

Outdoor Programme Proposal with a Well-Being Approach

Health and Well-Being in the Outdoors

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AI Acknowledgement

I acknowledge the use of Adobe Acrobat AI Assistant (<https://www.adobe.com/acrobat/generative-ai-pdf.html>) to support my research. I used the prompt:

1. Summarise this document

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I acknowledge the use of Chat GPT (<https://www.chatgpt.com/>) on 10 November 2025 to format references using the prompts:

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Defining Health and Well-Being

World Health Organisation (1948):

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

This definition has attracted criticism for how one defines “complete”
(van den Berg, de Groot and Steg, 2013).

This definition has attracted criticism for how one defines “complete”, however for the basis of this task, the importance of this definition is placed on health not being limited to just physical measures such as mortality, blood pressure, obesity etc., but also a holistic overview which incorporates the mental and social connection aspects of life. (van den Berg, de Groot and Steg, 2013).

Assessing nature's overall impact on health and well-being requires a multi-theoretical approach:

- Stress Reduction Theory (Ulrich, 1981)
- Attention Restoration Theory (Kaplan and Kaplan, 1989)
- Nature Connectedness Theory
(Mayer and Frantz, 2004; Lumber, Richardson and Sheffield, 2017)

SRT & ART explain short-term physiological and cognitive restoration of being in nature; Nature Connectedness explains a longer-term emotional well-being derived from a deep bond with nature.



Stress Reduction Theory (Ulrich, 1981)

Exposure to natural environments triggers an instant, involuntary reduction in physiological stress – eg, lowered heart rate, blood pressure, cortisol levels.

Limited to physiological indicators that are not considerate of the long-term. SRT can be satisfied but one can still be mentally/cognitively exhausted.

Attention Restoration Theory (Kaplan and Kaplan, 1989)

Natural environments captures attention effortlessly, allowing “directed attention” to rest/recover.

Four factors that a highly restorative environment contains are:
fascination, being away, extent and compatibility.

Both theories are limited to exposure only and not the engagement or emotional connection with nature which studies show is a stronger predictor of sustained well-being than passive exposure alone (Madera et al., 2025; Liu et al., 2022; Martin et al., 2020; Holt, Soga and Korpela, 2019; Pritchard et al., 2019).

Nature Connectedness Theory

(Mayer and Frantz, 2004; Lumber, Richardson and Sheffield, 2017)

Describes the depth and quality of one's relationship with nature.

Measurable through the Connectedness to Nature Scale (CNS).

Five pathways are defined to foster a stronger connection:

senses, emotion, beauty, compassion, meaning.

Utilises subjective interpretation of statements that measure nature connectedness. Doesn't account for biological responses that contribute to well-being: air quality/sunlight exposure/BVOCs released by plants (Yeon et al., 2021).

CNS: distinguishing between nature contact and nature connectedness.

Current Evidence – General

- Jimenez et al. (2021) review:
 - Positive associations between nature exposure, physical activity levels and mental well-being.
 - Further positive links between exposure and reduced psychological distress in teenagers.
- Those with higher levels of nature connectedness are more likely to benefit from nature exposure as they find a deep personal bond with nature (Shrestha et al., 2025).
- Cahn and Duvall (2023) did not find a reduction in negative psychological states (anxiety, isolation) when exposed to nature.
- Indicative that individual and other environmental factors impact the effects of exposure? COVID-19.



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Indicative that individual and environmental factors impact the effects of exposure? Study was conducted during COVID-19.

Current Evidence – General

Doran-Sherlock et al. (2025) states that there are methodological issues in current research of nature-based interventions:

- Defining nature engagement – lack of concise, consistent terminology (van den Berg, 2017).
- Dominated by observational studies which only show an *association* and cannot definitively prove that nature *causes* the health improvement. Randomised Control Trials (RCT) are considered to produce more trusting results (van den Berg, 2017).
- Use of self-reporting measures may influence social desirability bias and inaccurate self-perceptions (Silva, Matos and Goncalves, 2024).
- Sample populations lack diversity – predominantly undertaken in UK & USA and with volunteers who have pro-nature predispositions (Doran-Sherlock et al., 2025).



Terminology

Green space, green exercise, green care etc. Nature contact vs nature connectedness.

Study types

Most studies are observational (observe and measure associations between variables as they naturally occur) and cross-sectional in style (examine the relationship between variables at a specific moment), which can only show an *association* and cannot definitively prove that nature *causes* the health improvement.

Silva, Matos and Goncalves (2024)'s review outlined multiple studies who recommended the inclusion of control groups and experiments that allow for effects to be isolated in future research.

Practical issues in implementing RCT: (van den Berg, 2017) patients and practitioners "cannot be easily blinded to the intervention: it is usually very noticeable that the treatment takes place in natural surroundings, instead of the standard care environment"

Measures

CNS as an example also uses subjective statements.

Sample

Participants who have pro-nature predispositions – self-selection/volunteer bias as they already have an interest in the topic.

Population & Needs

- In young people aged 17 to 19 years, rates of a probable mental disorder rose from:
 - 1 in 10 (10.1%) in 2017 to
 - **1 in 4 (25.7%) in 2022.**
 - Rates were similar 2022-2023.
- Among 17–25-year-olds, rates were twice as high for young women than young men.
- Eating disorder rates were 4x higher in 17–19-year-old women (20.8%) than men (5.1%).

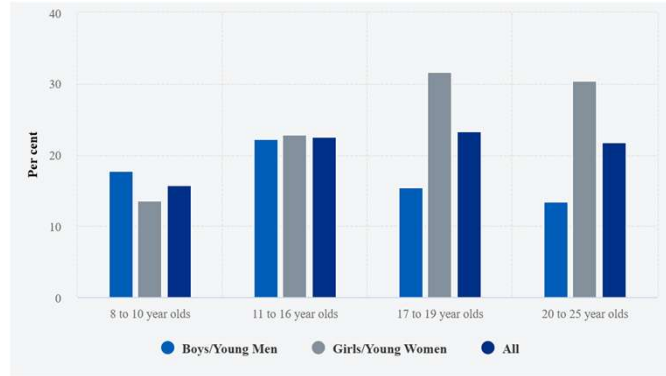


Figure 1: Percentage of people with a probable mental disorder, by age and sex, 2023 (NHS England, 2023).

Population & Needs

Girlguiding UK (2025) survey reported:

- 80% of girls and young women agree that 'being outdoors and in nature helps me to feel happy' (7-21 years).
- 53% say their body image or weight is most likely to negatively affect their mental health (11-21 years).

• Youth in Sport (2024) survey reported:

- 42% of secondary-aged girls are concerned about how they look and identify this as a barrier to participation in physical activity.
- Only 45% of 14 to 16-year-old girls are happy with their participation levels in physical exercise, despite 85% understanding its importance.



These statistics indicate that young women's disengagement with physical activity may be rooted to their teenage years.

Girls and women with negative body image feeling are more inclined to develop mental disorders (i.e. depression, anxiety, eating disorders, self-consciousness) (Rodgers et al., 2023).

Current Evidence – Body Image & Nature

- Exposure and interventions which promote nature connectedness are associated with increased positive body image (Swami, 2024; Swami et al., 2020).
- Typically explained via:
 1. Attention Restoration Theory (direct link)
 - Swami et al. (2019).
 2. Nature Connectedness (indirect link)
 - Holloway et al. (2014); Liu, Zhang and Geng (2024); Alleva et al. (2023).
- Still limited to studies within UK & USA



ART

ie, one of the four ART factors “being away” (from one’s usual concerns/social contexts) in nature helps to confine negative appearance-related thoughts (Swami et al., 2019).

Nature Connectedness

Holloway et al. (2014) suggests that nature immersion enhances women’s awareness of the value of their bodies and appreciate its place in a wider context.

Liu, Zhang and Geng (2024) theorised that nature connection may be related to body appreciation because it promotes intrinsic values related to self-acceptance, rather than extrinsic values linked to external beauty ideals. Their study revealed that nature connectedness acted as a mediator between nature exposure and body appreciation.

Alleva et al. (2023) study with women who have body characteristics which deviate from societal norms: women experienced a meaningful connection to nature, in turn viewed their bodies as “something bigger and inherently worthy of love and respect”.

Lack of cultural diversity in current research

Pressing need for data from other countries: cultural differences in both views on nature and body image.

Programme	Description
Aim	- Promote nature connectedness as an indirect pathway/tool for improving body satisfaction in girls/young women. - Provide a space where girls can talk without judgement and receive reassurance and information when necessary. <i>Transparency about mental health interventions is essential (Institute for Outdoor Learning [IOL], 2023).</i> - Measure outcomes pre and post with CNS (Mayer and Frantz, 2004) and BAS-2 (Tylka and Wood-Barcalow, 2015).
Population	- Female-only participants aged between 13~18 years old. - Participants are not necessarily diagnosed with a mental disorder relating to body image. <i>Adolescence is prominent time for body image concerns; it is also a critical period to carry out interventions (Rodgers et al., 2016).</i>


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To measure these outcomes pre and post we'll use the Connectedness to Nature Scale and the Body Appreciation Scale-2.

IOL state in their good practice guidelines the importance of transparency when it comes to interventions in the outdoors. This is a notable practical and ethical consideration, vs the experimental approach of blinding in randomised control trials highlighted earlier, which are considered the gold standard to establish cause-and-effect.

Programme	Description
Outline	• Introduction: opportunity for participants to discuss reflections from previous sessions, and any feelings, whether related specifically to body concerns or wider. • Each session explores one of the five pathways to nature connectedness: senses, beauty, emotion, compassion, meaning. • Participants are offered activity options* related to each pathway which they collectively agree to. • Activities are non-competitive with a focus on process instead of outcome: shifting focus from performance (stress/directed attention) to exploration and appreciation (soft fascination/beauty/meaning). ○ eg, forest bathing/grounding, arts/crafts, litter picking, habitat maintenance, journalling, walks etc. • Conclusion: opportunity to discuss how they're feeling about the session/any feelings they may take forward.

*Vanaken & Danckaerts (2018) found that adolescents benefit from interacting with nature/green space of *their choice*, indicating their desire for autonomy.

Programme	Description
Delivery	3-hour sessions over an initial 6 weeks – 1 per pathway plus an additional session with an integrated approach. <i>Yeon et al. (2021) meta-analysis found that the effect size for was largest when the intervention was more than 2 hours.</i> - Forest/woodland location. <i>Manner, Doi and Laird (2021)'s study provides further evidence that Forest School environments support well-being in teenage girls who are at risk of developing mental health problems.</i> - OMHI Zone 1 Outdoor Engagement (IOL, 2023); i.e. Forest School/Mountain Leader with Mental Health First Aid. - Facilitators must act within their own competencies and represent themselves accurately, understanding their own limitations.



Yeon et al. (2021) meta-analysis on effects of Forest Therapy on mental health disorders found that the effect size for was largest when the intervention duration was more than 2h, also indicating that 3h was more effective than 1h sessions.

IOL (2023) Outdoor Mental Health Interventions Model:

Z1 Therapeutic Outdoor Engagement: “Individual or group experiences are enriched by the addition of an outdoor or psychological dimension”

“Utilise a team approach or competent individuals holding a broad set of skills”.

Practitioners must remain within their own professional competence and accurately represent themselves: evidenced by professional training and qualifications.

Consideration of staffing profiles was taken when selecting an approach/aim for this programme: the availability of appropriately qualified staff to operate within Zone 1 of the OMHI will be higher than if operating in a Zone 3/integrated approach which is much more specialised.

Reflection

Challenges

- Programme/session durations (Shrestha et al., 2025).
 - 2023 NHS Digital Campaign: <https://bebodypositive.org.uk>

Contrasting arguments

- Life stage to implement intervention: Rodgers et al. (2016) vs Madera et al. (2025) & Jimenez et al. (2021).

Alternative approaches

- Bluespaces more effective for promoting positive body image (Swami, 2024).

Ethical issues

- Unpredictability of nature – participant safety (Cooley et al., 2020).
- Parental consent – Roberts, Hinds and Camic (2020).



Challenges

- Evidence suggests that interventions which are immersive (a key component of nature connectedness) vs passive exposure require a longer time span for participants to engage and therefore benefit (Shrestha et al., 2025) – 6 sessions may not be sufficient time for a significant change.
- Demanding schedules of a teenager - Yeon et al. (2021) suggests longer intervention durations of 2-3h but is this practical? Manner, Doi & Laird (2021)'s study was conducted during school hours.
- Solutions?
 - Incorporate into school hours...But the value of the programme will likely need to appeal to more stakeholders for approval (curriculum, teachers, parents).
 - Incorporate into NHS initiative 'Be Body Positive' which offers self-guided modules to educate young people on body image.

Contrasting:

Adolescence is prominent time for body image concerns; it is also a critical period to carry out interventions (Rodgers et al., 2016). However, while adolescence and early adulthood are noted as significant, life stages in which

nature connectedness may play a crucial role and have the greatest impact on health are understudied (Madera et al., 2025; Jimenez et al., 2021).

Alternative

Natural environments with views of water, such as rivers and coasts are more effective based on previous studies although reasons for this are not fully understood (Swami, 2024). Rygal and Swami (2021) suggest in terms of ART that bluespaces give a greater sense of “being away” and may be especially significant for residents of island nations. In relation to NCT, it could be due to a higher sensory engagement/meaning that water carries (survival). Some evidence suggests the specific activities do not affect body image outcomes at all (Swami et al., 2020).

Ethical

- Cooley et al. (2020) state that the unpredictability of nature vs controlled clinical environment makes it difficult to maintain structured boundaries and raises concerns for the safety of participants.
- Roberts, Hinds and Camic (2020) highlight in their review that some participants had negative experiences in nature are due to the influence of parental anxiety in portraying natural spaces such as woodland as dangerous places where people are unsafe. Cooley et al. (2020) suggest completing a risk assessment prior to the intervention to improve perceived safety.

Appendix 1 Connectedness to Nature Scale

Directions for participants: Please answer each of these questions in terms of the way you generally feel. There are no right or wrong answers. Using the following scale, in the space provided next to each question simply state as honestly and candidly as you can what you are presently experiencing.

1. I often feel a sense of oneness with the natural world around me.
2. I think of the natural world as a community to which I belong.
3. I recognize and appreciate the intelligence of other living organisms.
4. I often feel disconnected from nature.
5. When I think of my life, I imagine myself to be part of a larger cyclical process of living.
6. I often feel a kinship with animals and plants.
7. I feel as though I belong to the Earth as equally as it belongs to me.
8. I have a deep understanding of how my actions affect the natural world.
9. I often feel part of the web of life.
10. I feel that all inhabitants of Earth, human, and nonhuman, share a common 'life force'.
11. Like a tree can be part of a forest, I feel embedded within the broader natural world.
12. When I think of my place on Earth, I consider myself to be a top member of a hierarchy that exists in nature.
13. I often feel like I am only a small part of the natural world around me, and that I am no more important than the grass on the ground or the birds in the trees.
14. My personal welfare is independent of the welfare of the natural world.

Response Options:

Strongly disagree - 1
Disagree - 2
Neutral - 3
Agree - 5
Strongly agree - 5



Mayer and Frantz (2004).

Appendix 2 Body Appreciation Scale-2

Directions for participants: Please indicate whether the question is true about you never, seldom, sometimes, often, or always

1. I respect my body.
2. I feel good about my body.
3. I feel that my body has at least some good qualities.
4. I take a positive attitude towards my body.
5. I am attentive to my body's needs.
6. I feel love for my body.
7. I appreciate the different and unique characteristics of my body.
8. My behaviour reveals my positive attitude toward my body; for example, I walk holding my head high and smiling.
9. I am comfortable in my body.
10. I feel like I am beautiful even if I am different from media images of attractive people (e.g., models, actresses/actors).

Response Options:

Never - 1
Seldom - 2
Sometimes - 3
Often - 4
Always - 5



Tylka and Wood-Barcalow (2015).



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