Connecting with nature for mental health and wellbeing

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Re-emergence of nature during the pandemic

YouGov poll for the Mental Health Foundation found:

- 50% agreed that being able to visit green space helped them cope with the stress of the coronavirus pandemic.
- 73% of UK adults said connecting with nature had played an important role in managing their mental health during the pandemic.
- 34% had connected with nature more during the pandemic despite spending less time outdoors because of lockdown.
Emergence of the Anthropocene

- Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services (IPBES) concluded that ecosystem decline has accelerated
  - 47% decline in ecosystem extent and condition
  - 82% decline in biomass and species abundance
  - 25% of species threatened with extinction
  - Humans influence all biological and physical systems on the planet
Nature as green and blue space

- Green spaces as publicly accessible areas with natural vegetation, such as grass, plants or trees
  - Parks
  - Outdoor sports fields
  - Community gardens and allotments
  - Woodlands and nature reserves
- Blue spaces
  - Man made (e.g. canals; boating lakes)
  - Naturally occurring fresh water (e.g. rivers; ponds; lakes)
  - Salt water bodies
Why nature can promote health and wellbeing
Green space and health benefits

• Abundant evidence that proposes that exposure to and activities in green space are beneficial to physical and mental health

• In urban and residential green contexts the protective effects of green space are thought to come from:
  • Supportive social interaction spaces promoting a sense of community
  • Active living spaces facilitating physical activity
  • Natural filters ameliorating the adverse effects of negative exposures such as air, noise, and thermal pollution
• Attention restoration theory:

Exposure to natural environments stimulates mechanisms that restores attentional processes via ‘soft fascination’ and involuntary attention, leading to recovery from cognitive fatigue.

• Stress reduction theory:

Exposure to natural environments reduces physiological stress and aversive emotion through activation of our parasympathetic nervous system, producing a psychophysiological stress recovery response owing to innate preferences to natural environments.
Nature connectedness for health and wellbeing

• Nature connectedness relates to how we relate to and experience nature
• Quality of time in nature matters
• Activities in nature can enhance connectedness with nature
• Nature connectedness associated with:
  • Lower levels of poor mental health
  • Pro-environmental behaviours which can confer co-benefits for natural spaces
  • Feelings of life as purposeful and worthwhile
Nature-based outdoor activities for mental and physical health: Systematic review and meta-analysis

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Environmental and health co-benefits

• Proof of concept work with volunteers, including older adults, to gauge mental health benefits of nature-based activities

• Showed that guided walks, citizen science and conservation activities linked with improved mood

• Significant association between reduction in stress and location

• Especially important were purposeful activities that conferred environmental and health co-benefits
Motivations for nature-based activities

I want to see the reserve being maintained properly.

I felt I’d had good activity and I could see I was doing something worthwhile in an important place—so it ticked the boxes of green space that was doing something useful.

You can see the changes that we have made in some reserves. Some of the reserves we have made a real difference to.

I went down almost the first Wednesday after I finished work.
Green social prescribing
What is green social prescribing (GSP)?

- GSP connects people to nature-based and outdoor activities to support health and wellbeing.
- Social prescribing link workers connect people to community groups for practical and emotional support based on the ‘what matters to you’ approach.
- GSP can contribute to reducing inequalities in access to nature and connection to nature.
  - Socially isolated older adults.
  - Those at higher risk of mental health problems.
  - Children and young people with learning disabilities.
Humber and North Yorkshire green social prescribing programme
GSP Evaluation

- Running from Feb 2022 to March 2023

<table>
<thead>
<tr>
<th>Participants</th>
<th>N=111</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>50%</td>
</tr>
<tr>
<td>Female</td>
<td>48%</td>
</tr>
<tr>
<td>Non-binary</td>
<td>2%</td>
</tr>
<tr>
<td>British</td>
<td>90%</td>
</tr>
<tr>
<td>Over 55</td>
<td>33%</td>
</tr>
<tr>
<td>Retired or unable to work</td>
<td>54%</td>
</tr>
</tbody>
</table>
Health status of participants

- Yes - limited substantially
- Yes - but not limited substantially
- No
## What nature activities did people do?

<table>
<thead>
<tr>
<th>GSP activities</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gardening</td>
<td>35</td>
<td>64%</td>
</tr>
<tr>
<td>Food growing</td>
<td>2</td>
<td>4%</td>
</tr>
<tr>
<td>Conservation</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Green exercise</td>
<td>9</td>
<td>16%</td>
</tr>
<tr>
<td>Crafting</td>
<td>3</td>
<td>5%</td>
</tr>
<tr>
<td>Bushcraft (e.g. forage, tool making, firecraft)</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td>Yoga or other mind-body activity</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Other*</td>
<td>5</td>
<td>9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>55</td>
<td>100%</td>
</tr>
</tbody>
</table>
## Impact on wellbeing

<table>
<thead>
<tr>
<th>ONS-4</th>
<th>Before Mean</th>
<th>Std Deviation</th>
<th>Threshold</th>
<th>After Mean</th>
<th>Std Deviation</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overall, how satisfied are you with your life nowadays?</td>
<td>5.81</td>
<td>2.22</td>
<td>Medium</td>
<td>7.6</td>
<td>2.0</td>
<td>High</td>
</tr>
<tr>
<td>2. Overall, to what extent do you feel that the things you do in your life are worthwhile?</td>
<td>6.05</td>
<td>2.42</td>
<td>Medium</td>
<td>7.9</td>
<td>2.0</td>
<td>High</td>
</tr>
<tr>
<td>3. Overall, how happy did you feel yesterday?</td>
<td>5.75</td>
<td>2.56</td>
<td>Medium</td>
<td>7.7</td>
<td>2.2</td>
<td>High</td>
</tr>
<tr>
<td>4. Overall, how anxious did you feel yesterday?</td>
<td>6.12</td>
<td>2.75</td>
<td>High</td>
<td>5.4</td>
<td>2.9</td>
<td>Medium</td>
</tr>
</tbody>
</table>
## Impact on anxiety and depression

<table>
<thead>
<tr>
<th>HADS Subscale</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>Anxiety</td>
<td>11.4</td>
<td>4.6</td>
</tr>
<tr>
<td>Depression</td>
<td>8.50</td>
<td>4.5</td>
</tr>
</tbody>
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Future work
Understanding role of nature-based activities to support healthy ageing:

- Preserve physical functioning
- Reduce risk of frailty
- Promote good mental health (especially among socially isolated)
- Offer purpose and meaning
Natural Environments and Mental Health

This theme focuses on the inter-relationship between our natural environment and mental health. It is an interdisciplinary and pan-faculty collaboration between academic partners at York and with external stakeholders in the NHS and public sector. Our work in this space is supported by the York Environmental Sustainability Institute which facilitates environmental sustainability research across the sciences, social sciences, and arts and humanities, adding value and synergizing existing strengths to tackle the complex challenges of sustaining productive, resilient and healthy environments. Additionally, our work addresses the strategic challenge to embed sustainability into research and teaching and campus operations through the York Environmental Sustainability Academy.

Central to this research theme is work on evaluating the clinical and cross-sectoral effectiveness of nature-based interventions to support childhood, adolescent, and adult mental health. Nature-based interventions involve a wide range of activities such as social and therapeutic horticulture (using gardening, food growing and plants to support wellbeing); care farming (involving the therapeutic use of farming and animal-assisted interventions).