Europarc Conference Nature on your mind Latvia 2019
If we take an hour to equal 1,000 years, then four days is 100,000 years – the time from the origin of mankind to today.
Fiterix®
(aka going for a walk)
4X Strength
Our factory setting is to be in a sociable group, supportive environment and have a purpose

People
- Sociable
- Connect

Place
- Nature
- Take Notice

Purpose
- Autonomy
- Be Active, Give
- Keep Learning
The Effect of Trees on Cognitive Performance

Digit Span Backward Test


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Nature Experience and increased wellbeing

- increased positive affect **happiness** and **subjective wellbeing** positive social interactions, cohesion, and engagement

- a sense of **meaning** and **purpose in life**; improved manageability of life tasks; and decreases in **mental distress**, such as negative affect;

- positively affect various aspects of **cognitive function** memory and attention and **impulse inhibition**;

- and **children’s school performance** as well as **imagination** and **creativity**;

Nature experience and Mental Illness

- Nature experience is linked to **improved sleep and reduced stress** measured by physiological measures and biomarkers of acute and chronic stress.

- This impact on sleep and stress reduces the risk for mental illness because sleep problems and stress are major risk factors for mental illness, including **depression, anxiety and ADHD**.

The Extinction of Nature Experience

- Modern living habits involve reduced regular contact with outdoor nature and increased time indoors, on screens, and being sedentary.

- As direct nature experiences become progressively unavailable to new generations, this creates an ever-narrowing spectrum of nature experiences.

- An “environmental generational amnesia” and “extinction of experience” may stem from each generation’s reduced experience of “wildness”

Green Space reduces Health Inequalities

Incidence Rate Ratio

Exposure to green

No green | Little green | Some green | More green | Very green

- Highest Income
- Middle Income
- Lowest Income
- Linear (Highest Income)
- Linear (Middle Income)
- Linear (Lowest Income)


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Fear and Chronic Stress

People

Place

Purpose

Loneliness

Hostile

Lack of control
Place: Green space moderates the effect of stressful events in children

High Nature
Low Nature

Nearby Nature
A Buffer of Life
Stress among Rural Children NM Wells,
GW Evans
Environment and Behavior May
2003 vol. 35 no. 3 311-33

Psychological Stress
Low
Medium Stressful events
High

0 2 4 6 8 10 12 14
Low Nature
High Nature

High Nature
Low Nature
Inactivity and chronic stress

- Chronic psychosocial stress, increases the risk of physical inactivity and contributes to the epidemic of disease.

Chronic Stress Loneliness

Inactivity Poor diet Obesity Smoking
Chronic Stress

- Stress Hormones

Inactivity
- Poor diet
- Obesity
- Smoking

Chronic Inflammation

Mitochondria as a key component of the stress response. Manoli et al. Trends in Endocrinology and Metabolism Vol 18 No 5 2007

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Inflammation: The cause of Causes

Chronic Inflammation
Starts in children as young as 6 years old
Inactivity: trilogy of inflammation

1. Increases visceral fat
2. Reduces anti-inflammatories
3. Damages healthy cells
Inside a healthy cell

Chromosomes keep dividing

Immune system is switched off until needed

Mitochondria, healthy and active. Providing lots of energy
Sedentary, high cal diet and stress

Mitochondria

Oxidative Phosphorylation

Reactive Oxidative Species

Anti-Oxidants

Mitochondrial DNA
Physically active, low cal and not stressed

Mitochondria

Oxidative Phosphorylation

Reactive Oxidative Species

Anti-Oxidants

Mitochondrial DNA
Telomeres get shorter

“Green exercise is associated with better cell-ageing profiles with increased telemorase compared to indoor gym based activity”

G Olafsdottir, P Cloke, E Epel, J Lin, Z van Dyck, B Thorleifsdottir, T Eysteinsson, M Gudjonsdottir, C Vögele; Green exercise is associated with better cell ageing profiles: Gunnthora Olafsdottir, European Journal of Public Health, Volume 26, Issue suppl_1, 1 November 2016
We have a new disease that conventional medicine cannot treat

Chronic Inflammation
Pathway of Ill Health

People

Chronic stress

Place

Poor health behaviours

Purpose

Mitochondrial damage, telomere shortening, and chronic inflammation

Cardiovascular disease, diabetes, cancer, depression

https://www.youtube.com/watch?v=kYPRV-Ynilk
How inactivity impacts society

<table>
<thead>
<tr>
<th>People</th>
<th>Place</th>
<th>Purpose</th>
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<tbody>
<tr>
<td>Chronic stress</td>
<td>Inactivity</td>
<td></td>
</tr>
</tbody>
</table>

- Poor concentration, tiredness, irritability, addiction, depression, weakness, chronic inflammation
- Unsafe streets, poor air quality, reduced learning and productivity, dependence of elderly, less volunteering, isolation, obesity

https://www.youtube.com/watch?v=kYPfY-Ynilk
Being Active is a means to an end

People

Place

Purpose

Happiness

Being active

Increased confidence, greater concentration, less illness, greater contentment, better behaviour.

Increased productivity, safer streets, good air quality, stronger students, community cohesion, independence, more volunteering etc
Increases Hippocampus (the centre of behaviour and learning) by 20%
To make a step change in activity levels we need to be bold

Let’s remove boundaries and turn a whole town into a playground!
Beat the Street Barnsley
Barnsley

24,671 players

Barnsley
36% live in top 20% of deprivation

Beat the Street
players 42% are from top 20% of deprivation
Delivering at scale

1 million participants

13% of a town plays

LOTTERY FUNDED

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What will be Amy’s connection to Nature
Like it? Do your own? Why can’t every town or street be designated as part of the People’s National Park.
Beat the Street
Changes in Mental Health in Stranraer
Summary

- We have a medical emergency with an epidemic of Chronic Inflammation.
- Isolation disconnection to nature and lack of purpose create chronic stress.
- Children have to be connected to their own natural world
- Get children connected Nature
- Get them to bring their parents and grand parents
Building Active Communities

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