhoven 2008).

Still another problem is quality of life indexes reflect the political agenda of the moment, e.g., sustainability issues were not yet on the list in the 1960s. This impairs the over-time comparability of many quality-of-life indexes.

A further technical problem is in the weighting of elements in the index, e.g., should regional murder rate have the same weight as divorce rate? Likewise, how should we weigh changes to the good and the bad such as an increase of crime against a decrease of smoking? Changes in outcomes of life reflect the *balance of all changes* that took place in a region and also capture the changes that did not reach social statistics, some of which we are not aware.

#### Focus on apparent quality of life

For these reasons, we better focus on apparent quality of life in regions. How well an animal thrives in an environment reflects in its lifetime, at least in reaching its programmed lifetime. In higher animals thriving also reflects in affective experience, where positive affect denotes that they are in the right pond and negative affect induces move to better grounds. While in most higher animals such affective states are sub-conscious, they are conscious in humans who are also able to evaluate their life cognitively and combine these appraisals in an assessment of life-satisfaction (Kainulainen et al. 2018). As such, the apparent quality of life of humans can be measured by how long and happy they live.

At the nation level that is done using the index of Happy Life Years (Veenhoven 1996), also known as Wellbeing Years (Layard & Oparina 2021). A recent comparison of Happy Life Years across nations is available in Veenhoven (2023 and a comparison over time in Jansen & Veenhoven (2023).

#### On happiness in particular

While the index of Happy Life Years is the most inclusive measure of regional quality of life we can think of, there are practical problems with the element of longevity. One problem is that it takes typically a lot of time before changes in regional conditions reflect in more or less years lived. Another problem is that we do not always spend our whole life in the same region and that the life-time reached in region where one dies may rather reflect the conditions in the region where one was born. These problems play less in the case of happiness and for that reason I focus on that element only in this article.

#### 2 What happiness?

The word 'happiness' is used for different meanings. In its broadest sense it is another word for quality of life and covers all quadrants in <a href="Figure 1">Figure 1</a>. That is how the word was mostly used in philosophy. In present day social sciences, the word is typically used for subjective satisfaction, as denoted in the bottom-right quadrant of Figure 1. The word 'happiness' is also used for different kinds of satisfaction which are presented in <a href="Figure 2">Figure 2</a>. Clearly, the quality of life in a region should not be measured by passing pleasures or top-experiences and neither with satisfaction with life-domains. The quality of life in a region reflects best in enduring life-satisfaction, So again the meaning in the bottom-right quadrant.

#### 2.1 Definition of happiness

In this line, I defined happiness as the overall appreciation one's life as-a-whole (Veenhoven 1984: section 2/2); In other words, how much one likes the life one lives. A synonym is 'life-satisfaction'.

#### 2.2 Components of Happiness

In assessing how much we like the life we live, we draw on two sources of information: a) how well we feel most of the time and b) to what extent we perceive to get from life what we want from it. I see these appraisals as 'components' of happiness: *hedonic level of affect*, which is the affective component of happiness, and *contentment*, the cognitive component of happiness.

Hedonic level of affect is how well one feels most of the time. This is the degree to which positive affective (PA) experiences outweigh negative affective (NA) experiences, commonly referred to as 'Affect Balance'. A person's hedonic level of affect can be assessed over different periods of time, an hour, a week, a year, as well as over a lifetime. The focus here is on 'characteristic' hedonic level, that is, the average over a long-time span such as a month or a year.

Contentment is the degree to which one perceives that life meets one's aspirations. The concept presupposes that the individual has developed some conscious wants, has formed an idea about their realization and is able to ponder whether he is living the life as wished. As such, the concept does not apply to babies. In economics, this matter is referred to as final 'utility'.

Though typically related, these components do not necessarily go together, one may feel good most of the time without perceiving that one's aspirations are being met. Likewise, one may have surpassed one's aspirations but feel miserable. There is also a difference in causation, while hedonic level of affect reflects the degree to which universal human *needs* are being met, contentment is the perceived degree to which ones' *wants* are being met, which wants often draw on culture specific standards for a good life (Veenhoven 2009a, Kainulainen et al. 2018)

#### 3 Empirical research on happiness

Over the ages, happiness has been a subject of philosophical speculation but in the

20<sup>th</sup> century social scientists came to study it empirically.

### 3.1 Measures of Happiness used

Since happiness is defined as something that is on our mind, it can be measured using questioning. Various ways of questioning have been used, direct questions and indirect questions, open questions and closed questions, and one-time retrospective questions and repeated questions on happiness in the moment.

Not all the questions used fit the above definition of happiness adequately, e.g., a question as to whether you think to be happier than most people of your age does not, since you can be happier than your age-mates but still be unhappy. All measures of happiness ever proposed have been checked for face validity, which is explained <a href="here">here</a>. Some illustrative questions are:

#### Questions on overall happiness

- Taking all together, how happy would you say you are these days?
- On the whole, how satisfied are you with the life you lead?

#### Questions on hedonic level of affect.

- Would you say that you feel usually cheerful or dejected?
- During the past few weeks, did you ever feel ....? (yes/no)
  - + Particularly excited or interested in something?
  - So restless that you couldn't sit long in a chair?
  - + Proud because someone complimented you on something you had done?
  - Very lonely or remote from other people?
  - + Pleased about having accomplished something?
  - Bored?
  - + On top of the world?
  - Depressed or very unhappy?
  - + That things were going your way?
  - Upset because someone criticized you?

Affect balance computed subtracting negative from positive 'yes' responses.

• How is your mood today? (Repeated several days)

#### Questions on contentment

- How important was each of the following goals in life in the plans you made for yourself in early adulthood?
- How successful have you been in the pursuit of these goals?

#### Comparability across places

Though there is cultural difference in beliefs about conditions for happiness and moral valuation of happiness, happiness itself is a universal judgment. All sentient humans can appraise how much they like the life they live. They typically do as

appears in the low percentage of 'Don't Know responses to questions on happiness in surveys all over the world.

Still there can be cultural difference in response behavior, such as the tendency to prefer the middle of response scales and words like 'happiness' and 'satisfaction' may not have the same connotations in all languages. There is no doubt that such 'cultural measurement bias' exists; the question is how big that distortion is. Elsewhere I estimated that this bias in average happiness across nations will be no more than some 5% (Veenhoven 2015, section 3.4). Since, regions within nations typically share a lot of the national culture, the measurement bias for happiness in regions will be less.

#### 3.2 Growing research output

The first empirical study on happiness dates from 1918 () and was followed by incidental studies among students and academics in the first half of the 20<sup>th</sup> century. Research on happiness took off in the 1960s in the wake of the social indicator movement. To date (November 2023), more than 10.000 empirical studies have been conducted in which happiness was assessed, and that number is growing by the day.

A great deal of that research is held among the general population in geographical areas, such as in nations, regions and cities.

#### 3.3 Problems of data-deluge

All this research does not automatically result in a better understanding of happiness. One problem is in the mere gathering of that research. The usual search on key word falls short, since the word 'happiness' is increasingly used for other meanings than defined above, a search on 'happiness' in Google Scholar yielding more than 3 million hits. Even when selected on happiness as life-satisfaction, the number of publications is still too big to oversee, even for specialists. Structured sorting is required for making all the available facts about happiness accessible. Still another problem is the difference in the use of words of the research reports, not only for happiness, but also for observed correlates of happiness and for methodological features of studies. This requires that research findings are described in a standard terminology. All this is done in the World Database of Happiness (Veenhoven 2009b).

#### 4 World Database of Happiness

I this article, I show how this World Database of Happiness can be used for gathering and organizing research findings on happiness in regions. The World Database of Happiness is a 'findings-archive', that is, a collection of empirical research findings on a particular phenomenon, in the case at hand here 'happiness'. Research findings are described in a standard format and terminology on electronic *finding-pages*, which can be sorted in various ways, such as on subject (e.g., relation

with income), population (e.g., poor countries), and method (e.g., experimental study). A finding archive serves to facilitate research synthesis, narrative reviews as well as quantitative meta-analysis. This new technique is described in Veenhoven et al.2022.

The World Database of Happiness is publicly available on the internet at <a href="https://worlddatabaseofhappiness.eur.nl">https://worlddatabaseofhappiness.eur.nl</a>. The start page is presented on <a href="Figure 3">Figure 3</a>.

#### 4.1 Gathering research reports on happiness

Research reports on happiness are gathered on a continuous basis grazing the wide research literature on subjective wellbeing. The search does not limit to the word 'happiness' since the concept is also denoted with other terms, while the word is also used for other phenomena. The search procedure is described in detail <a href="here">here</a>.

Publications are read to see whether happiness as defined above is addressed. If so, these publications are listed in the Bibliography of the World Database of Happiness. Next, publications that report an empirical study are considered in more detail to see how happiness was measured. Not all measures ever used tap the concept adequately, about half fails a test on 'face validity', which is described in more detail here.

Measures of happiness figure increasingly in survey studies in regions and cities but only part of that research is bibliographically retrievable, since regional variation is often a side issue in publications. The best estimate is the number of publications that reached the World Database of Happiness, since that archive contains all scientific publications on happiness and involves an inspection of subjects addressed, among which happiness in regions.

#### Number of reports on happiness in regions

To date (November 2023) the Bibliography of the World Database of Happiness listed <u>176</u> scientific publications on the level of happiness in regions and <u>7</u> publications in which inequality of happiness in regions. The Bibliography further included <u>144</u> publications in which findings on correlation of resident's happiness with regional characteristics are reported. These counts are fairly complete up to 2010.

About half of these publications report an empirical study in which a valid measure of happiness was used and the findings of these studies are entered in the finding collections of the World Database of Happiness.,

## 4.2 Description of separate research findings

Research findings obtained using an accepted measure of happiness are described on an electronic finding page using a standard format and terminology. A finding page contains information on: a) the publication in which the finding was reported, b) the population studied, c) the technical design of the study, d) the measure of happiness used and e) the observed 'finding' on happiness.

Two kinds of findings are involved: a) 'distributional findings', that is, observations on the distribution of responses to questions on happiness, typically summarized in the mean and standard deviation and b) 'correlational findings' about the degree to which other things than happiness go together with it. An example of a

distributional finding page is on Figure 4d and an example of a correlational finding page on Figure 6d.

Each finding-page has a unique internet address to which hyperlinks can be made in review papers. Examples of such 'linked' reviews can be found <u>here</u>.

#### Number of findings on happiness in regions

By November 2023, the World Database of Happiness contained **6782** findings on happiness in regions or cities of which 4420 distributional findings and 2362 correlational findings. This is less than what is available. As we will see on Figure 7d, about half of the eligible studies is waiting to be entered in the findings archive. So, the corpus of findings on happiness in regions can be doubled easily.

#### 5 What do we want to know about happiness in regions?

As noted above in section 1, we want to know how well the region is doing with respect to happiness, which requires information on the *distribution* of happiness among residents. Policy makers will also want to know why residents are more or less happy for which indications can be found in *correlates* of happiness.

## 5.1 Distribution of happiness

The distribution of happiness can be described by a) average level of happiness as measured with the mean and b) inequality of happiness as measured with the variation around the mean.

#### Average happiness in regions

The mean response in a region to a survey question about happiness provides an indication of absolute happiness, e.g., an average of 8 on a 0-10 scale denotes a high level of happiness and an average of 4 a low level. Policy makers will also want to know how well the region is doing relatively to other regions and whether the level of happiness has changed to the better or worse.

Next to such data on the level of overall happiness in the region, it is also worth considering the components of happiness discussed in section 2.2. How well residents feel most if the time (affective component) reflects the degree to which human *needs* are being met in the region (Kainulainen ) and how well people feel is also a major determinant of health (Veenhoven ) and productivity (Veenhoven et al 2024). As such, the affective component provides a global indication of how well the region is doing. On the other hand, the cognitive component denotes the degree to which residents perceive to get from life what they *want* (cognitive component) which provides more specific policy indications.

#### Inequality of happiness in regions

Policy makers will also want to know how much residents differ in happiness. Inequality of happiness in a population can be expressed in the standard deviation

(Kalmijn & Veenhoven 2015). Like in the case of average happiness, policy makers will want to know how sizable inequality of happiness in their region is absolutely and compared to other regions and whether inequality of happiness has grown or declined over time.

#### 5.2 Correlates of happiness in regions

Next to the above information on how happy people are in a region, policy makers will want to know *why* difference in happiness exist and *how* happiness can be fostered in the region. For that purpose, they need information on things that go together with more or less happiness in the region, for instance whether the crime rate plays a big role or to what degree the happiness of residents depends on housing conditions. Such information is required for the general public in the region as well as for special groups, such as single mothers.

## 6 How can that information be found in the World Database of Happiness?

These findings can be selected on the website in the following ways.

#### 6.1 Distributional findings

Distributional findings can be selected in two ways. One way is using the *search* screen for distributional findings. This is explained in the Figures <u>4a</u>, <u>4b</u>, <u>4c</u> and <u>4d</u>. The other way is to use the *report on the nation* in which the region is located, which is explained in the Figures <u>5a</u>, <u>5b</u> and <u>5c</u>.

#### 6.2 Correlational findings

Correlates of happiness in regions can only be selected using the search function as shown in the Figures <u>6a</u>, <u>6b</u>, <u>6c</u> and <u>6d</u>.

#### 7 How can that information be presented?

A standard format for articles in which such findings on happiness in nations are reported is used in the special issue of the International Journal of Happiness and Development on **Happiness in Nations** (Veenhoven & Baltatescu 2024). Application of that format on South Africa is found in Bothma (2024). This format can also be applied on regions.

The findings can also be presented on the website of the World Database of Happiness in the same way as reports on happiness in nations. That possibility has not been implemented as yet.

#### 8 How to further the charting of happiness in regions

To date (November 2023) the most efficient way is to complete the collection of happiness in Regions in the World Database of Happiness. However, this source will

be closed for additions after my time and saved as version 1. If no version 2 is continued by someone else, consider starting a similar database on Happiness in Regions only.

# 8.1 Complete the collection on happiness in regions in the World Database of happiness

A first thing to do is to update the collections of findings on happiness in regions. To date (November 2023), findings obtained in 97 studies are waiting to be entered. The Figures 7a, 7b, 7c and 7d show how these studies can be identified.

This is not all there is, since happiness research is growing exponentially and produces ever more findings on happiness in regions. Much of these additional studies will be collected in the ongoing harvesting of research reports on happiness of the World Database of Happiness as described <a href="here">here</a>. Additional searches focused on regional happiness can complete that collection.

Once studies involving findings on happiness in regions are identified and listed in the Bibliography of Happiness, the next step is to enter the valid findings in the archive. This involves the description of the empirical observations on the abovementioned findings pages, which takes about an hour per page. An instruction is available <a href="here">here</a>. You can do that by yourself if you join the World Database of Happiness as a <a href="research associate">research associate</a>. We can also do it for pay as explained <a href="here">here</a>.

A final step is to present all these finding on the web in the same way as done for Happiness in Nations. It is not too difficult to adjust the software to that purpose.

#### 8.2 Start a new database on Happiness in Regions only

It is also possible to start a separate findings-archive on Happiness in Regions, for which the software of the World Database of Happiness can be used and in which the available publications (\*) and findings () can be included. Technical detail is described here.

I advise to follow the structure of the current collection <u>Happiness on Nations</u> in the World Database of Happiness. In that approach, some options are:

#### Restrict to distributional findings

The archive holds some 4400 findings on the distribution of happiness in areas other than nations, such as provinces, cities and transnational regions. These findings are not yet organized as well as the data on happiness in nations, but that can easily be achieved. Using the existing software you can produce 'reports' of happiness in regions that involve maps, rank reports and trend reports. Like in the case of happiness in nations, these reports can cover observed level of happiness as measured with the mean, inequality of happiness as measured with the standard deviation and an index of inequality adjusted happiness

Include correlates of happiness with regional characteristics
Since we want to know what drives the above differences in levels and trends of happiness in regions, it is worth continuing the sections in the collection of correlational findings on the relation between characteristics of the region and happiness of the people who live there. These sections are: Region of residence, Region: Culture, Region: Demography, Region: Economy, Region: Geography, Region: Livability, Region: Personality, Region: Position, Region: Society

#### Include correlates of happiness within regions

It is also worth having a view on the drivers of happiness within regions, such as personal income and marital status. This would require continuation of the World Database of Happiness for regional populations.

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# **FIGURES**

Figure 1 Four qualities of life

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

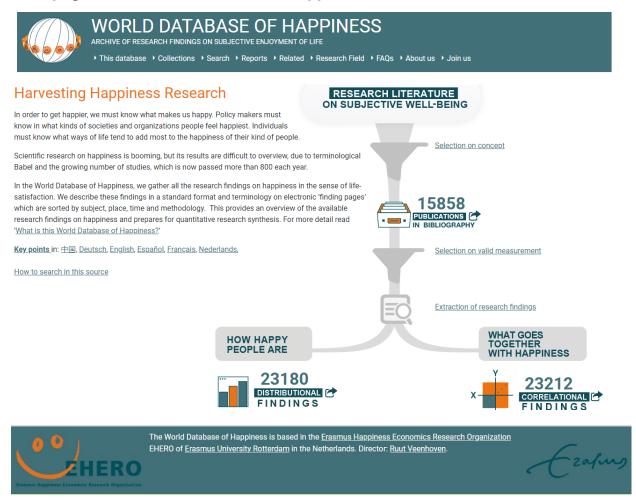
Source: Veenhoven 2000

Figure 2
Four kinds of satisfaction

	Passing	Enduring
Part of life	Pleasure	Part satisfactions
Life-as-a-whole	Peak experience	Life satisfaction

Source: Veenhoven 2015

Figure 3
Start page of the World Database of Happiness



Taken from: https://worlddatabaseofhappiness.eur.nl

Figure 4a
Example of selection of distributional findings on happiness in a region
Using search in distributional findings

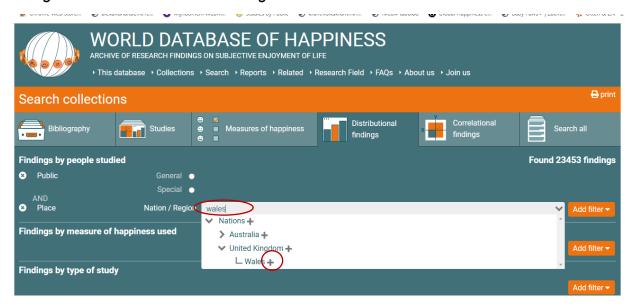


## Select Search in the header and next Distributional findings



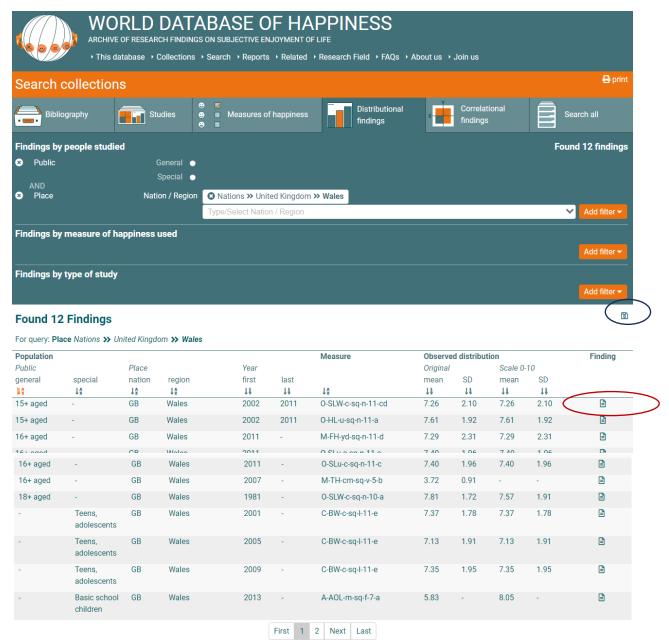
From banner select **Distributional Findings**Under 'Findings by people studied' click **Add filter**, select **Place**A screen will appear as given on Figure 4b

Figure 4b
Example of selection of distributional findings on happiness in a region
Using search in distributional findings



In field 'Place: nation/region' enter name of region; in this example **Wales**The system identifies regions with this name in Australia and the UK.
Click the + sign to get to distributional findings on happiness in Wales UK (Figure 4c)

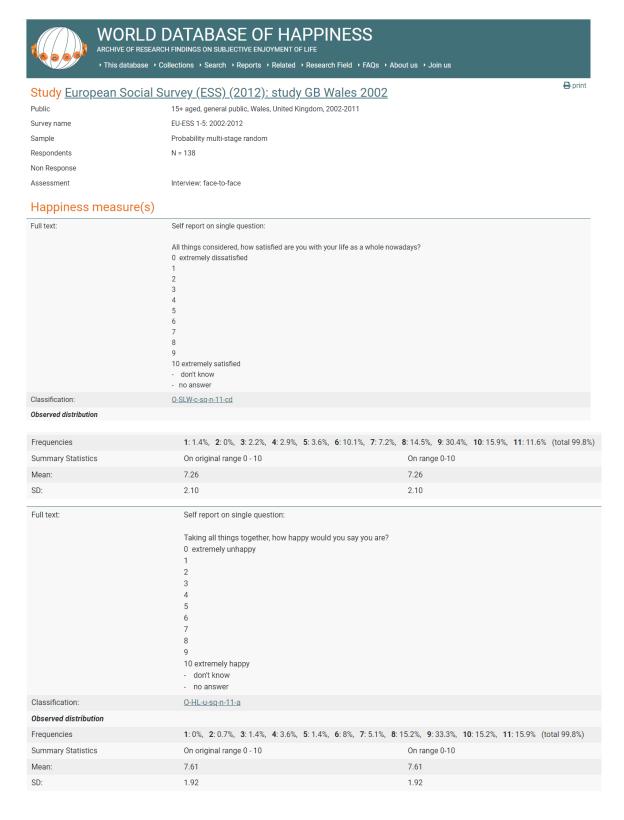
Figure 4c
Example of selection of distributional findings on happiness in a region
Using search in distributional findings



A list of findings appears. Using arrows ↓↑ in the header you can sort these findings Detail of each finding is on the **finding pages** in the right-hand column. Click and a page appears as shown on Figure 4d

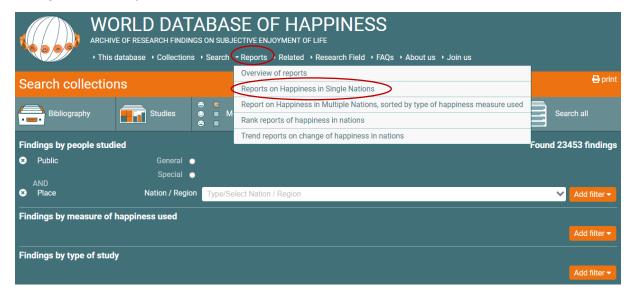
A link to this selection can be saved if you click the **save** icon

Figure 4d
Example of selection of distributional findings on happiness in a region
Using search in distributional findings

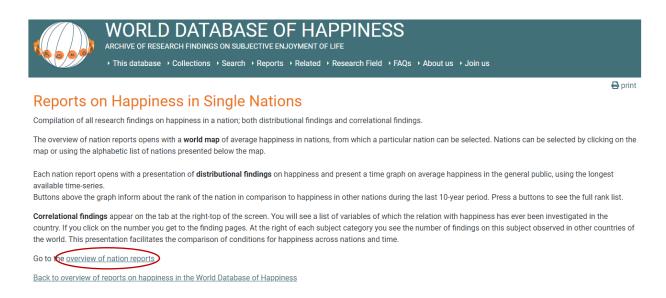


Links on this web page lead to detail on the study and measures of happiness used

# Figure 5a Example of selection of distributional findings in a region Using a nation report



# In the header select **Reports**Next select reports on happiness in **single nations**



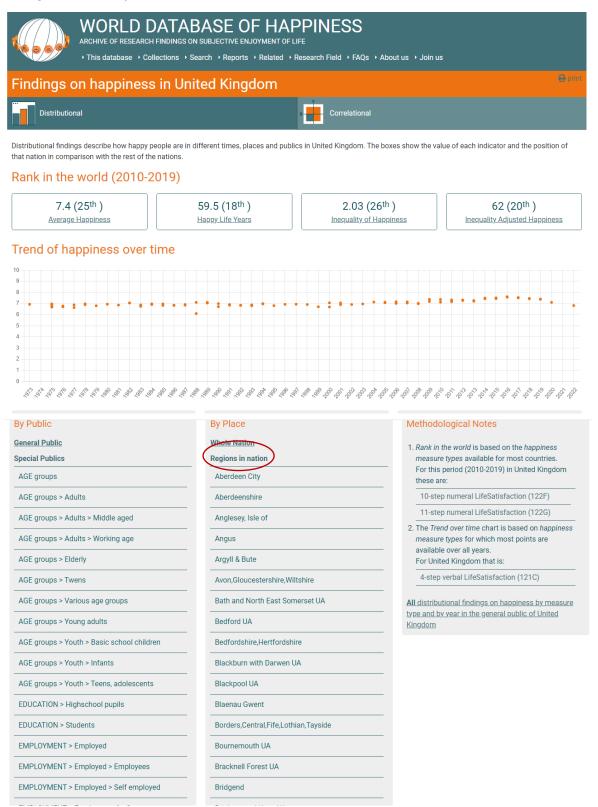
Click Overview of nation reports. A page as shown on Figure 5b will appear

Figure 5b
Example of selection of distributional findings in a region
Using a nation report



Select **UK**, either from the map or alphabetic list. A page appears as on Figure 5c

# Figure 5c Example of selection of distributional findings in a region Using a nation report



An alphabetic list of **regions in the nation** appears. Select **Wales** and a page as given on Figure 4b appears

Figure 6a
Example of selection of correlational findings in a region

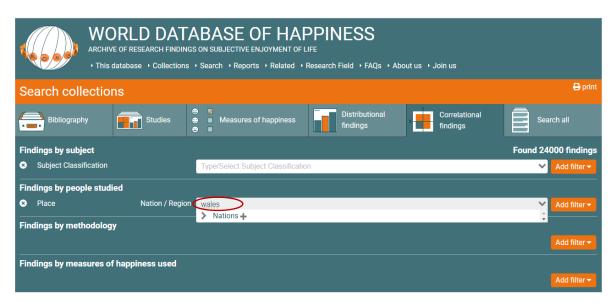


#### Select Search and next Correlational findings

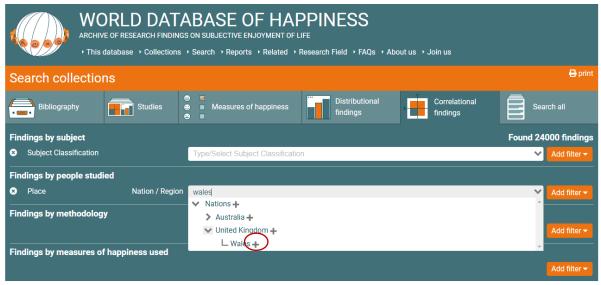


Under 'Findings by people studied' Add filter and select Place: nation/region

# Figure 6b Example of selection of correlational findings in a region

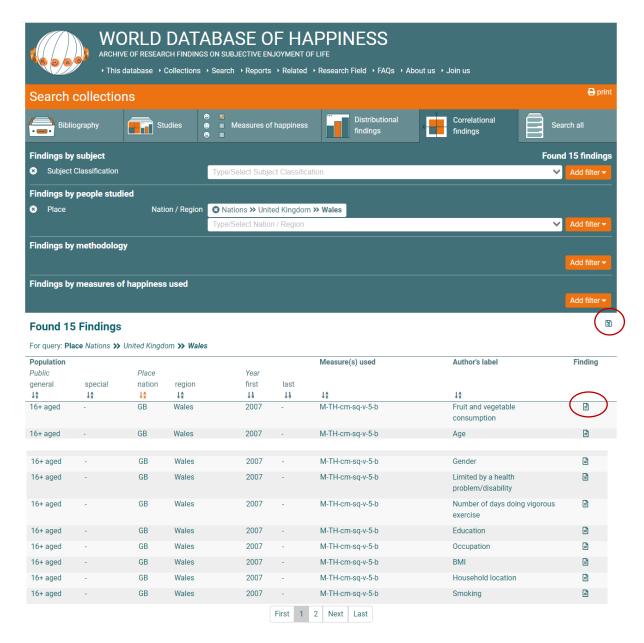


Enter **Wales** in the text box and the system leads to nations in which a region with this name exists. Click > to open list of nations



Click + behind Wales in UK. A screen appears as given on Figure 6c

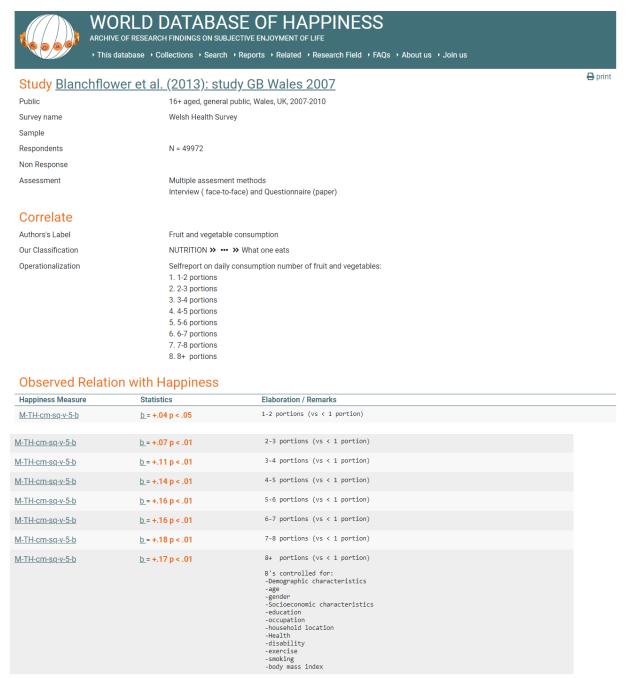
Figure 6c
Example of selection of correlational findings in a region



A list of findings appears. Using arrows ↓↑ in the header you can sort these findings Detail of each finding is on the **finding pages** in the right-hand column. Click the top finding on fruit van vegetable consumption and a page appears as shown on Figure 6d

A link to this selection can be saved if you click the **save** icon

Figure 6d
Example of selection of correlational findings in a region



This finding tells that Welsh people tend to be happier the more fruits and vegetables they eat.

# Figure 7a How to identify studies on happiness in regions of which findings are not yet entered in the archive



On <a href="https://worlddatabaseofhappiness.eur.nl">https://worlddatabaseofhappiness.eur.nl</a> select **Search** and next **Bibliography** 

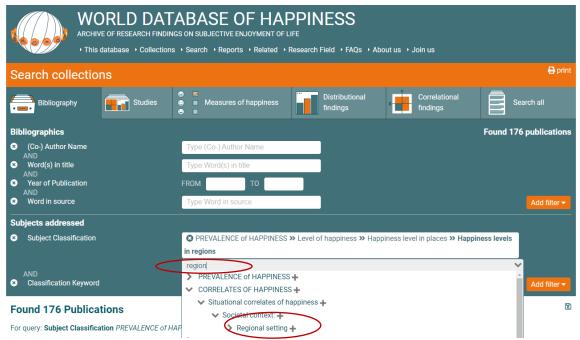


In the text box subject classification enter **region**. Three main subject categories appear in which that topic is addressed



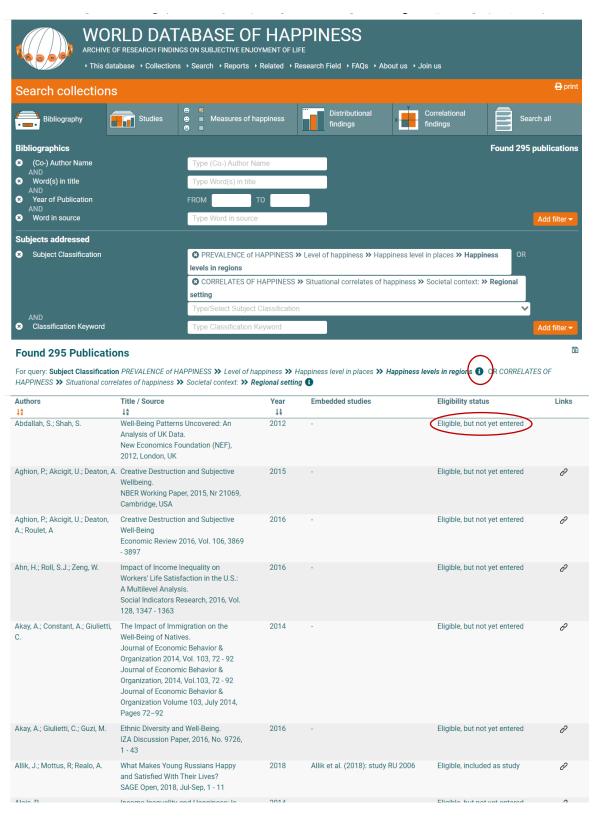
Under PREVALENCE OF HAPPINESS select **Happiness levels in regions**. A list with 176 publications will appear, as shown on Figure 7b

Figure 7b
How to identify studies on happiness in regions of which findings are not yet entered in the archive



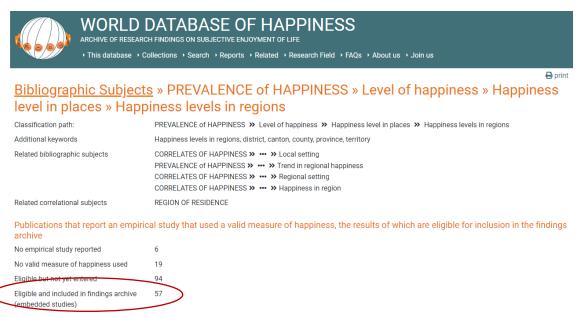
Add an **OR** search in another subject category
Enter **region** in the blank textbox below the first search on subject
Under CORRELATES OF Happiness select **Regional setting**A list of 2965 publications will appears as show on Figure 7c

Figure 7c
How to identify studies on happiness in regions of which findings are not yet entered in the archive



In the right hand collumn look for publications denoted as **eligible**, **but not yet entered** Click the **i** icon for a count in a subject category as shown on Figure 7e

# Figure 7d How to count the number studies on happiness in regions findings of which are not yet entered in the archive



Findings on level of happiness in regions as observed in 57 studies are waiting to be entered in the archive