



National
Trust

Places that make us

Research report



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Foreword

‘The need of quiet, the need of air, and I believe the sight of sky and of things growing, seem human needs, common to all.’

Octavia Hill wrote these words seven years before she founded the National Trust. It was a belief that inspired and guided the organisation that today cares for 775 miles of coastline, over 248,000 hectares of land and over 500 historic houses, castles, ancient monuments, gardens, parks and nature reserves, for ever, for everyone.

Today, we operate in a very different world to the one Octavia knew but the enduring human need for these places is as strong as ever. Places that make us feel calm or provide us with space to think; places we feel a deep pull towards or that have a physical effect on us when we visit; places where we feel ‘at home’ or that make us feel complete; places to restore us or inspire us.

The poet, W.H. Auden coined the word ‘Topophilia’ in 1948 to describe the way people experience a strong sense of place; often becoming mixed with their sense of identity and an underlying sense of belonging.

We set out to explore and understand this visceral but intangible feeling more deeply. Working with leading researchers and academics, and using cutting-edge fMRI brain technology, we examined how places affect people, how they become special and why we feel a pull towards them.

The findings of this research have reinforced what Octavia instinctively understood about the importance of places in shaping our lives. Places make us who we are, and we relate to them in an emotional, spiritual and physical way. The National Trust’s work helps care for the nation’s special places for ever, for everyone.

Nino Strachey, Head of Research and Specialist Advice for the National Trust

Topophilia
(from Greek
topos “place” and
-philia, “love of”)

People make
places and places
make people



II. Executive summary

From the place of your earliest memory to a setting which invokes memories of a loved one, we all have places that are intensely meaningful to us. There are places where we feel calm or that provide us with space to think; places we feel a deep pull towards or that have a physical effect on us when we visit; places where we feel ‘at home’ or that make us feel complete.

This visceral but intangible feeling is something the National Trust set out to explore; to **understand the depth of people’s connection with place.**

This is the **first piece of research of its kind** and has revealed that meaningful places generate a significant response in areas of the brain most commonly associated with positive emotions; **demonstrating the strong emotional connection between people and places.**

Working with leading academics at the University of Surrey* and research experts at Walnut Unlimited, the National Trust commissioned an in-depth study into two key areas:

1. Neurophysiological and emotional responses (facilitated by Functional Magnetic Resonance Imaging, fMRI)
2. Behavioural responses



Prof. Opitz, University of Surrey

*The University of Surrey’s department of Psychology has an established neuroscience research department and is a member of the Combined Universities Brain Imaging Centre (CUBIC). Professor Bertram Opitz, who led on this study, is well-known and respected in his field of Neuroimaging & Cognitive Neuroscience.

Neurophysiological evidence

- The research has revealed for the first time that **key areas of emotional processing in the brain are activated** by a place deemed to be special by an individual, supporting the feelings of a deep visceral connection
- Identifying areas in the brain that responded to a place with personal meaning, we demonstrated that **the brain generates an automatic positive emotional response to such places**
- This response to special places was found to be much higher in the amygdala (a key area in the brain known to process emotion) than our response to meaningful objects, such as a wedding ring or photograph
- Therefore, we can conclude that **significant places more likely contain greater emotional importance than objects**, as areas in our brain involved in emotional processing respond more strongly to significant places
- Places with meaning evoke powerful emotional reactions, indicating that places can be more than just physical spaces. **These emotional reactions have an impact on us physically and psychologically**
- The research highlighted that personally relevant places **are able to** elicit thoughts about oneself being in this place, suggesting that we transport ourselves mentally back to places of meaning

Behavioural evidence

- We have seen that places evoke powerful emotional reactions which have psychological benefits, but these places also encourage **behavioural responses that have the potential to benefit others as well**
- We have found that the connections people have with places develops in different ways and at various points in their lives. The **reasons behind these connections** can be categorised as:

- **Connections to their formative years**
- **Connection to significant others**
- **Places for the here and now**

- Furthermore, there is a real sense of **belonging and self-identity** evoked by places that are meaningful. 8 out of 10 describe their place as being part of them (86%) and 58% agree that they 'feel like I belong' when visiting this place
- This feeling can be shared with others as 75% agree that they would like to pass on their love of their place to significant others and there is also a desire to share the connection they have with the place with others (79%)
- The results indicate that places support us in four areas; **mental wellbeing, nostalgia, security and survival**
- For many, the strength of the connection with places manifests through **a strong desire, and need, to protect these places for future generations** with 61% saying that they do try to protect the place that is most important to them
- 92% agree that they would be upset if the place was lost. This is **strongest amongst those whose meaningful place is rural (95%) compared to urban (91%) places**

This research has demonstrated that there is a strong physical and emotional connection between places and people – and that these places have a positive effect on our wellbeing.

The findings of the fMRI study prove that meaningful places generate a significant emotional response in core emotion processing areas of the brain, which is consistent with the physical sensations people experience in these places; such as joy, calm and feeling energised.

This research underlines the importance of caring for special places for future generations to enjoy.



Dolmelynllyn, South Snowdonia

III. Research approach



To explore the concept of love of place (topophilia; the idea that people have deep visceral reactions when visiting special places), the National Trust worked with the University of Surrey and external research partner, Walnut Unlimited.

The research took **three different approaches** to understand the emotional connection between people and place:



1. fMRI (functional magnetic resonance imaging)



2. Qualitative



3. Quantitative

For each phase, meaningful places were defined as places located outside of the home i.e. not a person's home, that they have a strong emotional connection with. These included woodland areas, coastal areas, buildings and historic sites.



Heddon Valley, Devon



1. fMRI research: The neural correlates of connection with place

There has been little academic research into the actual emotional effect that places have on people. To gain a deeper understanding of our physiological response, we used fMRI to track regional changes to areas of the brain associated with emotional processing.¹

With fMRI we can visualise the whole brain, allowing us to **look into** areas known for processing emotion such as the amygdala. Specifically concentrating our analysis on these areas allows us to understand the emotional effects of place.

We know that increased activity in a **particular brain** region requires increased levels of oxygen (supplied by blood) to that region. By tracking regional changes in the oxygen supply to the brain **we were able** to investigate neurophysiological responses to special places in the regions associated with emotional processing.²

‘fMRI opens a window into the brain allowing us to explore automatic and hard to verbalise emotional responses.’

Prof. Opitz, University of Surrey

The fMRI study was carried out with Professor Opitz from the University of Surrey and the CUBIC fMRI facility. Twenty people participated in the study. The participants viewed three different types of images in a random order:

1. Images of ten places and ten objects meaningful to them (supplied by the participants prior to scanning)
2. Images of ten common places and objects (everyday places and objects)
3. Ten positive and ten negative International Affective Picture System images (IAPS) that had been quantified for their emotional content.³

Each image was presented three times. The different types of images selected and used in this study allowed us to create contrasting conditions to uncover the neural underpinnings of our need for place, proving connections to meaningful places went beyond the pure emotional.



Prof. Opitz, University of Surrey



2. Qualitative in-depth interviews: Understanding the language

This stage of research involved in-depth interviews with 11 members of the public who were a mix of National Trust members and non-members to collect rich accounts of their connections with places close to their heart. Ultimately, we wanted to understand the language used when talking about their meaningful places.

The 11 members of the public were from different parts of England, Wales and Northern Ireland, of different ages and different life stages.

We met each member of the public twice. The first visit involved an interview at their home to talk about places that are important to them. The second visit involved taking them to one of their special places. To capture the excitement and emotions naturally, the storytellers were not told which of their places they would be taken to.



3. Quantitative online survey: Measuring the link between people and places

A nationally representative sample of over 2,000 people completed an online survey to quantify the link between people and places. Respondents were asked to describe a significant place, where it is and why it is special to them. With their meaningful place in mind, we then asked them a series of questions to explore the benefits and feelings evoked. Once this emotional value had been captured, we sought to understand what it would mean to people if this place no longer existed and how important it was to protect this place.



River Stour at Flatford, Suffolk

IV. fMRI findings:

- i. Deep emotional processing; Amygdala
- ii. Positive or negative response; Medial Prefrontal Cortex
- iii. Thoughts about oneself in this place; Parahippocampal Place Area





fMRI research in progress

What do we know about how the brain processes places of importance?

It is clear that people have a strong connection with place. However, we wanted to explore the neurological underpinning of this relationship.

Using fMRI we were able to understand how people's brains react to images of places that are meaningful to them.

To explore this relationship people were shown three different types of images in the fMRI scanner:

1. Images of places and objects meaningful to them
2. Images of common/everyday places and objects
3. Positive and negative IAPS images known to generate a general emotional response

Identifying the emotional response to special places in the brain:

By searching for areas in the brain that were (significantly) more engaged when seeing places with a personal significance and comparing this with images of common, everyday places, we identified three response areas of the brain:

1. Left amygdala
2. Medial prefrontal cortex (mPFC)
3. Parahippocampal Place Area (PPA)

1. Deep emotional processing; Amygdala

The first area identified in our analysis was the amygdala. Widely accepted as playing a key role in the automatic processing of emotion,⁴ this relatively small brain region is located deep within the brain and measures just over a centimetre.⁵ It is fundamental to our automatic, unconscious processing of emotion. With connections across the whole brain and throughout our body, it is the amygdala that makes us feel the intensity of our emotional response. From the alert bodily state of the famous automatic fight or flight response⁶ to uplifting feeling of happiness and pleasure,⁷ the amygdala is central to the intensity of this emotional response.

A more detailed analysis of the activity in this brain area was carried out to understand how the amygdala responded to the different images people saw. In line with previous research, the positive and negative IAPS images used in our study elicited the largest response. This expected response demonstrates that the amygdala is responding in our study significantly to images that have emotional content.

We also found that special places elicit a significantly higher response in the amygdala than common places. This suggests that **the mere image of a place that is meaningful is able to trigger an automatic, unconscious emotional response in the amygdala.** We observed this effect in the left amygdala, which is consistent with existing studies which shows that the left amygdala responds preferentially to positive imagery.⁹

But is this response in the amygdala unique to places or is it just a response to imagery that means something to us?

Here we found two pieces of evidence that suggest that the amygdala responds in a specific way to places with meaning:

- **Firstly, we did not find that meaningful objects elicit a larger response to common objects, i.e. the effect we saw for places was not found for objects**
- **Secondly, the response in the amygdala to meaningful places was significantly higher than to meaningful objects**

This suggests that our automatic emotional response to places with meaning goes beyond general personal relevance. Places that are special to us generate a stronger automatic emotional response that is not seen for meaningful objects. Therefore, it may be argued that places contain a greater degree of emotional charge than objects.

2. Evaluating the positive or negative response; Medial Prefrontal Cortex

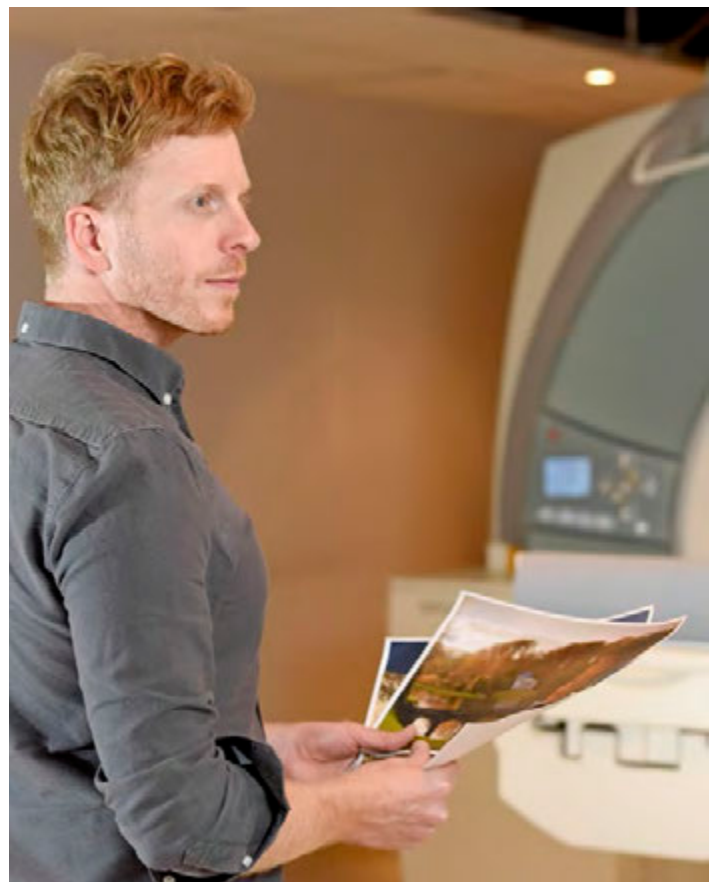
The second brain area identified when seeing images of personally emotive places was the medial prefrontal cortex (mPFC). While the amygdala identifies that there is something that needs to be responded to, it is the mPFC that evaluates the situation; for example whether it is a positive or negative situation, or whether it evokes feelings of similar experiences, and so on.

Located on the inside of our frontal lobe, the mPFC is an area known to be more engaged during the processing of positive pictures, self-relevant imagery and emotional appraisal (D'Argembeau et al., 2007; Kensinger & Schacter, 2006; Wrase et al., 2003) as well as memory¹⁰ processing. Here, as with the amygdala, we saw a significantly stronger response to places with meaning than common places. Consistent with previous studies, but here shown with places, this result suggests that the places with meaning trigger the processing of positive experiences associated with place. Activity in the mPFC to meaningful places suggests that the positive memories and feelings we associate with that place are accessed and become conscious.

'It is clear that the brain treats places that are meaningful very different to common places. Meaningful places generate a strong emotional response'

Prof. Optiz. University of Surrey

Activity in the mPFC to meaningful places suggests that the positive memories and feelings we associate with these places are accessed and become conscious.



Dr. Myers, Walnut Unlimited, working with the University of Surrey

3. Eliciting thoughts about oneself being in this place; Parahippocampal Place Area

The final brain area showing a strong response to places with meaning was the Parahippocampal Place Area (PPA). Previous studies have already identified that this region responds preferentially to place, rather than other types of imagery or emotional content.¹¹ Our analysis found that response in the PPA was significantly higher to meaningful, compared to common places. While this place specific response is in line with previous findings, we suggest that personally relevant places elicited thoughts about oneself being in this place.

Later in this report we will see that people report a wide variety of intense emotional feelings in response to a meaningful place. The fMRI results demonstrate a strong neurophysiological basis for this.

It is clear that key areas of emotional processing are activated by special places. Firstly, we have seen evidence that the amygdala generates an automatic emotional response to these places. Moreover, we have shown that our feelings are made conscious through mPFC by accessing memories of the place and appraising the situations associated with that place. Finally, even non-emotional processing areas appear to play an important role, eliciting thoughts about oneself being in this place.

‘Our fMRI study has established that viewing images of meaningful places create a significant emotional response in core emotion processing areas of the brain, and this is also consistent with the physical sensations these places make people feel.’

Prof. Optiz. University of Surrey

Consistent with our earlier hypothesis, there is a deep underlying connection between people and places, something that can be triggered by a mere image of the place itself.

Furthermore, we hypothesised that the feelings evoked underlie this deep visceral connection with a place, a physical bodily response that they struggled to articulate.

This idea is consistent with our current knowledge of the brain regions discussed. While the amygdala response is one of the neural markers of this physical bodily response, the mPFC is more related to the verbal description of people’s feelings, which emerges in our qualitative findings.

V. Qualitative and quantitative findings



i. What type of place do people connect with?

People visit thousands of places over the course of their lives, however, not every place we visit becomes meaningful.

So, what sits at the heart of our connection to place? What is it that gives a place significance? And what effect does this have on people?



Cotehele, Cornwall

The types of places people spoke about were either urban

42%

or semi-rural and natural places

21%

Semi-urban and **urban places** include sports venues, schools and a person's hometown.

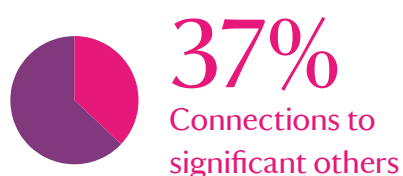
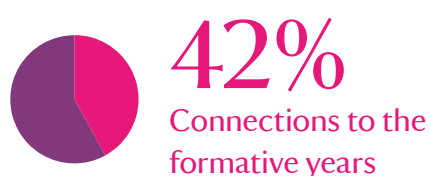
Semi-rural and **rural places** include woodlands, stately homes, mountains and beaches.

Other places mentioned included general locations in the UK (8%), for example "Yorkshire" or "Northumberland", and places further afield and outside of the UK (28%), such as "Greece".

ii. How connections are formed

The connections people have with places develop in different ways and at various points in their lives.

The reasons behind these connections can be categorised as:



(figure 1a)

Q8. Type of connection with their meaningful place

Throughout the years people are drawn back to the places they have a connection with.

Whilst each of these connections are different, and the number of times a person visits varies, they are equally significant in people's connections with places. What is common across all types of connection is the desire to be able to visit their places more often.

This desire indicates the strength of the connection people have with their meaningful place and the value it holds for them.



Baggy Point, Devon

How often participants visit their special place each year

(Average number of visits per year)

– Split by the type of connection



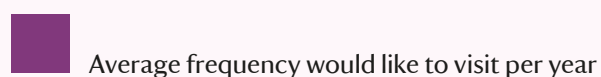
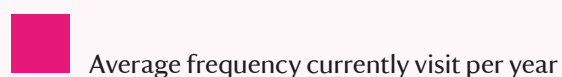
Connections to the formative years



Connections to significant others



Connections with the here and now



(Figure 1b)

Q9/10. Frequency currently visit and would like to visit meaningful place (Average no. per year)

Connections to the formative years

Connections with these places focus on nostalgia and memories of years gone by. The link with places from the formative years is very strong, with **42% of people having a connection for a places link to their formative years.**

These places have remained a stable force in people's ever-changing, and sometimes turbulent and stressful, lives. People fondly reminisce about a time when they felt a strong sense of belonging and identity or a strong sense of self-discovery.

'I first remember coming to Wycoller village when I was 6 or 7. I've got a lot of memories here of playing amongst the ruins, with my brother and sisters, while my parents watched me. It has made me who I am today, and whenever I visit those memories come flooding back.'

Frances, Lancashire



42%

Connections to the
formative years

Connections to significant others

Over a third of people (37%) say that their connection with a place is meaningful because of its link to a significant other. Their connections are formed through a shared experience with family members, friends or partners.

Those with significant others have found a place to enjoy and nourish together. The place has helped them learn about each other, their relationship and themselves. This place acts as a constant reminder to a special time with significant others.

'Morecombe Beach means so much to me and my family, we scattered my mum's ashes here and I too want my ashes scattered here with her. I feel a strong spiritual connection with Morecombe Promenade especially now that mum rests here.'

Ian, Lancashire



37%

Connections to
significant others

Connections to the here and now

Places can become special to us at any time and don't always centre on significant people or moments in our life, with **41% of people saying that their place is meaningful because of its connections with the here and now.**

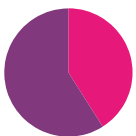
These places are often recent discoveries which are enjoyed and appreciated. They tend to be frequently visited (on average 30 times a year) either alone, with family or with pets. These places have less of a back-story for the people that visit, however, they are still emotive because of the benefits they offer (e.g. my thinking place, my relaxing place, my nearby place, my place for activities, my place to marvel at the natural landscapes etc.).

Places described as being meaningful for the here and now are more likely to be rural places (32%) than other types of connection, such as a park or nature reserve (7%) a lake or canal (5%) or a beach (4%). These are generally local to the person's home making them more easily accessible. They also included Urban locations (32%) that are frequently visited and often local such as a sports venue (5%: e.g. cricket stadium/football ground) or Religious site (4%: e.g. Church/Mosque/Temple). Places outside of the UK were also cited as being important for the here and now (26%) such as a holiday home or where family live.

The features of these places add to why it is defined as special e.g. the climate, the presence of animals and wildlife or the awe inspiring natural scenery. Above all, these places provide a sense of safety, pleasure, escapism, reflection or a place to appreciate nature.

'South Norwood Country Park gives me and my family so much. Whether we want to go cycling, go blackberry picking, go for a BBQ or play a game, it's there for us.'

Bello, London



41%

Connections with the here and now

To connect with a place, it must serve some sort of purpose, be it to help us connect with the past, with other people or the present.

How connections are formed supports the idea that not all the places we visit become meaningful. The connection we have with places in fact changes over time. The places we are currently connected to in the here and now will eventually become associated with nostalgia and the formative years.



Hanbury Hall & Gardens, Worcestershire

iii. Feelings evoked

There is a deep underlying emotional reaction that drives a connection with a place.

Over three quarters of people (79%) report experiencing an internal pull that drives them to visit their meaningful place.

This is strongest amongst 35-54 year olds (82%).

We can hypothesise that the feelings a place evokes underpins this deep visceral connection and can range from feelings of calm, joy and contentment to energy, discovery and a sense of identity and belonging.

Calm

Two thirds (64%) agree that their meaningful place makes them feel calm (32% cite feelings of calm as the first emotion that comes to mind when thinking about their special place).

Feeling calm is strongest amongst those whose connection to the place is for the 'here and now,' with almost three quarters (72%) agreeing that their place makes them feel calm. That is compared to 62% of those that are connected to a place because of significant others and 53% connected for its connection to the formative years.

'It feels lovely and tranquil at Bushy Park, the sound of birds and streams relax me and ease me into a chilled state of mind where I can forget about the daily grind.'

Nina, London

Joy and contentment

Three in five (63%) agreeing that they experience feelings of joy and contentment when visiting their place. Almost a third of people (29%) cite a feeling of 'joy' as the first word that comes to mind when thinking about how their place makes them feel.

The feeling of joy is not only expressed in words, but also in body language and expressions such as smiling or an improved mood. It is a sense of relief and release from everyday life. This feeling of joy is further heightened through the appreciation of the place, its beauty and the activities that are available. Places that trigger the joy emotion contribute to them becoming special to us.

'The feelings I get when at Box Hill I don't get anywhere else. It makes me want to relive so many moments and just makes me feel really happy and excited inside.'

Hannah, Surrey

Energy

Visiting these spots gives people a new lease of life and helps re-energise them, with **28% of people mentioning that their place makes them feel energised** e.g. exhilarated, youthful, invigorated, excited. This is strongest amongst younger people - over half of 18-34 year olds agree that their place makes them feel excited, compared to 40% of 55+ year olds. It may be that while the connection a person has with a place is similar across life stages (for example in how the connection is formed), it manifests itself differently across age groups.

What people do at their emotive place differs by age profile. Younger people are looking for more of an active experience compared to the older generation, who are generally more reflective. We have seen older adults (55+ year olds) are significantly more likely to feel nostalgic (68% vs. 57%) and reflective (61% vs 55%) compared to 18-34 year olds.

'Blowing off steam by marching up the Mendip Hill, seeing the incredible view and feeling the wind in my hair just makes me feel alive.'

Kathryn, West Country



Afon Tarell River, Brecon Beacons National Park, Wales

Discovery

Meaningful places offer an opportunity for personal discovery, as well as the discovery of beauty and nature. Exploration of the place and the potential for adventure is an encouraging prospect, with **14%** mentioning feelings of discovery.

Discovery also fuels the appreciation for place and maintains excitement for repeat visits, as people are interested to see something new or different. Although the physical structure may not appear to change, the place may change throughout the seasons and over the course of the year, which gives people a reason to return.

‘Castle Road is the place that helped define me, and made me discover my full potential.’

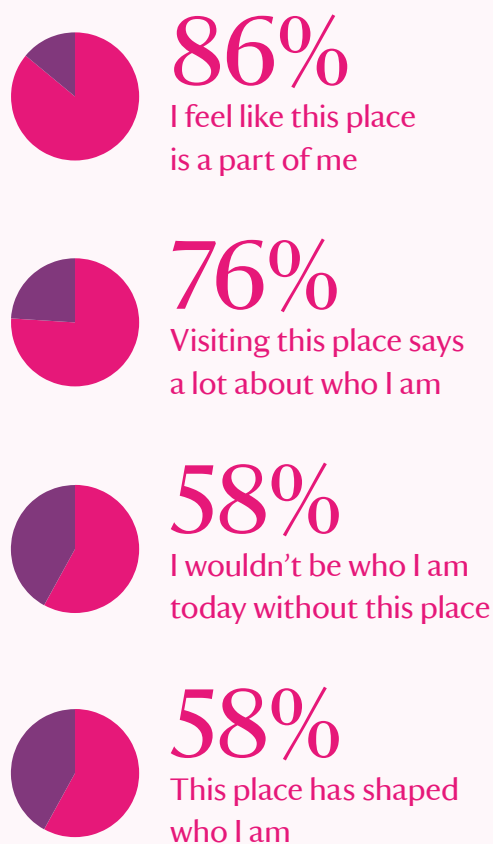
Corinne, Lancashire

Identity and belonging

There is a real sense of belonging and attachment with places that are meaningful to people. Eight out of ten describe their place as being part of them (86%) and 58% agree that they ‘feel like I belong’ when visiting this place. This underpins this physical pull that people feel, as 15% mention a sense of belonging when thinking about how their place makes them feel.

Younger people are more likely to feel their special place is a part of their identity, with 67% agreeing that ‘this place has shaped who I am’.

Percentage agree that the statement describes what their meaningful place means to them:



(figure 1)

Q14. What does the place mean to you? – Identity and belonging statements

iv. Benefits of visiting places

So far it has been shown that places with meaning evoke powerful emotional reactions, indicating that a place can offer more than just a physical space, but has a long-lasting effect that impacts us physically and psychologically.

These results indicate that the functions of special places are shown to support us in three areas; **mental wellbeing, nostalgia and security & survival.**

Positive mental wellbeing: perspective, rejuvenation, escape, headspace.

The feelings of calm and joy that people experience at their special place supports their mental wellbeing and ability to achieve their goals.

When people spoke of places that had an emotional meaning to them, they spoke about how it played a part **in re-evaluating their stresses and worries, providing solitude and an opportunity for 'me-time'**. Spending time at a quiet and relaxing place facilitates self-reflection, rejuvenation and meditation. Upon leaving their meaningful place, people return to their day-to-day feeling refreshed and re-energised.

Many people feel that their special place helps to ground them. It provides a sense of identity, while reminding them of how far they have come. This is often aided by a higher view overlooking a valley and putting any problems or worries into a wider context. This is generally found to be the case in more rural and outdoor spaces because collectively, the fresh air and height empowers them and reminds them that they are simply one person in a big world.

'Whenever I come to Cheddar Gorge, all my worries from daily work and life are put into context and I'm reminded that there's much more out there in the world, I'm just one small person.'

Adam, West Country

There is clear evidence that visiting meaningful places promotes greater mental wellbeing.

Natural places especially promote greater wellbeing (figure 2a - page 28) as do places for the here and now (figure 3 - page 30).



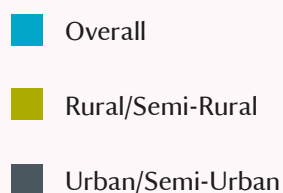
Octavia Hill

These findings echo what **Octavia Hill, the founder of the National Trust**, intuitively knew when she set out her mission to provide places for all people:

‘We all need space; unless we have it we cannot reach that sense of quiet in which whispers of better things come to us gently... places to sit in, places to play in, places to stroll in, and places to spend a day in.’

Which of the following do you experience when visiting your meaningful place?

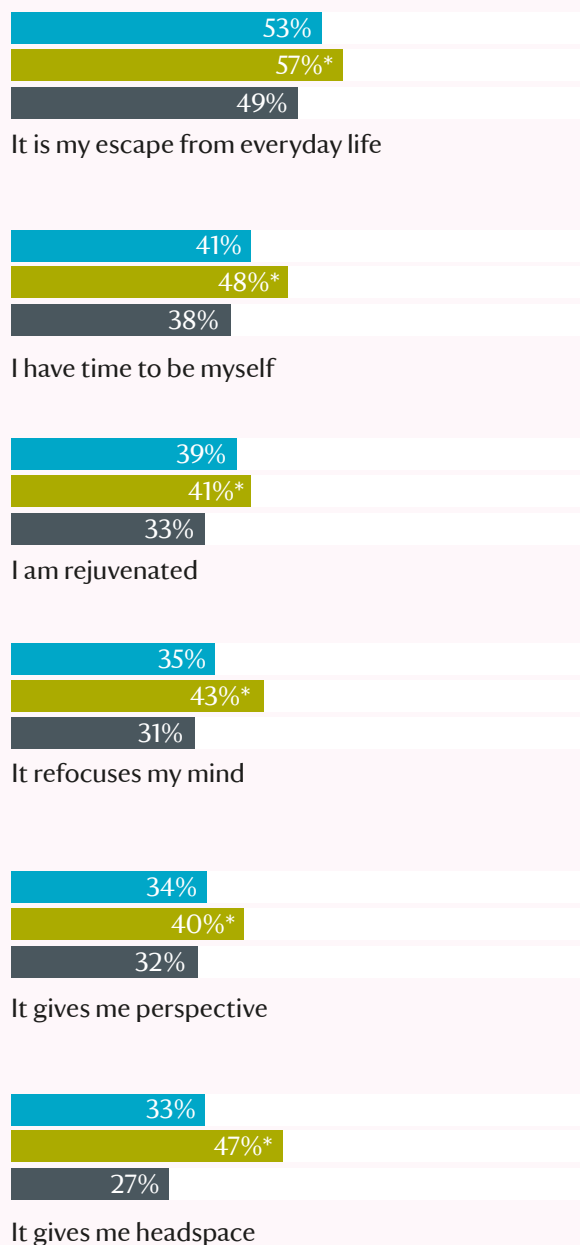
- Split by the types of meaningful place



(figure 2a)

Q16. Benefits of visiting meaningful places
- Mental Wellbeing (%)

*Significantly different score between
natural and built-up places



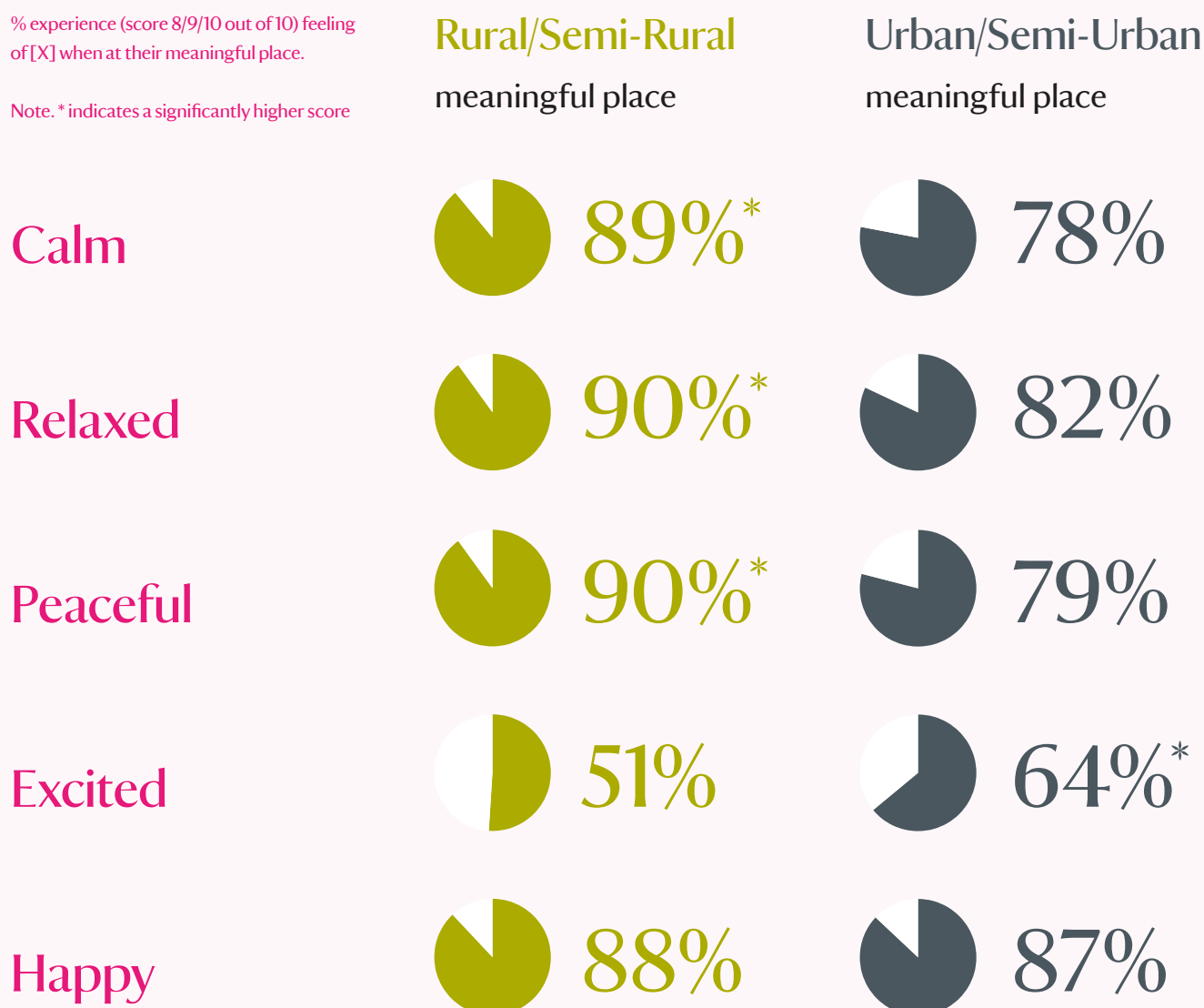
Whilst urban places are clearly important for mental wellbeing, these benefits of meaningful places are greater for rural places (see figure 2a - page 28).

This is likely driven by how the place makes them feel with significantly more people stating that rural places make them feel calm, relaxed and peaceful compared to those with urban meaningful places (figure 2b) of which significantly more say urban places make them feel excited.

(figure 2b)

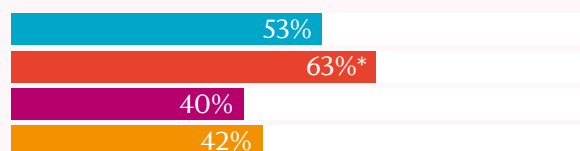
% experience (score 8/9/10 out of 10) feeling of [X] when at their meaningful place.

Note. * indicates a significantly higher score

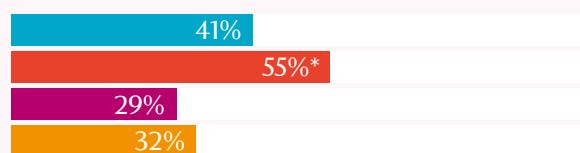


Which of the following do you experience when visiting your meaningful place?

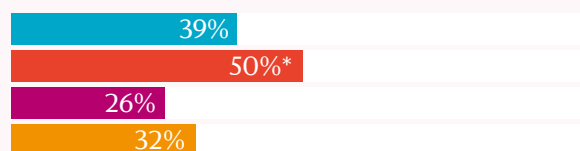
- Split by type of connection with the place



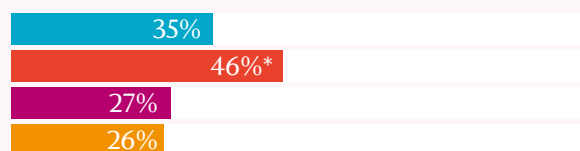
It is my escape from everyday life



I have time to be myself



I am rejuvenated



It refocuses my mind



It gives me perspective



It gives me headspace

(figure 3)

Q16. Mental wellbeing benefits of visiting meaningful places (%)

*Significantly different score between ways connection is formed

Over half said that their meaningful place is their escape from everyday life and this was highest amongst those with a rural meaningful place (57%) and those with a connection to the here and now (63%).

Being outdoors in the fresh air, and away from the stresses of daily life allows people to escape from the everyday, and just enjoy the surroundings they are in. For many, it is a welcomed break from chores, work pressures, other worries and allows for reflection and distraction.

‘You wouldn’t get this from looking at me... but I’m a bit of a loner. I enjoy my own company and to be in a place where I can just get away and be with myself – yet happy and content – is the best.’

Corinne, Lancashire

‘The moment I enter the park the stresses from everyday life just leave me and I have space to think. I forget about the chores and my work and just enjoy the space. When I haven’t visited all week and I’m grumpy my wife jokes that I need to go to the park and relax’

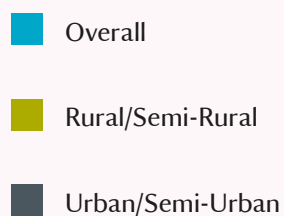
Bello, London



Ickworth, Suffolk

Percentage agree with description of mental wellbeing experienced when visiting their meaningful place:

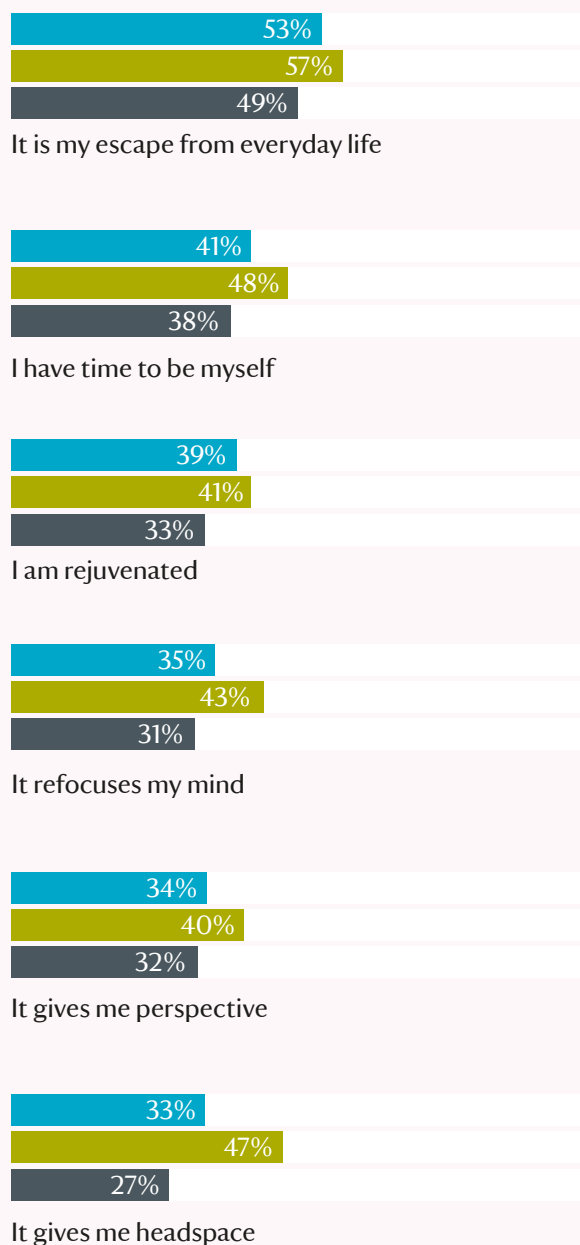
- Split by the type of place



(figure 4)

Q16. Mental wellbeing benefits of visiting meaningful places (%)

*Significantly different score between type of meaningful place



Nostalgia and an opportunity to reminisce

Meaningful places serve as a physical representation of important events, preserving their essence and acting as a shortcut to unlocking the memories, emotions and senses associated with past experiences.

One key motivator for visiting a meaningful place is to be transported to 'the good times' – a time less complex.

An opportunity to fondly reflect on the past. The best way to reminisce is through visiting and reliving the familiar sights, sounds and smells. This is consistent with research which shows that nostalgia is important for providing a stable sense of self and allowing people to compare their present and past self, which has a restorative impact on aspects of psychological wellbeing such as self-esteem.¹² As such we can hypothesise that places which facilitate nostalgia can also help achieve this.

Looking at the types of connection that people have with places (figure 5) we see that feelings of nostalgia are much stronger for people whose connection with a place is formed from its connection to the formative years, their early life and places that are meaningful for connections with significant others.

As we might expect, nostalgia is shown to be stronger amongst older people. 60% of 55+ year olds agree that their place reminds them of a significant time in their life, compared to 54% of 35-54yr olds, 46% of 18-34yr olds which is likely to be a result of age and amount of experiences. Unsurprisingly, places that are important for the here and now evoke weaker feelings of nostalgia.

'I have been coming to Blaise Castle since I was a child and it's never changed in all the years I've been visiting. I love that, because it means it's the same in my memories as it is in real life, and I can recreate the memories easily when I visit. It's my safe place and I'd be very sad if it were to change'

Jan, West Country



Blaise Hamlet, Bristol

Which of the following do you experience when visiting your meaningful place?

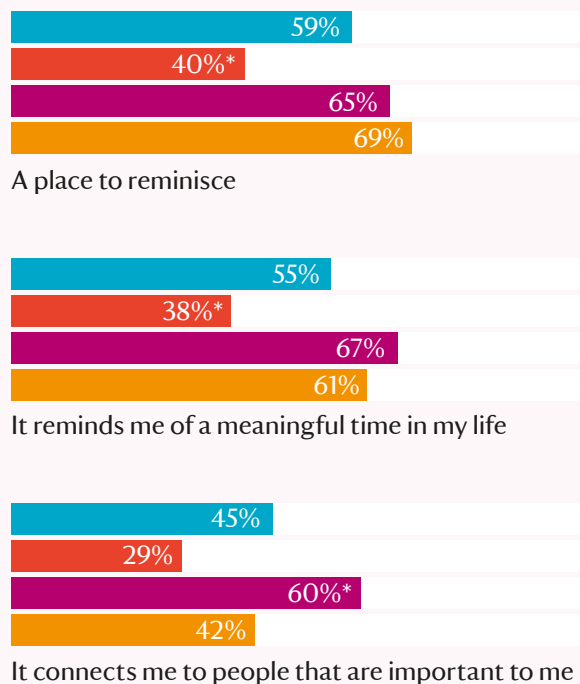
- Split by type of connection with the place



(figure 5)

Q16. Nostalgia/Memories benefits of visiting meaningful places (%)

*Significantly different score between ways connection is formed



Comfort: safety and survival

When asked about how their places make them feel, 60% agree that they feel 'in a safe place' when visiting, while 42% say their place makes them feel reassured, soothed, familiar, comforted and cosy. They spoke of both physical and mental safety.

Mental safety provides a sense of emotional security, refuge and comfort. This stems from the fondness and familiarity of the meaningful place.

Physical safety is an important element of many of these places, particularly for parents or grandparents who want to allow their (grand)children to run free, without worry.

'I know Clandon Park House so well, and I feel like it knows me too. Whenever I go back there I feel protected, it's looking out for me and we've got a mutual respect for each other'

Elliott, London

Research has shown that closeness to safe places also allows for an individual to feel more confident in exploring potentially unknown places, aiding discovery.¹³

v. Passing on and sharing places

We have seen that places evoke powerful emotional reactions and these have important psychological benefits to individuals who hold these attachments to special places, but these places also encourage behavioural responses that have the potential to benefit others as well.

For example, the strength of the connection with places, for many, manifests through a strong desire and need to share and pass on the experiences for future generations.

There is a strong desire for people to pass on the pleasure and value of their place to future generations, in the hope that they will have the same connection as them. **75% agree that they would like to pass on their love of their place to significant others.**

There is also a **desire to share the connection they have with the place with others (79%)**. The place has had such an impact on their lives that they want others to experience it too as it is somewhere they are proud of.



Cotehele, Cornwall

vi. Protecting meaningful places

The urge to protect something held dear is a human instinct. Protecting meaningful places is a tangible way for people to ensure that it is available to future generations.

61% say that they do try to protect the place that is most important to them.

Ways in which people do this include anything from their own actions (picking up litter), through to supporting organised conservation (donating money to the cause who looks after the place). Not everyone demonstrates an active involvement in conserving their special places, however, the majority would be upset if it no longer existed.

92% agree that they would be upset if their meaningful place was lost.

This is stronger amongst those whose meaningful place is rural (95%) compared to urban (91%) places.

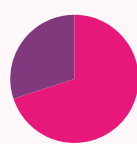
It was shown that those who mention feeling a sense of belonging when they visit their place of significance were also more likely to agree (strongly/slightly) that they 'try to protect their most meaningful place' (see figure 6 - page 36). If places weren't so deeply rooted in their sense of personal identity and belonging they wouldn't feel this same need.

Percentage agree that the statement describes what their meaningful place means to them:

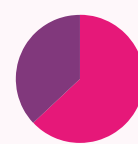
(figure 5)

Q18. % Agreement with the statement 'I try to protect my most meaningful place' Split by those mentioning that their meaningful place makes them feel [X] at Q11/12.

*Significantly different score between the emotion meaningful place makes them feel.



70%*
Belonging



63%
Calm



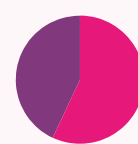
62%
Energised



51%
Nostalgia



59%
Joy



57%
Safety

VI. Conclusions



This research set out to gain an in-depth understanding of the deep connection people have with places. We have demonstrated that there is a strong physical and emotional connection between places and people – and that these places have a positive effect on our wellbeing.

While it is clear that people say that they feel a strong emotional connection with places, the findings of our fMRI research show that meaningful places generate a significant emotional response in core emotion processing areas of the brain.

The main conclusions of this research can be summarised as follows:

1. What are the neural underpinnings of our connection with place?

The fMRI research has shown clear evidence that key areas of emotional processing are highly responsive to meaningful places.

‘It is clear that the brain treats places that are meaningful very differently to common/everyday places. Places of significance generate a strong emotional response’

Prof. Opitz, University of Surrey

Our analysis suggests that the way in which these brain areas respond to meaningful places goes beyond mere personal relevance, supporting the notion found elsewhere that places are special to us.

Furthermore, our results demonstrate a significantly higher response to meaningful compared to common places. To our knowledge this is the first time that such findings have been demonstrated with places.

2. What places do people feel a connection with?

The breadth of meaningful places range from rural spots such as a hill with a stunning view, to urban places, for example a promenade of a seaside town. They can be specific locations as well as broad regions and even countries. The range of places we have seen in this research reflects the deep personal connection people feel with all types of places.

3. Why do connections form?

Three strong reasons emerged from the research. Firstly, ‘connections from the formative years’ (cited most frequently), secondly, ‘through relation to significant others’, and thirdly, ‘from the here and now’. This shows that the past, present and future all play a part in the deep-rooted connection that people experience, and these all structure who we are as people, shaping us and our identities.



Giant's Causeway, County Antrim

4. What feelings are evoked?

For many, the strongest feelings were of calm, joy and contentment, energy and a sense of belonging. This indicates that the concept of topophilia is very much alive, moving people in many different forms. This feeling is hard to articulate for most, as it is more of a positive energy.

5. Benefits of visiting

While visiting meaningful places brings a whole host of benefits, these can be broadly grouped into three key areas – mental wellbeing, nostalgia and security & survival. Natural places in particular promote greater wellbeing, as well as places from the here and now. The continued presence of these meaningful places allows people to reap the benefits throughout their lives.



Powis Castle & Garden, Wales

Why is The National Trust's work so important?

The need for “places to sit in, places to play in, places to stroll in, and places to spend a day in” is still as relevant today as it was when Octavia Hill first wrote these words a few years before she founded the National Trust in 1895.

Her mission to provide places for all people is something that still guides the work of the National Trust today; with dedicated teams of volunteers, staff, partners and members collectively working to look after places across the UK for future generations.

The findings of this research show that places are more than a space to visit and enjoy for their aesthetic beauty; in fact, they have long-lasting effects that have an impact on us physically and psychologically, and even encourage behavioural responses that have the potential to benefit others.

For many, the strength of the connection with places manifests through a strong desire, and need, to protect these places for future generations to enjoy.

This pioneering research demonstrates why the work undertaken by the people at the National Trust is important; for everyone to continue to enjoy and feel a sense of discovery, peace and belonging.

It is now even more clear that places are made meaningful by the people who visit them and these personal connections help make us who we are.



Fenton House & Garden, London

VII. Appendix



About the National Trust

The National Trust is a conservation charity founded in 1895 by three people who saw the importance of our nation's heritage and open spaces, and wanted to preserve them for everyone to enjoy. More than 120 years later, these values are still at the heart of everything the charity does.

Entirely independent of Government, the National Trust looks after more than over 600,000 acres of countryside, 775 miles of coastline and hundreds of special places across England, Wales and Northern Ireland.

Over 22 million people visit every year, and together with 5 million members and over 62,000 volunteers, they help to support the charity in its work to care for special places for ever, for everyone. For more information and ideas for great seasonal days out go to: www.nationaltrust.org.uk

About the University of Surrey

The University of Surrey's department of Psychology has an established neuroscience research department and is a member of the Combined Universities Brain Imaging Centre (CUBIC). Professor Bertram Opitz, who led on this study, is well-known and respected in his field of Neuroimaging & Cognitive Neuroscience.

About Walnut Unlimited

Walnut Unlimited is a pioneer of applying consumer neuroscience to market research. The Walnut team are experienced at designing and analysing studies using the most relevant approaches from psychology and neuroscience. From applying psychological techniques to understand how people think, feel and behave, to biometric and brain imaging measurement including encephalography (EEG) and functional magnetic resonance imaging (fMRI), the team then translate these into breakthrough insights into how people behave and feel.

About the research: sample sizes

For context, the research process was initiated with the qualitative stage first, which was then followed by the quantitative stage. The results from both the qualitative and quantitative phases then helped to inform the method and format of the final fMRI stage.

Qualitative – 11 participants

The aim of the qualitative phase was to gather an initial strong in-depth understanding of people's emotions and connection to place before moving ahead with the quantitative and fMRI phases.

Quantitative – 2,000 participants

This phase of the research was extended to a sizeable number of participants to ensure the delivery of statistical significance.

fMRI – 20 participants

The base size for the fMRI was certainly sufficient to allow us to explore the research objective. The results were subject to significance testing using statistical methods that ensure the results gathered are not due to chance but a genuine effect. If the sample size had been too small then the results observed would have simply been 'noise' and not proven significant.

References

- ¹ LeDoux, J. E. (2000) Emotion Circuits in the Brain. *Annual Review of Neuroscience*, 23, 155-184.
- ² LeDoux, J. E. (2000) Emotion Circuits in the Brain. *Annual Review of Neuroscience*, 23, 155-184.
- ³ Lang, P. J., Bradley, M. M., & Cuthbert, B. N. (2008). International affective picture system (IAPS): Affective ratings of pictures and instruction manual. Technical Report A-8., Gainesville, FL.: University of Florida.
- ⁴ Costafreda S. G., Brammer, M. J., David, A. S., & Fu, C. H. (2008). Predictors of amygdala activation during the processing of emotional stimuli: a meta-analysis of 385 PET and fMRI studies. *Brain Res Rev*, 58, 57–70.
- ⁵ Brabec, J., Rulseh, A., Hoyt, B., Vizek, M., Horinek, D., Hort, J., Petrovicky, P. (2010). Volumetry of the human amygdala - An anatomical study. *Psychiatry Research: Neuroimaging* 182, 67–72.
- ⁶ LeDoux, J. (2000b). Emotion circuits in the brain. *Annual Review of Neuroscience*, 23(1), 155-184.
- ⁷ Lanteaume, L., Khalfa, S., Régis, J., Marquis, P., Chauvel, P., & Bartolomei, F. (2006). Emotion induction after direct intracerebral stimulations of human amygdala. *Cerebral cortex*, 17(6), 1307-1313.
- ⁸ Liberzon, I., Phan, K. L., Decker, L. R., & Taylor, S. F. (2003). Extended amygdala and emotional salience: a PET activation study of positive and negative affect. *Neuropsychopharmacology*, 28(4), 726.
- ⁹ Hamann, S. B., Ely, T. D., Hoffman, J. M., & Kilts, C. D. (2002). Ecstasy and agony: activation of the human amygdala in positive and negative emotion. *Psychological Science*, 13(2), 135-141.
- ¹⁰ Euston, D. R., Gruber, A. J., & McNaughton, B. L. (2012). The Role of Medial Prefrontal Cortex in Memory and Decision Making. *Neuron*, 76(6), 1057–1070.
- ¹¹ Epstein, R., & Kanwisher N. (1998). A cortical representation of the local visual environment. *Nature*, 392, 598–601.
- ¹² Sedikides, C., Wildschut, T., Routledge, C., & Arndt, J. (2015). Nostalgia counteracts self-discontinuity and restores self continuity. *European journal of Social Psychology*, 45, 52-61.
- ¹³ Fried, M. (2000). Continuities and discontinuities of place. *Journal of Environmental Psychology*, 20, 193–205.



National Trust

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