

# Project Soothe Exhibition Report

**Roger Hyam** (Royal Botanic Garden Edinburgh)

**Stella Chan** (University of Edinburgh / Project Soothe Lead)

**Stephanie Allan & Project Soothe Team**

10th January 2018

We held an exhibition in the Real Life Science Studio of the John Hope Gateway at the Royal Botanic Garden Edinburgh (RBGE) between 8th September and 4th October 2017. It was a collaboration between Project Soothe at the University of Edinburgh and RBGE.

**Project Soothe** is a citizen science project run by a team of psychologists interested in developing a bank of images that can be shared with others to improve wellbeing. They asked members of the public to submit images of what they think is soothing. These images are now being used in research to see how they impact on different aspects of our wellbeing such as our mood. The images submitted to Project Soothe have been overwhelmingly of natural subjects and so it made sense to team up with RBGE for an exhibition.

**Royal Botanic Garden Edinburgh (RBGE)** is a world-renowned centre for the study of plants and conservation; it is also a major tourist attraction and resource for local people. The grounds have been an oasis within a busy city, providing a soothing space for generations of Scots and visitors.

**Soothing** is a central concept in Compassion Focussed Therapy in which people are taken to have three principle emotion regulation systems based around excitement, anxiety, and soothe. The ability to balance these systems, and in particular to seek out and develop the ability to self-soothe is essential for well-being.

The exhibition consisted of:

## *Physical displays & interactive activities*

- Fourteen panels of nine photographs each (128 total) from Project Soothe. Each panel was on one of five themes identified from earlier studies: Landscape, Water, Flowers & Plants, Sky, Animals. Visitors were invited to vote for the top five panels that make them feel soothed on our visitor survey, which also asked about visitors' experience of being connected with nature and experience of the exhibition and garden.
- A poem by former Edinburgh Makar Ron Butlin commissioned for the project.
- A large map of the garden with magnetic markers in three colours for visitors to collaboratively indicate the parts of the garden that make them feel soothed, excited, and anxious. Visitors could also mark their favourite soothing spots in the garden on the visitor questionnaire.

## *Digital screen displays & activities*

- An image picker application that allowed visitors to choose the more soothing of two images. Instant feedback was presented to show how their choice was compared with that of other visitors.
- A screen showing a heat map of the points marked in the questionnaire.
- Another screen showed the Project Soothe promotional videos.
- The fourth screen showed narratives, provided by Project Soothe participants, on why certain images make them feel soothed.

- An iPad with access to the Project Soothe website was available for visitors to browse further information.

This report is a summary of the information gathered from the questionnaires and image picker. It is not intended to be a scientific paper but to give an overview of the responses that will be informative for future studies.

## Results Summary

- More than two thousand people visited the exhibition.
- 412 visitor surveys were submitted.
- The age of respondents was close to that for Scottish population but more than twice as many women as men filled in the questionnaire.
- Most respondents were local, repeat visitors.
- Water and Landscape themed panels of photos were voted as most soothing.
- Women and older people were more likely to think that connection with nature was essential for wellbeing.
- Women and older people were more likely to consider themselves to be one with nature.
- The Chinese Hillside and Rock Garden were reported as the most soothing areas of the garden.
- Comparison of images in the exhibition gave similar results to that collected through a previous online study with 1000 participants.

## Impact and Publicity

This exhibition has generated substantial public interest, preceded by a BBC Radio Scotland Interview and article (<http://www.projectsoothe.com/media>) and publicised on the website and social media channels of the University of Edinburgh (<https://www.ed.ac.uk/arts-humanities-soc-sci/news-events/news/current-news/soothing-exhibition-on-show-in-city-gardens>), funder of Project Soothe British Academy (<https://www.britac.ac.uk/blog/british-academy-funded-project-using-images-soothe-mind>), the University, Project Soothe and the RBGE (<https://stories.rbge.org.uk/archives/tag/project-soothe>).

During the exhibition, two schools groups from a local secondary school visited; in fact, following the exhibition at RBGE, the displays have moved to this secondary school to raise awareness of wellbeing research. We have also been invited to be involved in NHS Library project, which is plans for clinicians to use project soothe images to help patients cope with anxiety and distress. These opportunities were made possible by the exhibition.



We are working on a short film to capture the legacy of the exhibition.

## Questionnaire Results

A total of 412 questionnaires were completed over the four weeks of the exhibition. We didn't keep a formal count of visitors to the space as it wasn't always staffed but we estimate that fewer than 1 in 5 visitors completed a questionnaire during staffed periods. The total number of visitors is therefore likely to be well in excess two thousand.

### Frequency of Visit

The questionnaire had the choice of Frequent, Occasionally or First time visitor. 117 (28%) said it was their first visit, 175 (43%) that they visit occasionally and 110 (27%) that they were frequent visitors. 9 (2%) didn't answer the question.

### Age Group

Participants were given the opportunity to tick one of 6 age classes. Results are shown in the table. The age spread of participants was similar to the 2011 Scottish census results.

Age Class	Count	Percentage	2011 Census
Under 16	31	8%	16%
16-25	89	22%	13%
26-40	93	23%	19%
41-60	120	29%	29%
61-80	68	17%	19%
80+	6	1%	4%
n/a	5	1%	0%
Totals	412	100	100%

### Sex

Participants could tick a box to indicate their gender. 293 (71%) identified as female, 112 (27%) as male, 6 didn't answer the question. Considerably more women than men completed the questionnaire.

### Home

Participants were asked "What is the first part of your Postcode or Country of residence?" The text entered was reduced to five concentric zones shown in the table below.

Home Address	Count (zone)	Count Total
Local (EH Postcode)	265 (64%)	265 (64%)
Scotland	31 (8%)	296 (72%)
UK	51 (12%)	347 (84%)
Europe	18 (4%)	365 (89%)

World	29 (7%)	394 (96%)
[illegible]	18 (4%)	412 (100%)

The exhibition and questionnaire was only presented in English which would have biased away from some tourists. The World zone only contained two participants from non English speaking nations (1 from Indonesia and 1 from Argentina) all the rest were from USA, Canada, Australia and New Zealand. Nine other European countries were represented by small numbers.

## Demographic Categories

This table shows all those combinations of categories that account for more than 1% of the total. These thirteen combinations cover 72% of all respondents. Here we group the age categories into three larger chunks: **Yonger** is under 26, **Adult** is 26 to 60 and **Older** is over 60. Occasional and frequent visitors are combined into the category **Repeat Visitor**.

Home	Sex	Age Group	Frequency	Count	Percentage	Total %
Local	Female	Adult	Repeat Visitor	84	20	20
Local	Female	Yonger	Repeat Visitor	49	12	32
Local	Male	Adult	Repeat Visitor	41	10	42
Local	Female	Older	Repeat Visitor	32	8	50
Local	Female	Yonger	First Time Visitor	16	4	54
Local	Male	Yonger	Repeat Visitor	14	3	57
Scotland	Female	Adult	Repeat Visitor	11	3	60
UK	Female	Adult	First Time Visitor	10	2	62
Europe	Female	Adult	First Time Visitor	9	2	64
UK	Male	Yonger	First Time Visitor	8	2	66
Global	Female	Adult	First Time Visitor	7	2	68
UK	Female	Yonger	First Time Visitor	7	2	70
Local	Male	Older	Repeat Visitor	7	2	72

## Voting on Image Panels

The questionnaire had three boxes and participants were asked "Which are the three most soothing image panels on display?" 388 (94%) wrote something in one of the boxes. 378 (92%) wrote something in all the boxes.

Totalling all boxes (treating the votes as equal) then the favourite panel was number 4 (with theme Landscapes) shown below.

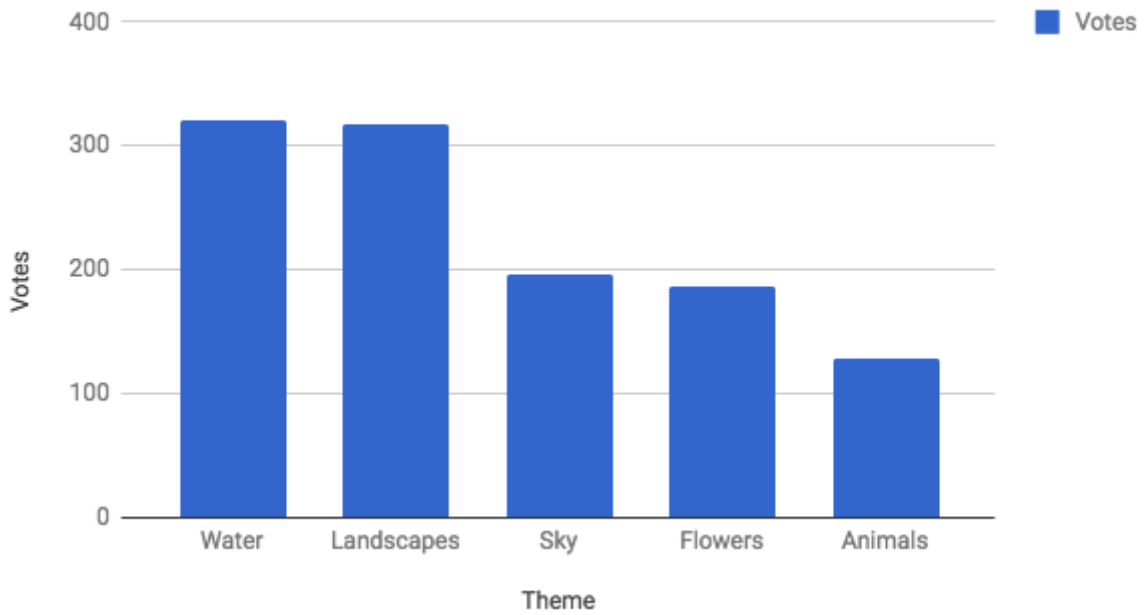


The complete list of panels (by score) is shown in the table below.

Panel Number	Theme	Total Votes
4	Landscapes	162
3	Water	138
10	Water	119
13	Sky	100
8	Sky	96
12	Flowers & Plants	89
11	Landscapes	86
2	Animals	72
5	Landscapes	70
1	Flowers	69
7	Water	64
6	Animals	33
14	Flowers & Plants	28
9	Animals	24

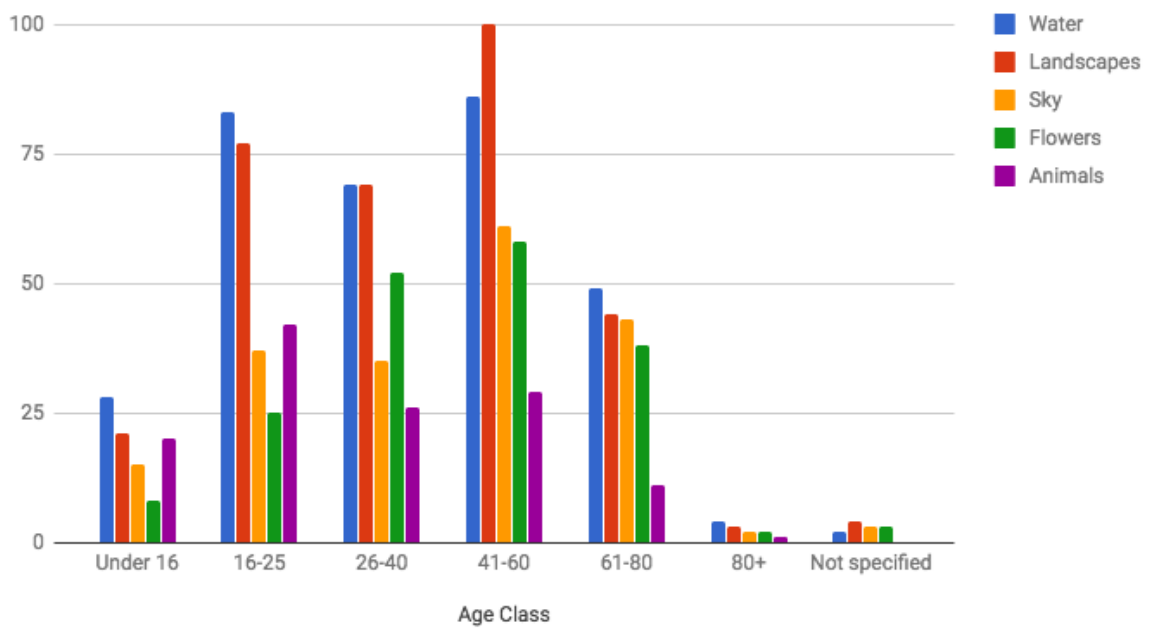
The scores by panel theme are as follows.

## Votes vs Theme



The chart below shows the panel theme scores broken down by age.

## Water, Landscapes, Sky, Flowers and Animals



The chart below shows the panel theme scores broken down by sex.



- Appreciate the photography and compositions. Love landscape, especially water, trees and mountains.
- Nature - water, mountains, beauty, plants, trees, animals, calming
- water, sky, flowers
- Larger landscapes help me get my life in perspective.
- Animals instil a sense of love and peace, water offers a connection to spirituality, mountains and clouds instil a sense of the beauty of earth.
- I find landscapes very soothing, more so than images of animals or people. I like calm water and imagining the sound of the breeze through the plants.
- Peaceful, pretty, remind me of happy times

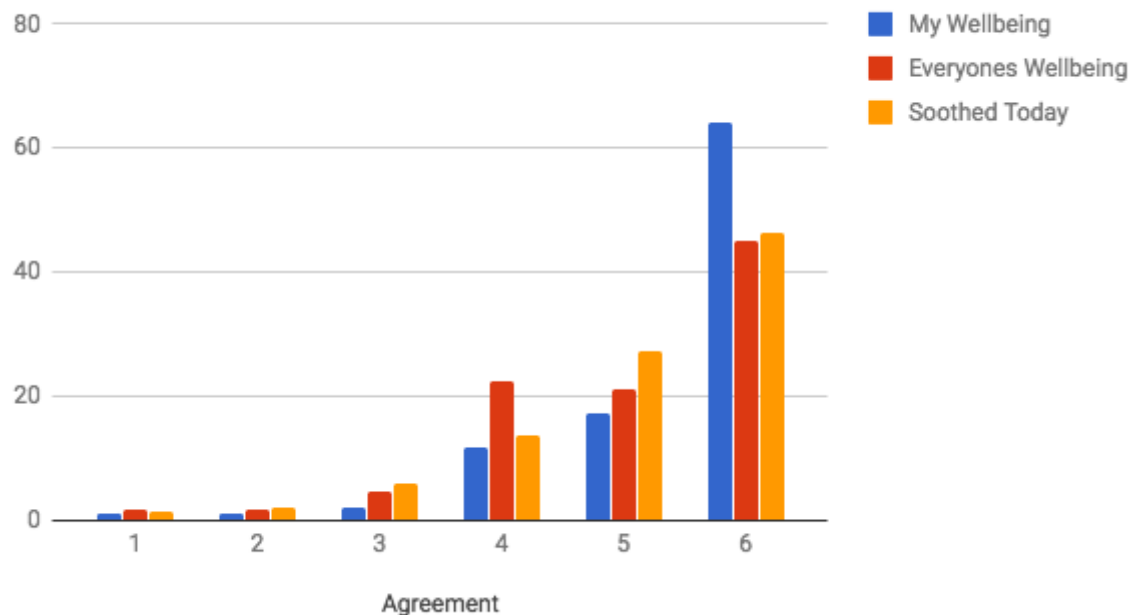
## Three Statements about Well-Being

The participants were asked to rate on a Likert scale from 1 to 6 how much they agreed with three statements.

1. Connecting with nature is essential for **my** well-being.
2. Connection with nature is essential for **everyone's** well-being.
3. Visiting the Botanics today makes me feel soothed.

These were somewhat leading questions to an audience that had chosen to make a visit to a botanic garden and then enter an exhibition about soothing images but they did serve to confirm that this group does find connecting with nature important (if not always essential) and that it allows us to explore intra-group variability. Younger people and men felt less strongly that nature was essential for their well-being.<sup>2</sup>

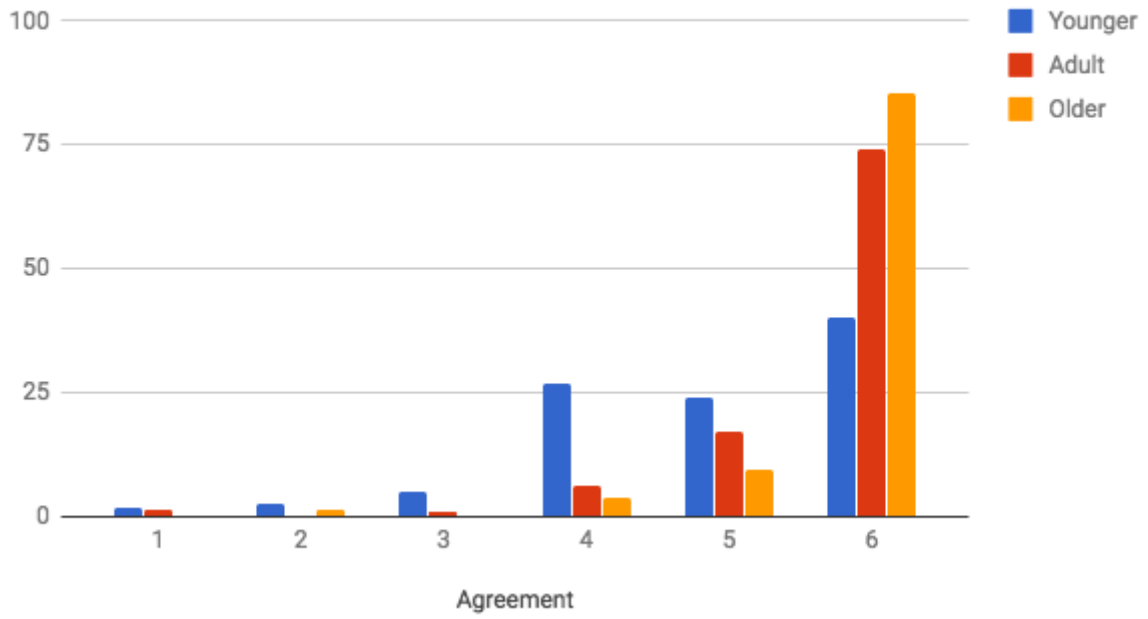
### % Agreeing with three statements



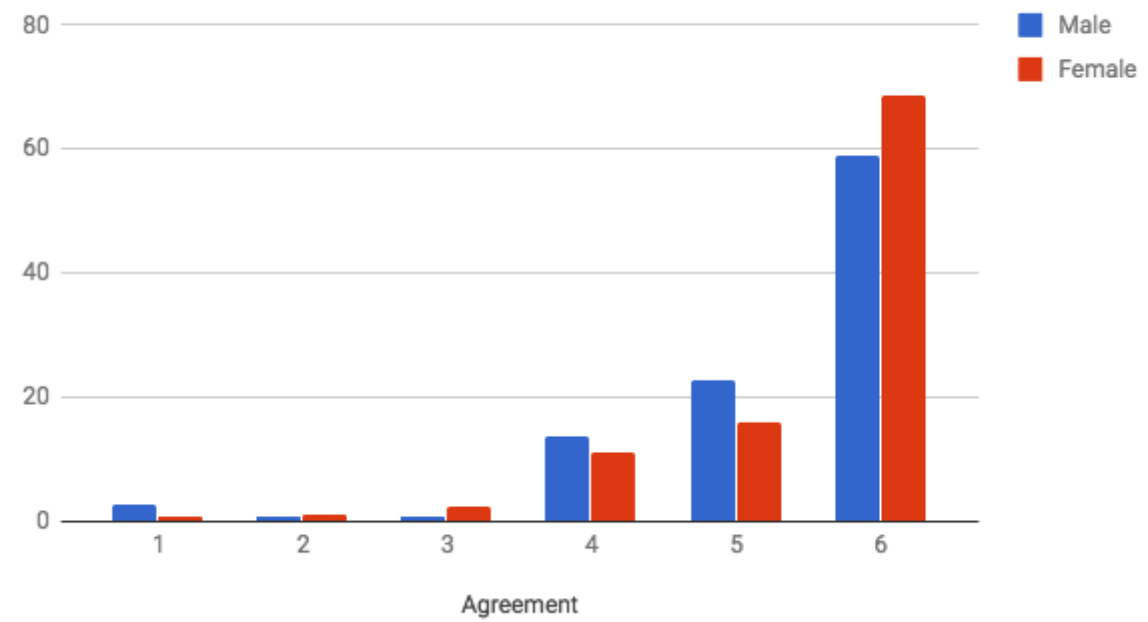
<sup>2</sup> See note on Likert scales at the end of the document



## Essential for My Well-Being



## Essential for My Well-Being



## Nature-in-Self Scale

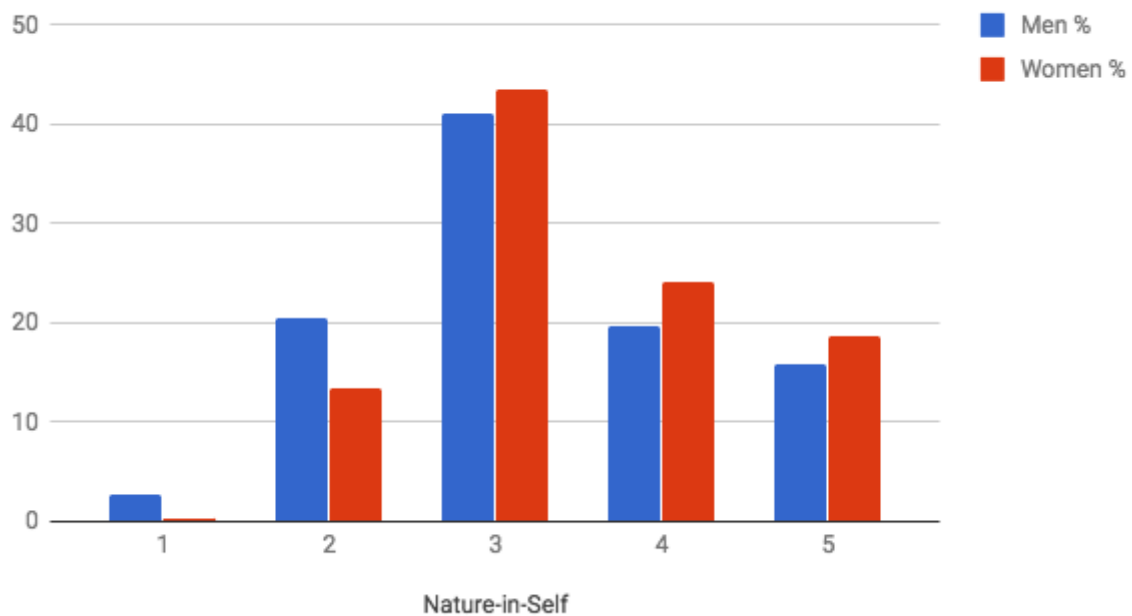
Participants were presented with the following:

**How interconnected are you with nature?**  
Please tick the picture below which best describes your relationship with the natural environment.

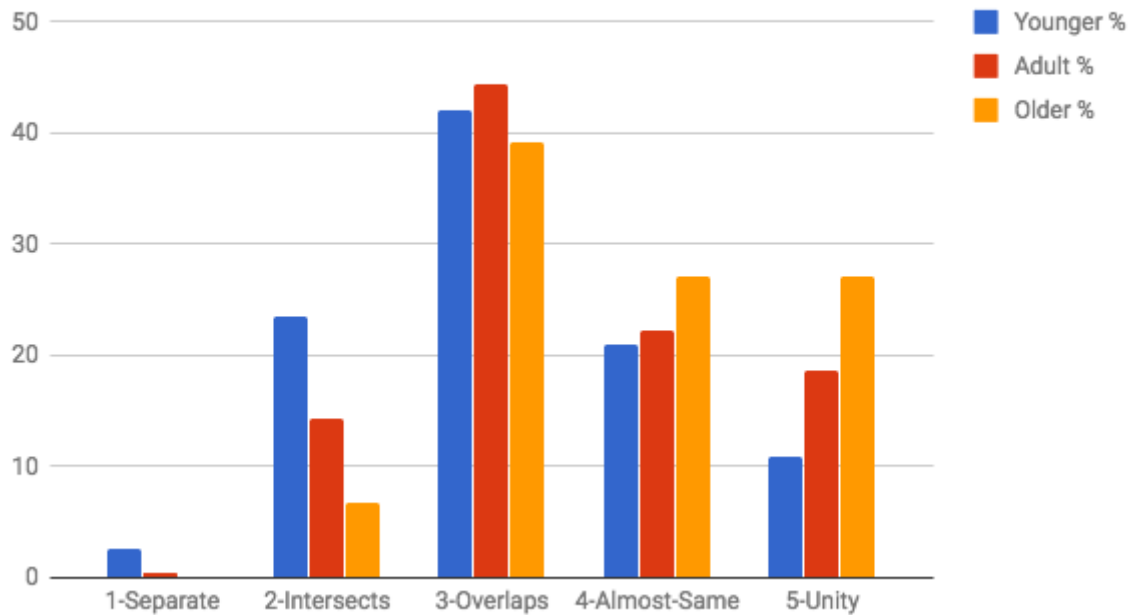
1                      2                      3                      4                      5

This question comes from a previously used Inclusion of Nature in Self psychological instrument. The two charts below show how the results were split by gender and age.

### Nature-in-Self by Gender



## Nature-in-Self by Age Group



It appears that women and older people felt more interconnected with nature than men but a more detailed statistical analysis will have to be done to confirm if this is a significant difference.<sup>3</sup>

## The Map

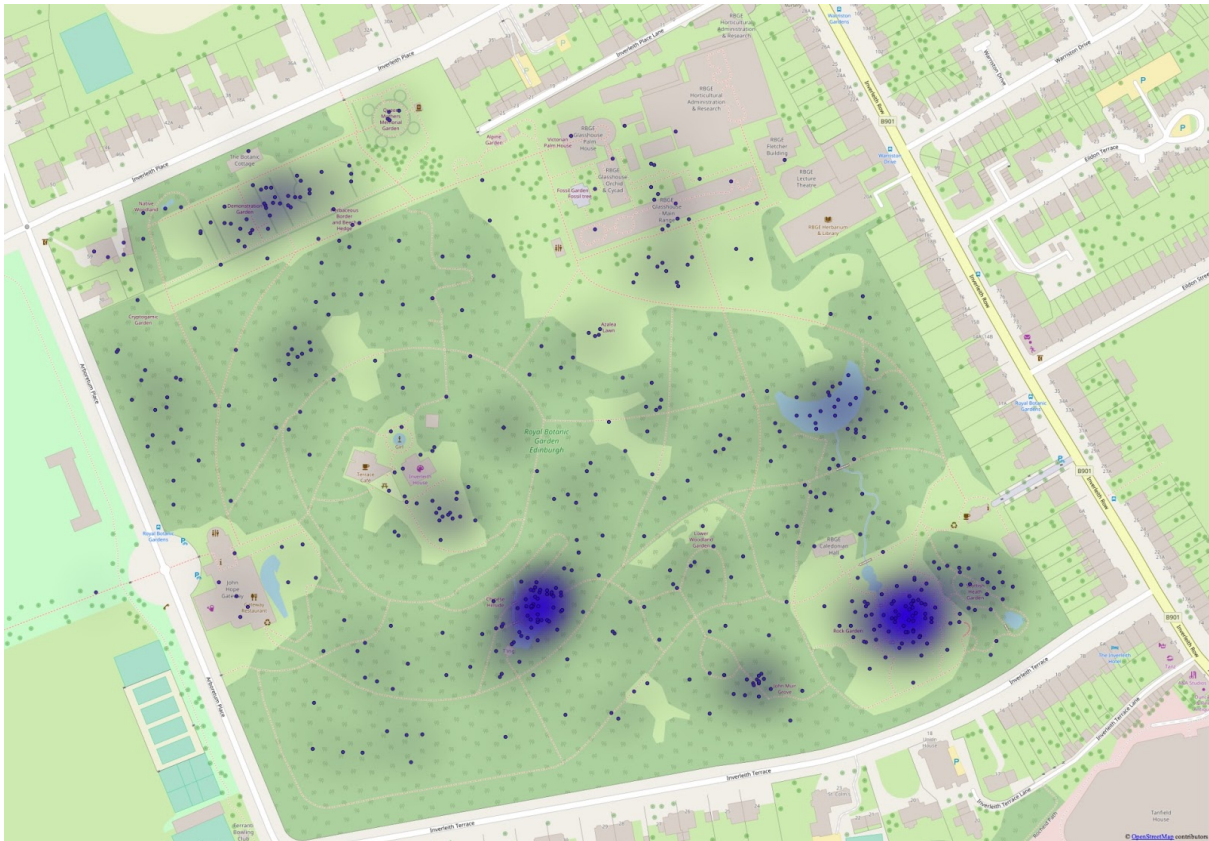
Participants were invited to turn over the questionnaire and mark the locations that made them feel soothed, excited or anxious in the garden on a map.

Only 181 (42%) put something on the map. This may have been because it was on the other side of the paper or it may have been because they didn't relate the map to the garden.

170 (41%) marked one or more location that soothed them, 100 (24%) that excited them but only 64 (16%) that made them anxious. 48 (12%) entered all three kinds of mark. A few people marked areas rather than placing points. These were converted to a set of points when the data was entered. The exercise resulted in 755 plottable points that are presented in following maps layered with a heat map to emphasise the clusters.

<sup>3</sup> See not on Likert scales at the end of the document

## Places that make you feel Soothed



Key soothing areas are the Rock Garden, the Chinese Hillside, the Pond and the Edible Gardening area. Three out of four of these areas include water features.

## Places that make you feel Excited



People appear to find the Rock Garden and the area around the Botanic Cottage as exciting. A few also marked Inverleith House lawn.

The map below shows anxious places that were marked.

Places that make you feel Anxious



Notable are the cafe and the roads. A few people are anxious around the glass houses.

## Comments on Map

There was a text box next to the map with the question: “What do you find **soothing** (or not) about a visit to the Edinburgh Botanic?” Below is a word cloud of the results (The word “soothing” was removed as we were asking them to mark soothing places on the map and that word would appear a lot.)



## The Image Picker

Part of the exhibition consisted of a screen displaying two pictures from the Project Soothe collection above a wooden board with just three buttons on it. Participants were asked: “Which image do you find more soothing? Please press the left or right button - or the centre button if you find them equally soothing.”



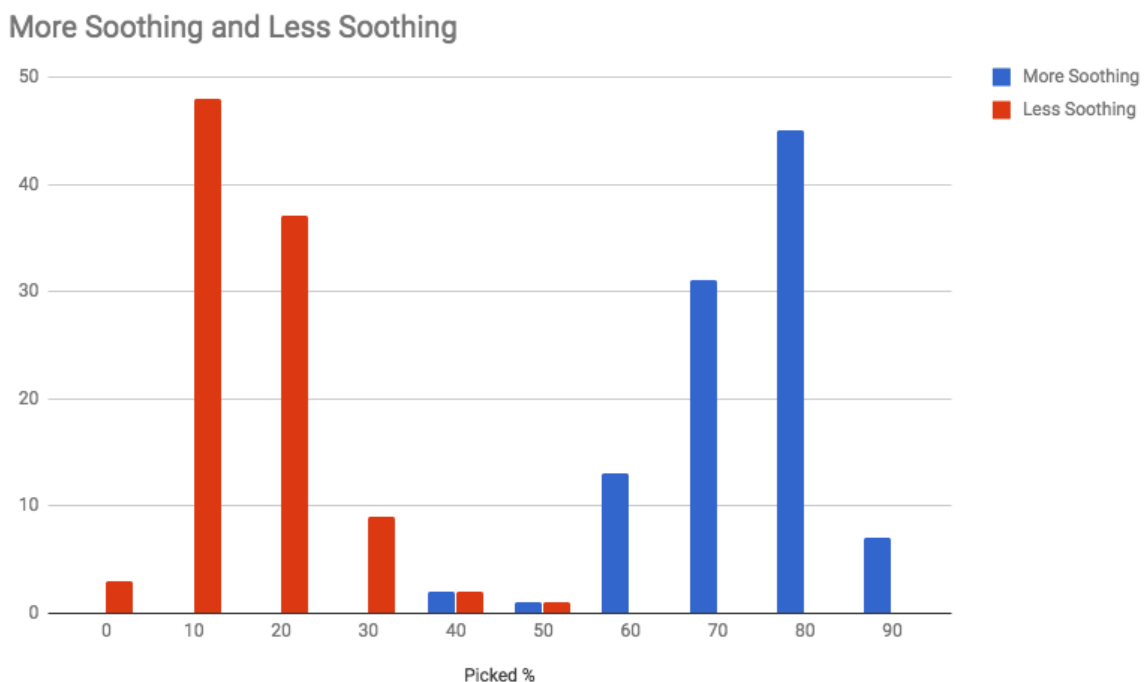
Which image do you find more soothing?

Please press the left or right button - or the centre button if you find them equally soothing.

After a button was pressed a popup displayed how many times that particular image had been shown and how many times it had been picked. Two new images were then displayed and the cycle repeated.

To create a pair of images for comparison one image was randomly selected from a set of one hundred images from the upper quartile of Soothing images as they had previously been scored on a Project Soothe online study. The other image was randomly selected from a set of one hundred images from the bottom quartile of soothing images. The pair of images were randomly assigned to appear on the left or right. We therefore knew that one image was always likely to be considered more soothing but that it wouldn't always be displayed on the left or right. This is a very different way to the way the images were rated on the previous online study and we wanted to see if it would give similar results.

This exhibit proved very popular with the buttons pressed a total of 8,132 times: left 3,588 times, right 3,618 times and the centre button 926 times. The histogram below shows the frequency distribution of the percentage of times images were chosen. It shows very clearly that exhibition participants differentiated between the two sets of images in a similar way to the online citizen scientists.

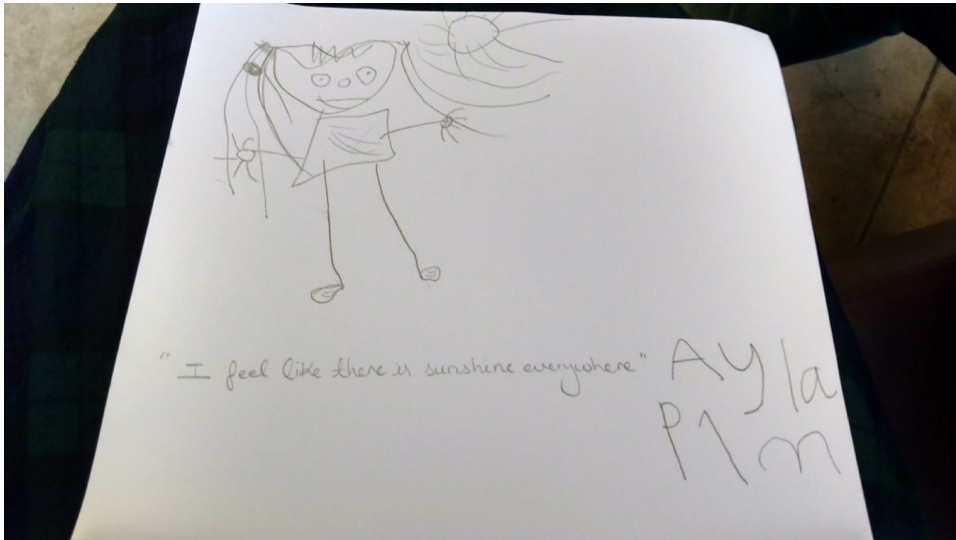


## Exhibition Visitors' Experiences

We had many conversations with visitors. Most visitors stated that that they stumbled across the exhibition during a trip to Royal Botanic Garden Edinburgh. We were really struck by how enthusiastic these visitors were about the exhibition and how keen they were to learn about the project. Many people were curious about the ultimate aims of the project, the theory behind the work and asked lots of questions. Some visitors offered their ideas for novel ways to use the Project Soothe materials and a few people even suggested collaborating together in new projects. Our visitors particularly highlighted that the exhibition was a peaceful place to retreat to. We noticed many repeat visitors.

Our visitors were of all ages and from all over the world. Children enjoyed looking at the pictures and taking part in rating images on the interactive booth. The pencils and pens for

filling out questionnaires became useful art material for our younger visitors. One particular visitor gifted us a drawing of how being in the exhibition made her feel.



In addition to completing questionnaires at the exhibition, visitors became involved through our website by submitting photographs and completing surveys. Many visitors chatted about what wellbeing meant for them, with some disclosing their own experiences of coping with stress. The exhibition appeared to function as a conversation starter about mental wellbeing. Perhaps due to the common nature theme of our submitted images, people chatted a lot about the role of nature and access to the outdoors in wellbeing.

## Notes on interpreting the word clouds.

Word clouds were generated by <https://www.jasondavies.com/wordcloud/> Weight was based on log of the frequency of the words. Clouds are built from the middle out so words near the centre have more significance. Prior to generating the cloud the text was cleaned of punctuation and other marks and nonwords that were the result of verbatim transcription of handwriting. The word "images" was removed from the images panels comments and the word "soothing" was removed from the map comments. Word clouds are useful visual indications of the content of a corpus of text but should be interpreted with care.

## Notes on Likert type Scales

Likert scales are frequently used in questionnaires but need to be interpreted carefully. For example some people are reluctant to score maximum or minimum values and this can be corrected for when looking at multiple questions. There is also debate over whether the data can be treated as interval or ordered-categorical data. Here we are just presenting the raw the data of how people ticked the boxes.



## Acknowledgements

**From RBGE:** Elinor Gallant, Vlasta Jamnicky, Max Coleman, Ian Edwards

**Other contributors:** Matthias Schwannauer, Angela McLaughlin, Michaela Cook

Project Soothe, including the exhibition, was funded by British Academy / Leverhulme Trust Small Research Grant, in addition to previous seed funding from the University of Edinburgh. We are grateful to our funders, RBGE and University of Edinburgh colleagues, and visitors for making this exhibition a success.

# Appendix: Panels and Themes

Panel 1: Flowers



Panel 2: Animals



Panel 3: Water



THE UNIVERSITY of EDINBURGH

Panel 4: Landscapes



THE UNIVERSITY of EDINBURGH

Panel 5: Landscapes



THE UNIVERSITY of EDINBURGH

Panel 6: Animals



THE UNIVERSITY of EDINBURGH

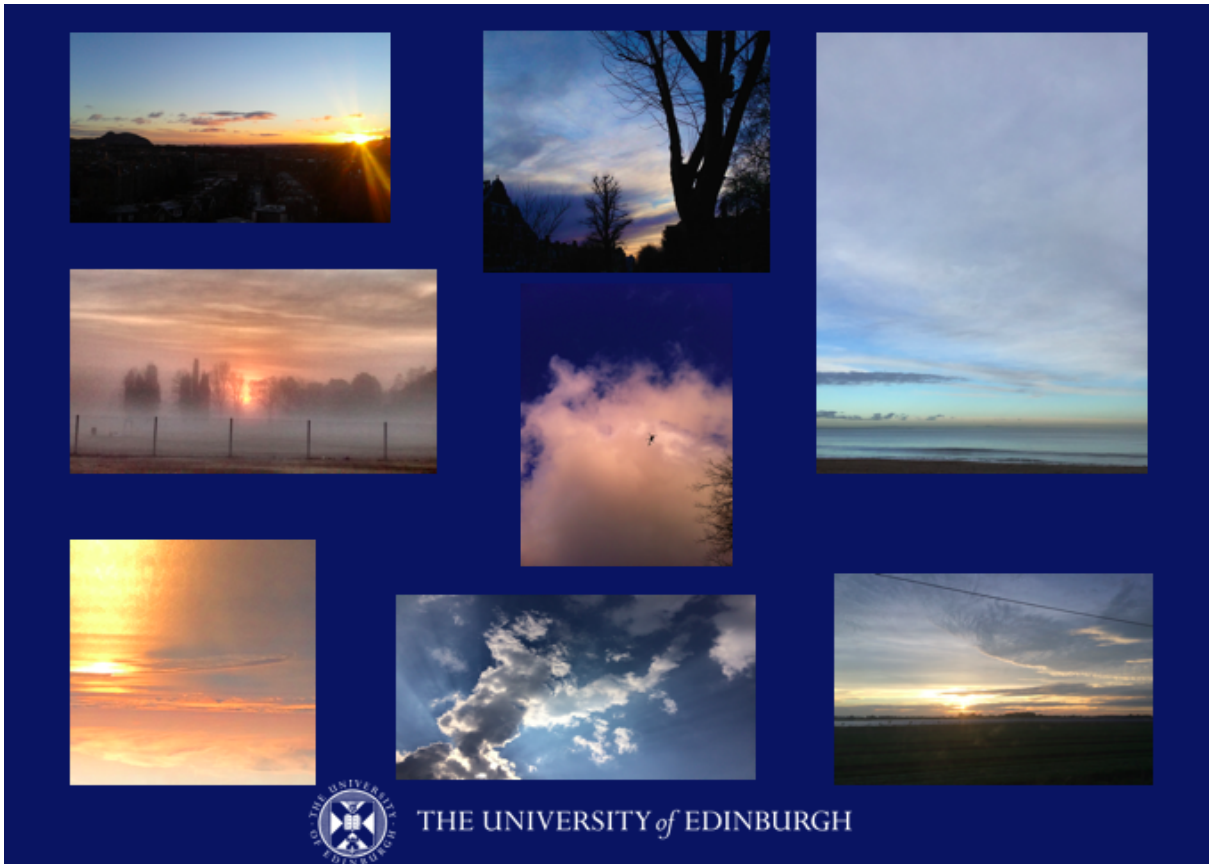
Panel 7: Water



Panel 8: Sky



Panel 9: Animals



Panel 10: Water



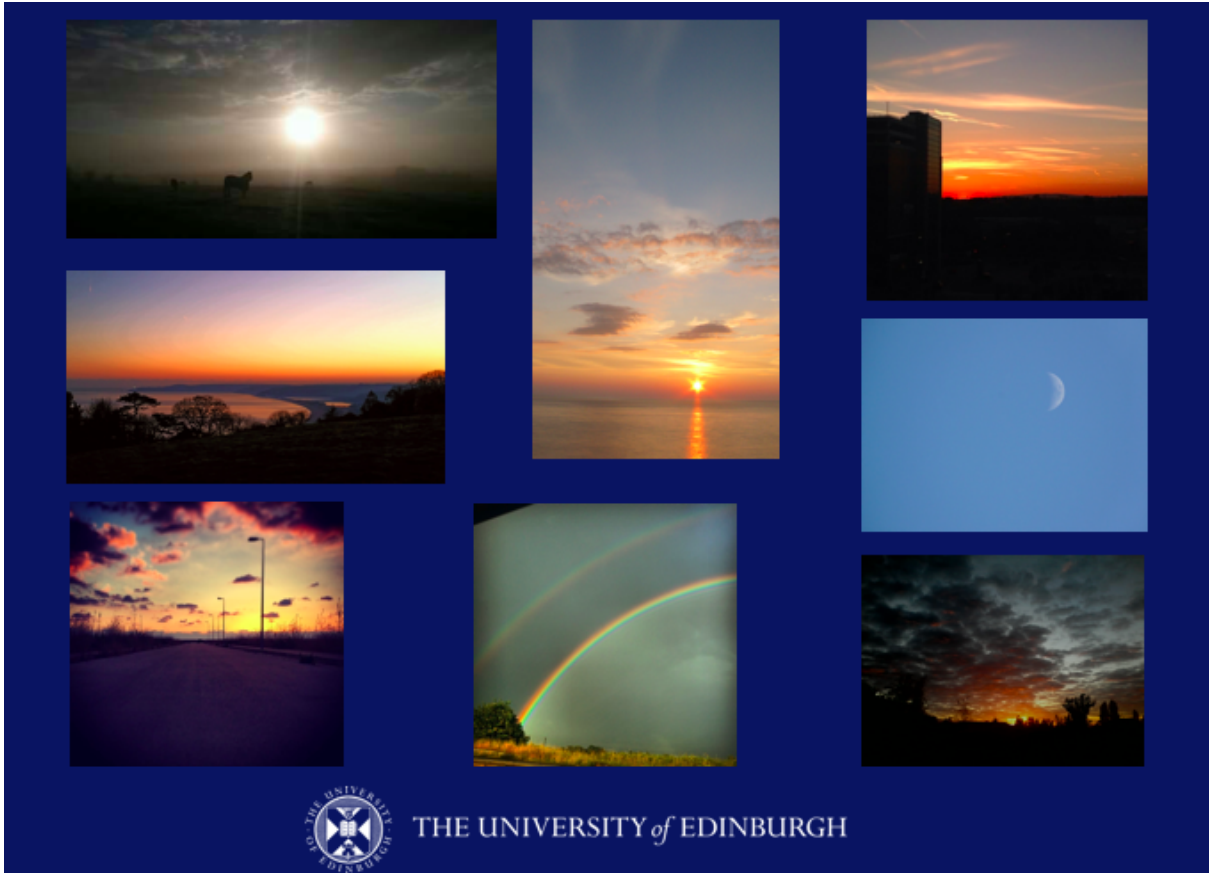
Panel 11: Landscapes



12. Flowers



13. Sky



THE UNIVERSITY of EDINBURGH

14. Flowers



THE UNIVERSITY of EDINBURGH