



Walking in Nature: A Step Towards Mental Health, a Leap Towards Resilience



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Societal Challenges

- Climate Catastrophe (IPCC, 2018)
- Biodiversity vacuum (IPBES, 2019)
- Physical inactivity (Eurobarometer, 2018)
- Air Pollution (EEA, 2019)

What problem accounts for the greatest burden of disease globally?

A: Cardiovascular disease

B: Mental Health

C: Depression

Depression today has the greatest burden of disease (WHO, 2017)



The State of Play

Environmental Challenges



Climate Change



Biodiversity
Loss



Air
Pollution



Heat Island



Urbanisation

Human Problems



Digital
Immersion



Physical
Inactivity



Social
Isolation



Ageing
Population



Carbon
Footprint

A Green Solution

- Nature has long been established as providing a role in coping, both in human geography (e.g., therapeutic landscapes, [Bell et al., 2018](#))
- Explanatory accounts of human-nature interactions (e.g., stress reduction theory, [Ulrich et al., 1991](#))
- Literature on psychological recovery ([Sonnentag et al., 2017](#)).
- Perception of awe has unique beneficial effects for mood, according to a recent review by [Lumber et al. \(2017\)](#).

Timeline of Concepts



Over 35 years of research on nature and health.

Green Exercise: Activity in Natural Settings

Green Exercise Opportunities



Increased access



Restorative Space



Active Commuting



Green Playgrounds

What percentage of Europeans say that the most common setting for their physical activity is outdoors?

A: 20% **B 40%** C 60 %

In the UK it's estimated at 18-20% (Eurobarometer, 2018)

Mapping Benefits



City level indexes are available to map benefits to goals

Target 11.7



Increased access



Restorative Space



Active Commuting



Green Playgrounds

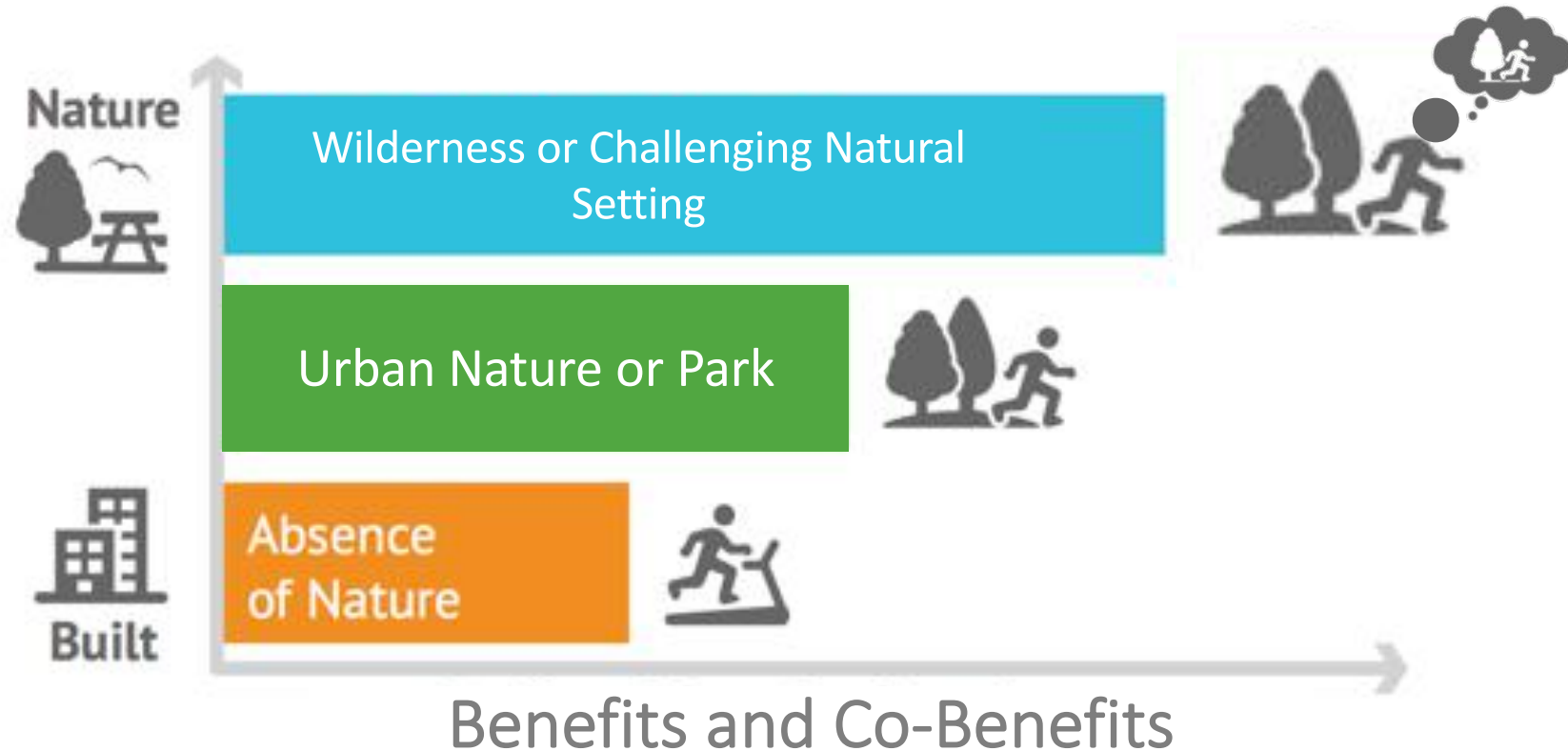


By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

Urbanisation requires us to high quality accessible green space

Evidence base

Where you Walk Matters

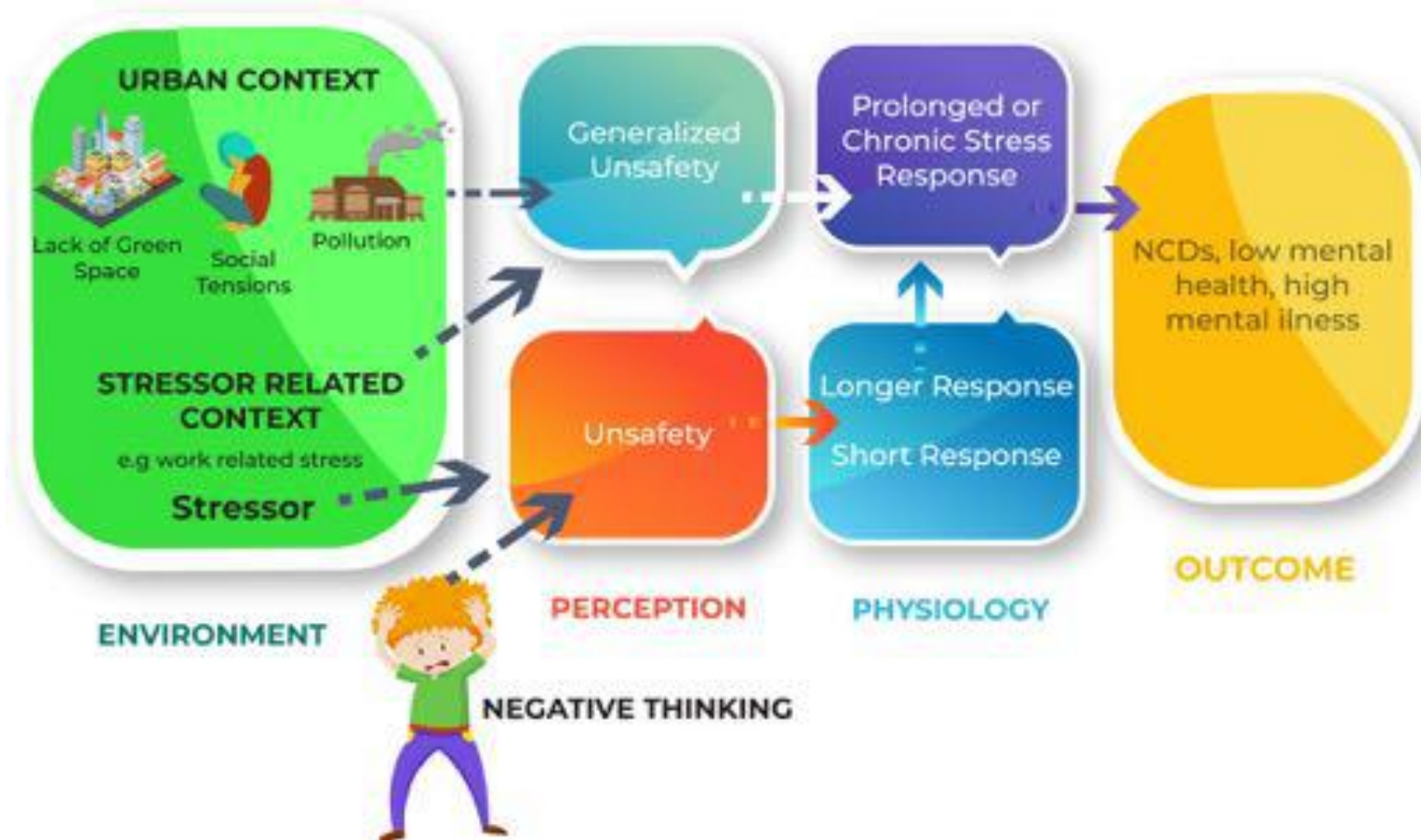


The Hyde Park effect shows there air pollution can negate the health benefits of physical activity

Therapeutic Lifestyle Changes

Well-being and Mental health promoting strategies by Roger Walsh (2011)





Stress is not simply a response to events not traits
But it is dependent upon our habitual setting

Timed Test Do the Math

$4+4 =$

$4+4 = 8$

$4+4 = 8$

$6 + 3 + 3 =$

$6 + 3 + 3 = 12$

$6 + 3 + 3 = 12$

$9 \times 2 =$

$9 \times 2 = 18$

$9 \times 2 = 18$

$12+7=$

$12+7= 18$

$12+7= 18$

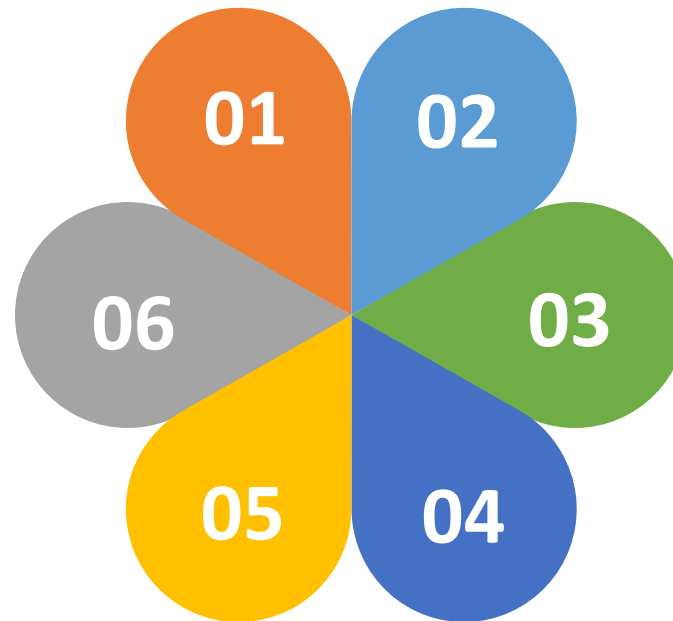
If you had been outside you are more likely to say
I was 75% right.

Benefits of Green Exercise

01 Reduced Stress

02 Enhanced Attention

03 Increased Empathy



04 Greater Nature Connectedness

05 Reduced Perceived Effort

06 Increased Resilience

See Donnelly & MacIntyre (2019)

Unusual Suspects



Jan 29th 2017, 9:37 PM  27,794 Views  4 Comments

Jessie Barr has seen her promising career interrupted by a succession of injuries but she's hoping to return in 2017.

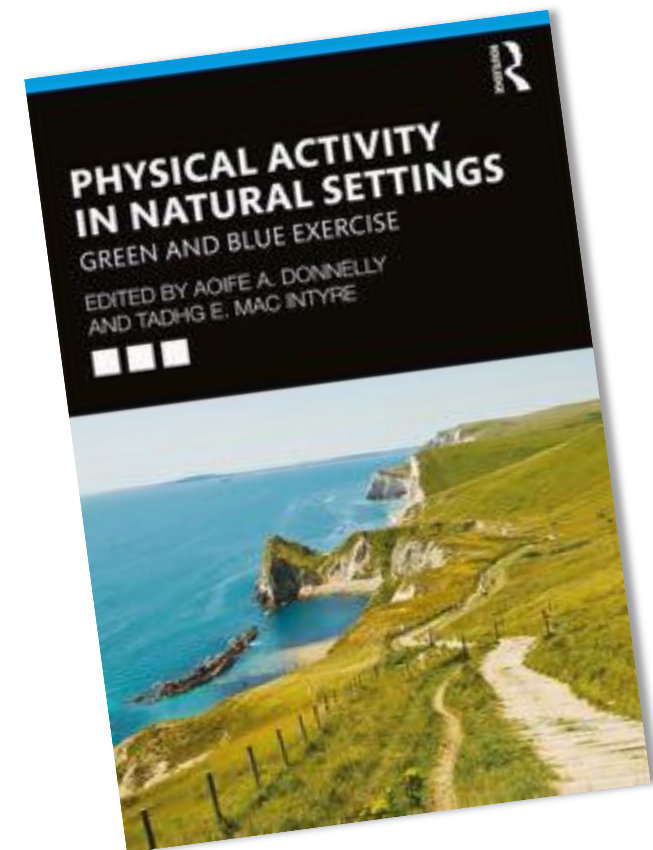
Resources

Chapter 10. From Tracks to Trails: Case Studies in Green Exercise

Chapter 11: Immersion, Water Sports and BlueWays: Resilience and the Growth Mindset

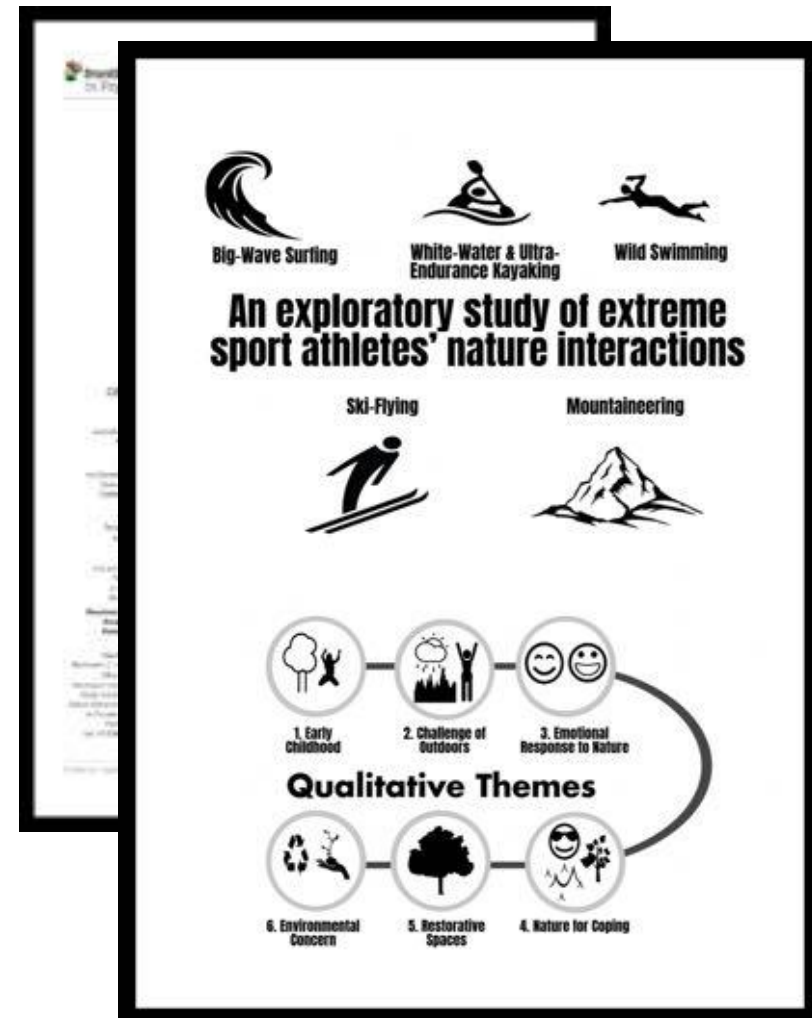
Chapter 12 Why outdoors? A systematic approach to examine and value the social benefits of outdoor sports

Mike McClure and Barbara Eigenschenk



Nature for Recovery

- What emotions have you felt during your natural experiences?
- What type of nature do you prefer?
- Can you identify your Happy Natural Space?
- What are your conservation habits?



Exploratory Research

Name	Gender	Nationality	Sporting experience
Easkey Britton	F	Irish	Former international professional surfer and big wave surfer
Chris Bryan*	M	Irish	International competitor in long distance open-water swimming.
Rosie Foley*	F	Irish	Channel swimmer and former Ireland rugby international (36 caps)
Sandra Hyslop	F	British	White-water kayak competitor
Jim Kennedy	M	Irish	Ultra-endurance kayak competitor
Andreas Küttel	M	Swiss	Three time Olympian in ski-jumping and ski-flying competitor
Tehillah McGuinness*	F	South African	International professional surfer and big wave surfer
Humphrey Murphy	M	Irish	Everest mountaineer and white-water kayaker

*denotes active competitor.



Big-Wave Surfing



White-Water & Ultra-Endurance Kayaking



Wild Swimming

An exploratory study of extreme sport athletes' nature interactions

Ski-Flying



Mountaineering



Qualitative Findings

I think the real barrier or issue is even when we do access its' the quality of the environment... I think we are at crisis point when it comes to the health of our oceans.

- Dr Easkey Britton



Nature for Coping

*When I'm swimming I can cry,
when I'm swimming I can do
whatever the hell I want, when
I'm swimming and it's me on
my own and its fine and I'm not
upsetting anyone else ...that's
how it helps me cope.*

-Rosie Foley (Channel Swimmer)



Best practice

Four Ways to Increase Well-Being



1. **Green exercise-** moving in nature.



2. **Nature Savouring-**recalling positive affect of nature experiences.

3. **Restorative Natural Space-**knowing where you can go to feel calm.



4. **Micro-breaks-**40 sec to 2 min. viewing of nature to enhance recovery



- **Nature Savouring**-recalling positive affect of prior experiences.
- **Nature savouring explored** in a 2 week campus based study in Vancouver (Passmore & Holder, 2016)
- Students took photos of natural vs built environment.
- Noted how photo made them feel.
- Increased pro-social behaviour and positive affect
- **Reminiscing about old or recent experiences can evoke similar positive emotions.**



Restorative Natural Space

- Recovery refers to unwinding and restoration processes during which a person's strain level that has increased as a reaction to a stressor or any other demand returns to its pre-stressor level (Sonnentag et al. 2017).
- Recovery long associated with therapeutic landscapes.
- Environmental enrichment is linked to consistent health benefits (Townsend et al., 2018).
- **Is there somewhere close to you that evokes calm in you?**



Micro-Breaks

- Included in well-being Apps like **Calm™**
- 40 sec of viewing of nature scene compared to built environment scene promoted restored attention (Lee et al., 2015).
- Bespoke images of natural stimuli can increase attention.
- **Taking short breaks of 40 sec. to 2 min. can help you cope with stress and recover.**



Future Proofing

Digital Natives



Digital
Innovation

Technological Nature:

technologies that in various ways mediate, augment, or simulate the natural world.

Immersive Virtual Reality and even simply images can reduce barriers to participation.

VR can provide a Segway for people to break down barriers to green exercise.



Next Steps for All

Evidence Base

Green exercise reduces stress, increases resilience, attention, empathy and is linked to higher level of adherence and provides a setting for recovery.



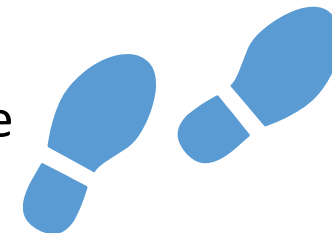
New Initiatives

Exploration of the role of technological nature as a tool to reduce barriers to green exercise.



Policy Impact

- Coordinated approach to account for all possible benefits and risks.
- The health of our planet and our well-being are not entirely unrelated.



CONCLUSIONS

Resources

See our special issue in the journal *Frontiers in Psychology*



human-nature-interactions-
perspectives-on-conceptual-and-
methodological-issues

See our special issue in the journal *Int. J. Env. Res. & Pub. Health*:



International Journal of
*Environmental Research
and Public Health*

Advances in Green Exercise
and Health Promotion