

## Happiness Pulse methodology and interpretation

These guidelines include:

- The domains and questions comprising the Happiness Pulse
- An overview of the way individual scores within the survey themes are calculated.

### ***Happiness Pulse: domains and questions***

The Happiness Pulse has four domains:

- General wellbeing
- BE (emotional wellbeing)
- DO (behavioural wellbeing)
- CONNECT (social wellbeing).

For general wellbeing we use two of the ONS-4 questions on wellbeing.

Our BE domain comprises the seven questions from the short version Warwick-Edinburgh Mental Well-being scale (SWEMWBS) as these questions are robust, subject to stringent testing and provide the best way of summarising the main elements of emotional wellbeing. We also use their prescribed method for working out the results of the BE domain.

The Warwick-Edinburgh Mental Well-being Scale was developed with funding provided by the Scottish Government's National Programme for Improving Mental Health and Well-being. It was commissioned by NHS Scotland, developed by the University of Warwick and the University of Edinburgh in 2006, and is jointly owned by NHS Scotland, The University of Warwick and the University of Edinburgh.

All the questions in both the DO and CONNECT domains are based on indicators used by recognised data agencies, adapted and tested by Happy City.

The additional Community Pulse module, accessed via our Advanced package, uses the following data organisations as its source: the Office for National Statistics, the Understanding Society Survey, the European Quality of Life Survey, the Oxwell Survey. A number of the questions are adapted by Centre for Thriving Places.

Where we use a question directly from another source we also use the original response scale for that question.

### **Happiness Pulse: domains and questions**

DOMAIN	TOPIC	QUESTION	RESPONSE SCALE	SOURCE
<b>GENERAL Wellbeing</b>	Life satisfaction	Overall, how satisfied are you with your life nowadays?	0 (Not at all) - 10 (Completely)	ONS
	Worthwhile	Overall, to what extent do you feel the things you do in your life are worthwhile?	0 (Not at all) - 10 (Completely)	ONS
<b>BE</b>	Optimism	I've been feeling optimistic about the future	1 (None of the time, 2 - rarely, 3 - Some of the time, 4 - Often, 5 - All of the time) - 5 (Always)	SWEMWBS

	Worth	I've been feeling useful	1 (None of the time, 2 - rarely, 3 - Some of the time, 4 - Often, 5 - All of the time) - 5 (Always)	SWEMWBS
	Peace of mind	I've been feeling relaxed	1 (None of the time, 2 - rarely, 3 - Some of the time, 4 - Often, 5 - All of the time) - 5 (Always)	SWEMWBS
	Resilience	I've been dealing with problems well	1 (None of the time, 2 - rarely, 3 - Some of the time, 4 - Often, 5 - All of the time) - 5 (Always)	SWEMWBS
	Competence	I've been thinking clearly	1 (None of the time, 2 - rarely, 3 - Some of the time, 4 - Often, 5 - All of the time) - 5 (Always)	SWEMWBS
	Autonomy	I've been able to make my own mind up about things	1 (None of the time, 2 - rarely, 3 - Some of the time, 4 - Often, 5 - All of the time) - 5 (Always)	SWEMWBS
	Relationships	I have been feeling close to other people	1 None of the time, 2 - rarely, 3 - Some of the time, 4 - Often, 5 - All of the time - 5 Always	SWEMWBS
<b>DO</b>	Be Active	How often do you spend 30 minutes playing sports or physical exercise?	1 - Never, 2 - less than once a week, 3 - 2-3 times a week, 4 - 5 times a week, 5 - Every day	Centre for Thriving Places
		How often do you spend 15 minutes walking or cycling?	1 - Never, 2 - less than once a week, 3 - 2-3 times a week, 4 - 5 times a week, 5 - Every day	Centre for Thriving Places
	Keep Learning	How often do you attend courses of some kind?	1 - never 2 - rarely, 3 - several times a year, 4 - once a month, 5 - more than once a month	Centre for Thriving Places
		How often do you spend time informally learning about something new?	1 - never 2 - rarely, 3 - several times a year, 4 - once a month, 5 - more than once a month	Centre for Thriving Places
	Take Notice	I notice and appreciate the little things in life.	1 Never 2 - Rarely, 3 - Sometimes, 4 - Every day, 5 - Many times a day	Centre for Thriving Places
		I can laugh and see the funny side of things	1 Never 2 - Rarely, 3 - Sometimes, 4 -	Centre for Thriving Places

			Every day, 5 - Many times a day	
<b>CONNECT</b>	Connect	How often do you meet socially with friends, relatives or work colleagues?	1 - Never, 2 - less than once a week, 3 - 2-3 times a week, 4 - 5 times a week, 5 - Every day	Centre for Thriving Places
		How often do you participate in social activities of a club, society or an association?	1 - Never, 2 - less than once a week, 3 - 2-3 times a week, 4 - 5 times a week, 5 - Every day	Centre for Thriving Places
		How often do you feel lonely?	1- Always 2- Often 3- Sometimes 4- Occasionally 5- Never	Centre for Thriving Places
	Give	How often do you help out informally with friends or neighbours?	1 - Never, 2 - less than once a week, 3 - 2-3 times a week, 4 - 5 times a week, 5 - Every day	Centre for Thriving Places
		How often do you get involved in work for voluntary or charitable organisations?	1 - Never, 2 - less than once a week, 3 - 2-3 times a week, 4 - 5 times a week, 5 - Every day	Centre for Thriving Places
	Support	Do you have a friend/s or family member/s with whom you can discuss personal matters?	Yes No	Centre for Thriving Places
	Community	I feel like I belong to this neighbourhood	1 Disagree Strongly, 2 - Disagree, 3 - Neither Agree/Disagree, 4 - Agree, 5 - Agree Strongly	Centre for Thriving Places

### Demographics

Question	Categories
Country	United Kingdom (standard list of countries)
Postcode	Postcode district and sector (eg BS3 4)
Gender	Male Female Prefer not to say Prefer to self-describe

Age	Under 16, 16-24, 25-34, 35-49, 50-64, 65-74, 75+
Ethnicity	White British, White Other, Mixed/multiple, Asian/Asian British, Black/Black British, Other Ethnic group

### **Calculating Survey User Results**

The calculation of survey results information applies to the basic Happiness Pulse domains - general wellbeing, Be, Do and Connect. The Community Pulse results are analysed separately using standard question by question analysis approaches.

The basic Happiness Pulse survey results are automatically calculated on the Pulse app as follows:

#### **Step 1:**

Standardising scores

Questions in the Pulse have different response scales. To make them easier to compare, the scores are standardised by converting them to z-scores:

$$\text{Z-score} = \frac{[(\text{original response}) - (\text{mean response})]}{(\text{standard deviation of responses})}$$

The means and standard deviations are taken from a nationally representative sample of 2,000 Pulse responses, which was collected by YouGov in October 2018. This is updated every four years.

#### **Step 2:**

Aggregation

To get a score for a whole domain from the responses to individual questions, scores are aggregated by adding together all the Z-scores within a domain, and dividing by the number of questions in the domain.

#### **Step 3:**

Rescaling

Although Z-scores are comparable, to aid understanding the domain scores are rescaled so that the overall mean for each domain is 6.5 and the range is 0-10.

#### **Step 4:**

Transformation to percentiles

To aid interpretation of scores, scores are also transformed into a percentile: a 1-100 scale, where each unit on the scale represents a 100th of the range of scores in the nationally representative sample. For instance, a percentage score of 1 would mean that the user is in the lowest 100th of user scores in the UK; 36 would mean the user is in the 36th percentile in the UK; and so on.

To do this, we calculated percentiles for the nationally representative sample, which can be done using a formula, or manually in the following way:

- Order range of domain scores from lowest to highest
- Divide total amount of domain scores (e.g. 722) by 100 to find out how many user domain scores belong to each percentile (e.g. 7.22)
- Record range of domain scores for each percentile (e.g. the first percentile will consist on the lowest 7 user domain scores)

To show users of the Pulse their percentile score for a domain, the Pulse app looks up what percentile their domain score falls into in the nationally representative sample. For example, if a user got a general wellbeing score of 5, this score falls into the 23rd percentile of scores for the nationally representative sample and a score of 23% is displayed. This means they scored higher than 23% of the UK population.

### ***Sample size and representativeness***

In order to get meaningful data the Happiness Pulse must be used in a way which ensures optimum outreach so that both the sample size and the representativeness of that sample provide valid and reliable data at a local level, while preserving the anonymity of the respondent.

We work with our clients to ensure that this is the case, and provide guidelines on the parameters for comparison and analysis.