

Nature and children's health



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THE UNIVERSITY of EDINBURGH
Edinburgh College of Art

UN Sustainable Development Goals and WHO Health 2020 policy for Europe



SUSTAINABLE DEVELOPMENT GOALS

17 GOALS TO TRANSFORM OUR WORLD



Goal 11.7: “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”

What did you do when you were small?

“Collected conkers, look for fishing in the river; there’s hardly any fish there now” (Teenager, Wishaw)

“I was always in Greenfield when I was a wee lassie, climbing the trees” (Teenager, Alloa)

“We used to cook just at this little dip, and we used to play in it (Water of Leith) ...and we used to swim...it was very wild.” (Adult, Corstorphine)



Open Space and Social Inclusion: Local Woodland Use in Central Scotland, Edinburgh: Forestry Commission, 2004

Ward Thompson et al. 2005. “It gets you away from everyday life”: local woodlands and community use – what makes a difference? *Landscape Research* 30 (1), 109-146

Key messages

1. The vividness of childhood memories in nature



Open Space and Social Inclusion:
Local Woodland Use in Central Scotland



Natureforpeople

The importance of green spaces to East Midlands communities

Report Authors:
S. Bell,
C. Ward Thompson,



Participating at Summer Camp Local Nature Natural (LNU), Hens Crag, Northamptonshire. Photo: Steve Broughton/English Nature

What predicts how often adults visit woodlands or green spaces?

Frequency of childhood green space visits

True for surveys in urban and rural England and in urban communities in Central Scotland

($p \leq .002$ in logistic regression models)

People who did *not* visit green spaces frequently as children were very unlikely to visit as adults

Catharine Ward Thompson, Peter Aspinall,
Simon Bell, Catherine Findlay,
JoAnna Wherrett and Penny Travlou



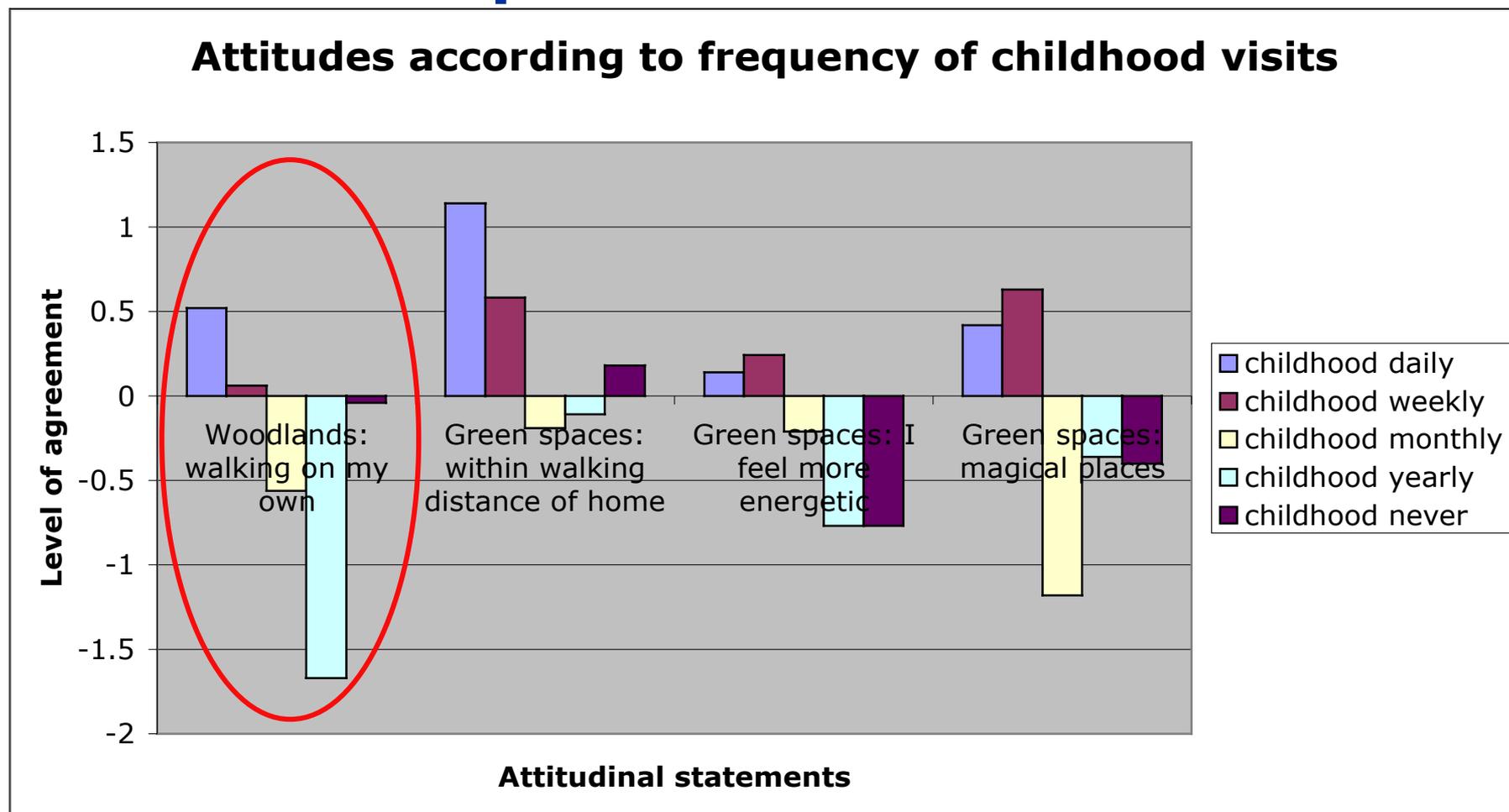
Sherwood Forest. An area of ancient woodlands and heathlands which is a major attraction for visitors to the area. Photo: Peter Wakely/English Nature

...the economic one, yet it has proved difficult to measure. It contributes to people's social well-being and it was to assess this contribution by selecting sites in the East Midlands region and to examine the characteristics of them.

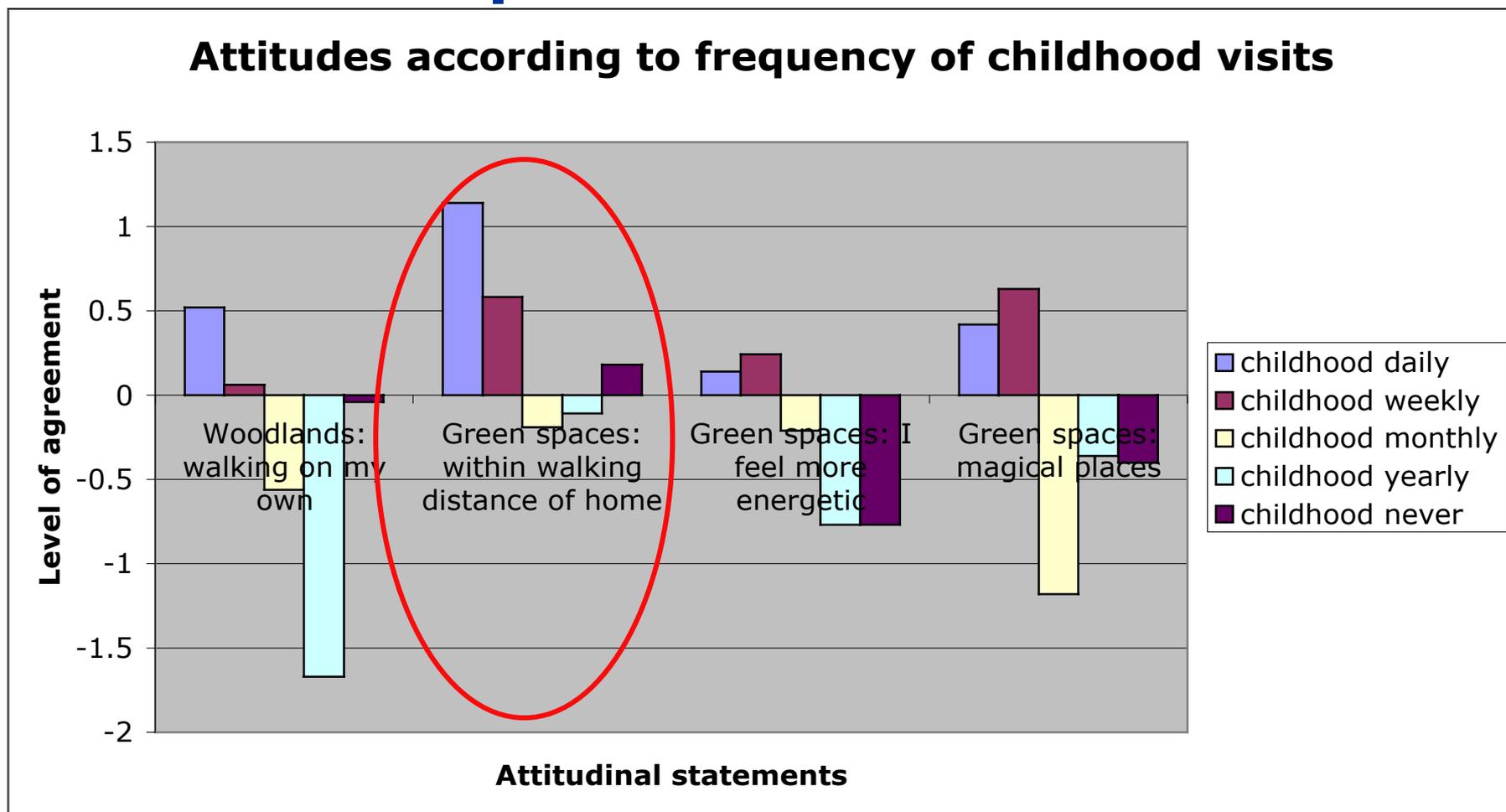
The research was led by the OPENspace Research Centre at Edinburgh University to carry out research in the East Midlands, including members of the public and people working in green spaces set up in locations across the region. The groups were used to gather background information in order to devise a questionnaire.

Questions were designed to investigate the different types of green space, the activities that people do in such places, and the perceptions they have of them. The questionnaire was used at 16 sites representing a sample of accessible green space, and over 460 people were interviewed. The resulting data was examined in relation to the individual characteristics of the interviewees (gender, age, social class, ethnicity etc.) and the differing character of the sites (nature reserves, country parks, forests, town parks etc.). The research gives a valuable insight into the diverse relationships that people have with nature.

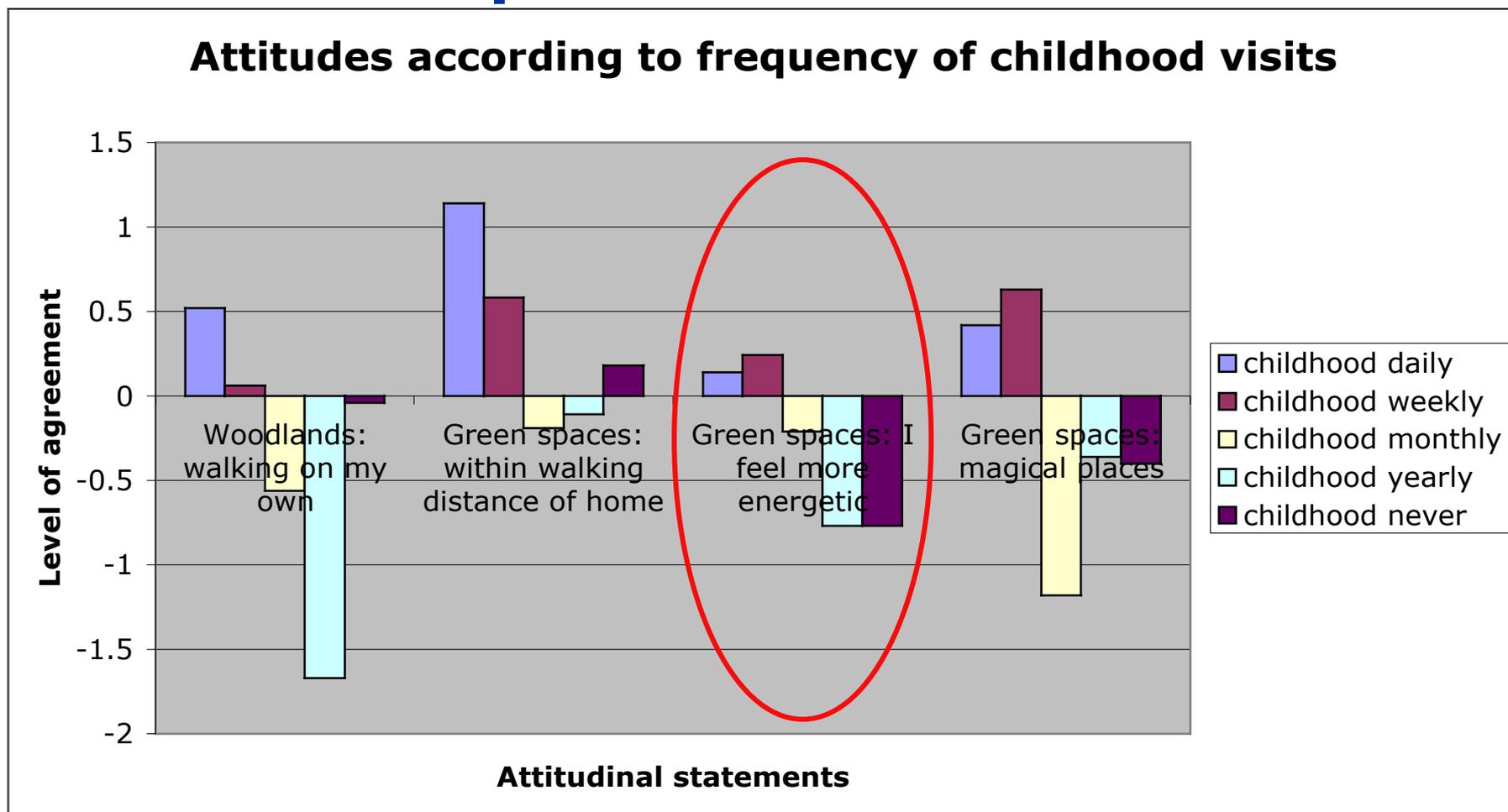
Childhood experience and adult attitudes



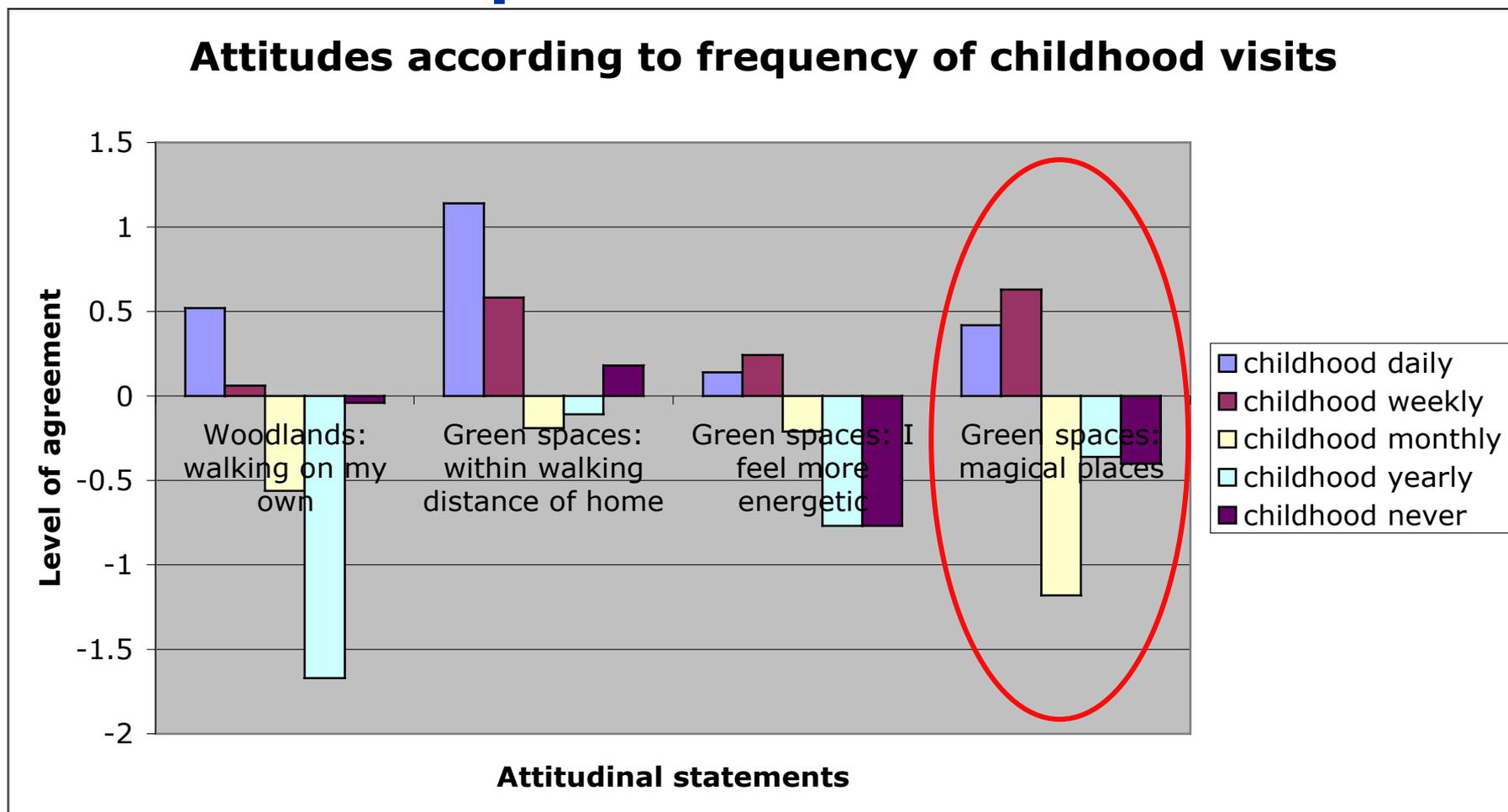
Childhood experience and adult attitudes



Childhood experience and adult attitudes



Childhood experience and adult attitudes



Key messages

1. The vividness of childhood memories in nature
2. Childhood visits influence adult attitudes, experience and activities in nature



“By leaves, we live” Patrick Geddes, 1904

Experiential Learning

Experiential Learning

Patrick Geddes - believed that education, from childhood onwards, should involve direct and practical experience.

Geddes promoted the idea the every school yard should have a garden in place of their “desolate playgrounds”

True education starts with the feelings and proceeds towards the intellect, not vice versa

“Vivendo discimus” - by living, we learn

The elemental emotion of wonder elicits first admiration, then curiosity (Patrick Geddes, 1904)



Experiential Learning

Experiential learning today

Research by Shayer et al. on 11- and 12-year-old children, UK, 2006, using Piaget's model of development:

They were on average **between two and three years behind** where they were 15 years previously in terms of cognitive and conceptual development.

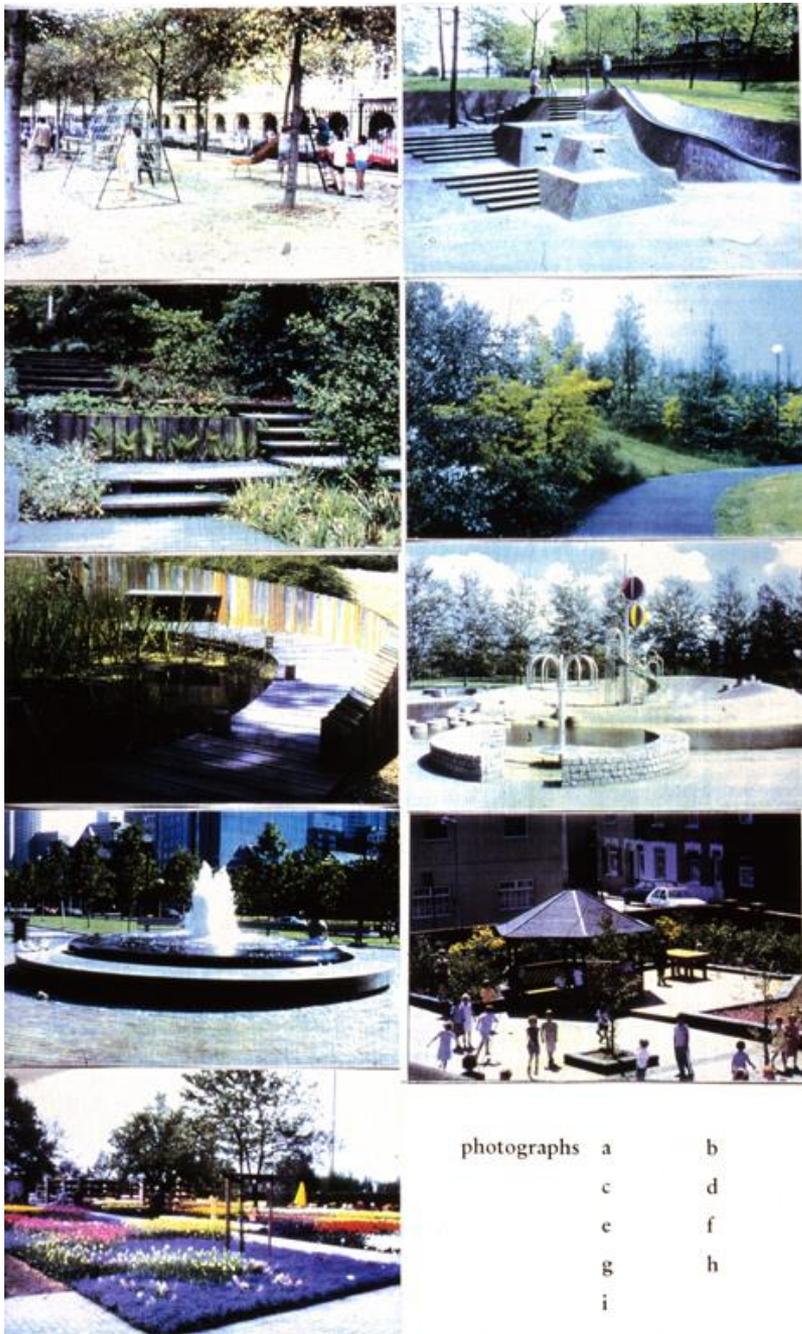
Shayer speculates this is due to “the lack of experiential play in primary schools, and the growth of a video-game, TV culture. Both take away the kind of **hands-on play** that enables children to comprehend the world around them.”





Ward Thompson, C. 1995. 'School playground design: a projective approach with school pupils and staff' *Landscape Research* 20(3), 124-140

Ward Thompson, C. 1998. 'A Projective Approach to a Language of Landscape Design', *Landscape Review* 4 (2), 27-40



Research with Pupils aged 9-10 yrs, and their teachers

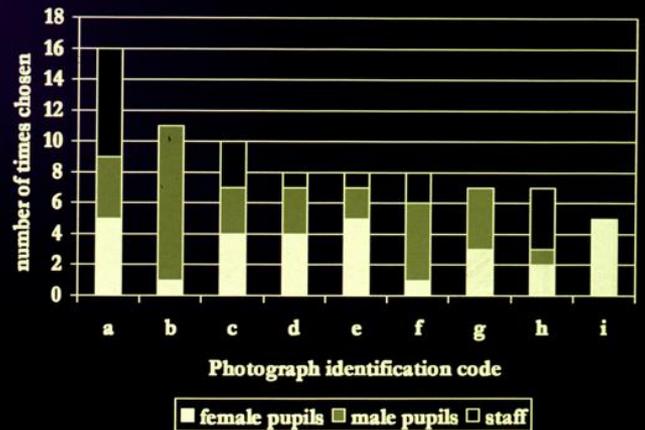
Asked about which image would be their favourite playground

Likes and dislikes, what they'd like to do there, on their own, and with a friend.

What would an ideal school playground be like?

Most Popular Photograph Choices

- female pupils, n=32
- male pupils, n=34
- staff, n=30
- $\chi^2=14.5$
- df=1
- $p<.01$



School of Landscape Architecture

LOLA, 98

Catharine Ward Thompson

Ward Thompson, C. 1995. 'School playground design: a projective approach with school pupils and staff' *Landscape Research* Vol 20(3), 124-140

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Placement of elements on Location Task Diagram: Centre/Inner vs Outer/Outside

Pupils - elements mainly Centre/Inner

Wildlife/nature study/fishing (Centre/Inner vs. Outer 4:1)

Planting/gardening/gardens (Centre/Inner vs. Outer 2:1)



Placement of elements on Location Task Diagram: Front vs. Back

Pupils - elements mainly in front (front vs back 2:1)

- shelter and shade
- sitting areas
- greenery/flowers/plants
- chatting
- running
- formal games courts/equipment

Staff - elements mainly in back (front vs back 1:5)

- shelter and shade
- sitting areas
- greenery and flowers
- wildlife/nature study etc



Key messages

1. The vividness of childhood memories in nature
2. Childhood visits influence adult attitudes, experience and activities in nature
3. Children see natural spaces as central to their school environment and its public face

Is the restorative potential of natural settings different in young people with behavioural problems v. those without?

Jenny Roe, PhD with OPENspace, 2008



Two studies of Forest School in Glasgow from:

1. Mainstream school (n=10) ages 11-13
2. Specialist residential school (n=8) ages 10-12

A forest setting is advantageous compared with the school setting (both measured over a day) to young people with behavioural problems.

Significant differences were found on 4 outcome variables: **anger, hedonic tone, stress and energy.**

Young people without behavioural problems also benefited from the forest setting, but to a lesser degree.

Natural England Commissioned Report NECR025

Wild Adventure Space: its role in teenagers' lives

First published 20 May 2010

www.naturalengland.org.uk



*“People have stereotyped teenagers –
there are no play areas for teenagers”.*

Childhood play and teenage years

In addition to being important for *healthy physical, mental, cognitive, emotional and social development*, childhood play in natural settings appears to have a long-term and positive effect on attitudes, well-being and behaviour



What happens if young people are no longer “free range”?

By constraining young people’s access to adventure,
“...we have already condemned an entire generation to a life of awful quality and shocking brevity”

Bailie (Adventure Activities Licensing Authority) 2005

“Facing doubt and uncertainty about the outcome are the most valuable learning experiences of young people’s adventure’s outdoors.”

McMorrin, (Adventure Activities Licensing Authority)
2008

What do young people say they want?



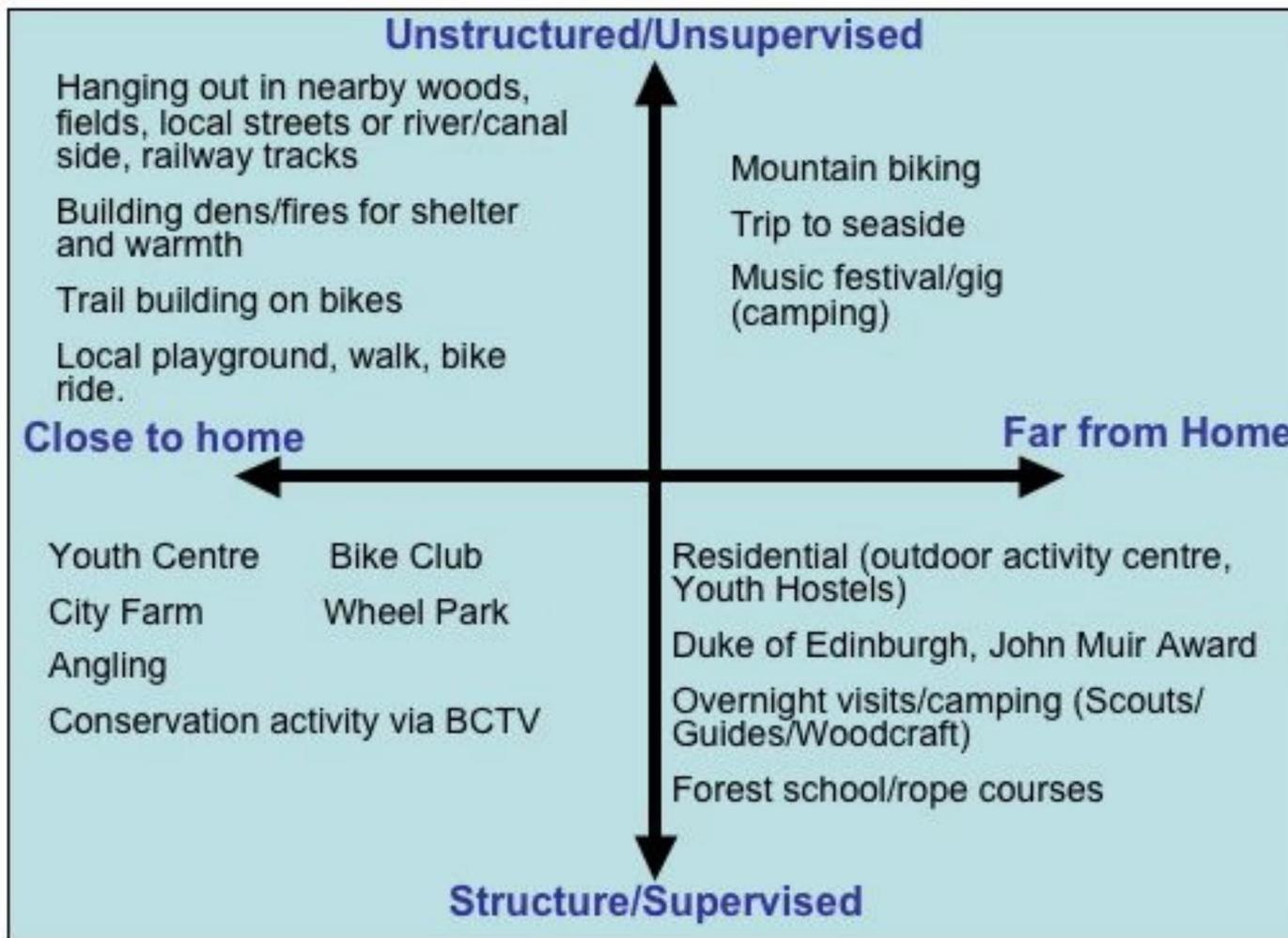
What do young people say they want?

“Teenagers don’t really want to be on the streets, they want to be somewhere with their friends where is no one to tell them to get off.”

Choice is important “... the opportunity to do things alone... a sense of power, being mature/responsible... developing new skills... doing what you want”

Activities led by trained youth workers - so long as young people felt they were free to do what they wanted, they enjoyed the sense of challenge and achievement as well as “having a good time with your mates”.

Spectrum of opportunity for wild adventure outdoors



(adapted from HenleyCentreHeadlightVision, 2005)



© Cath Evans, Royal Botanic Garden, Edinburgh





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4. Teenagers value and benefit from nature but may need support to engage with it on their own

Evaluating a government pilot study on children, looking at:

- obesity;
- unintentional injuries;
- asthma;
- mental health and wellbeing.

Good Places Better Health for Scotland's Children

Prepared by the Evaluation Group
of Good Places Better Health

4.0 OUR VISION

A Scotland where

Homes are warm and dry with good quality space for children to play indoors and outdoors

Children play, explore and relax outdoors in streets, parks, green places, open spaces and have contact with nature in their everyday lives

The presence of children outdoors is welcomed, supported and valued by parents and the wider community

Neighbourhoods are well maintained, safe, appealing, support healthy food choices and have a strong sense of community



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Pregnant women and perinatal outcomes



In Israel, UK and Lithuania, positive associations were found between surrounding greenness or close access to city parks and babies' birth weight/development

Phytoncides, ‘natural killer’ cells and the microbiome



Plants can offer phytoncides (antimicrobial volatile organic compounds) which reduce blood pressure, boost immune functioning; forests/nature enhance “Natural Killer” cells – the immune system’s anti-cancer cells

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5. Nature is important from before we're born, and in ways we are only just beginning to understand

Our latest research project ...

Mobility, Mood and Place (MMP) explored how places can be designed collaboratively to make mobility easy, enjoyable and meaningful for older people.



www.mobility.mood.place.ac.uk

Mobility, Mood and Place is funded by Lifelong Health and Wellbeing, a cross-council initiative addressing the challenges and opportunities of an ageing population.



THE UNIVERSITY of York



Environments across the lifecourse

Features of the environment - such as the availability of public parks - can have lifelong positive associations with successful ageing, and in particular with better cognitive health and with mental wellbeing (especially for disadvantaged populations) in later life

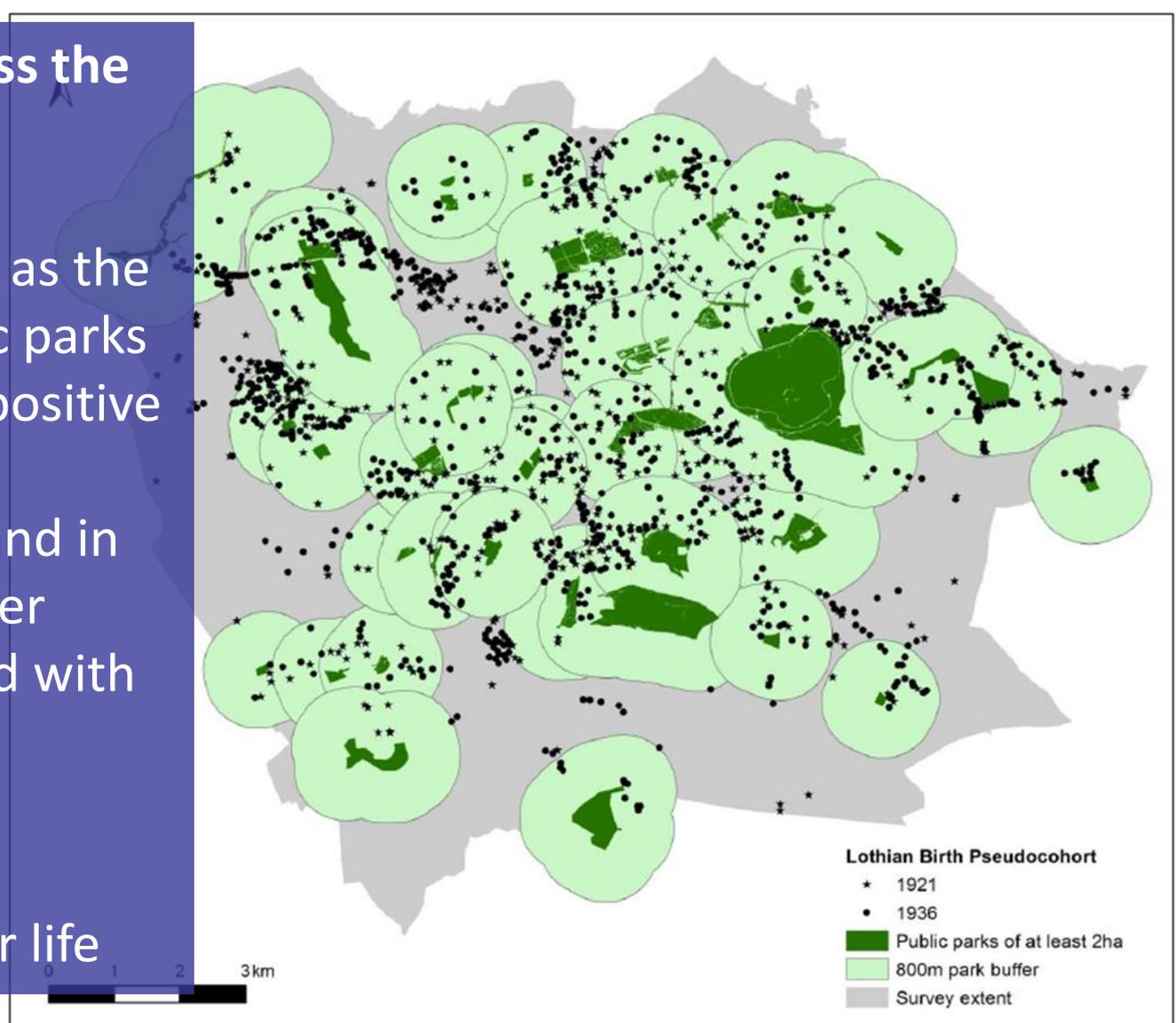


Figure 3. Distribution of the pseudo cohort in relation to public parks in the Edinburgh region in 1949.

Cherrie, M., Shortt, N., Ward Thompson, C., Deary, I. & Pearce, J. 2019. Association between the activity space exposure to parks in childhood and adolescence and cognitive aging in later life. *International Journal of Environmental Research and Public Health* 16, 632

Pearce, J., Cherrie, M., Shortt, N., Deary, I. & Ward Thompson, C. 2018. Life course of place: a longitudinal study of mental health and place. *Transactions of the Institute of British Geographers* 43:555–572

What does this mean for kids who don't get any kind of good engagement with nature in early years?





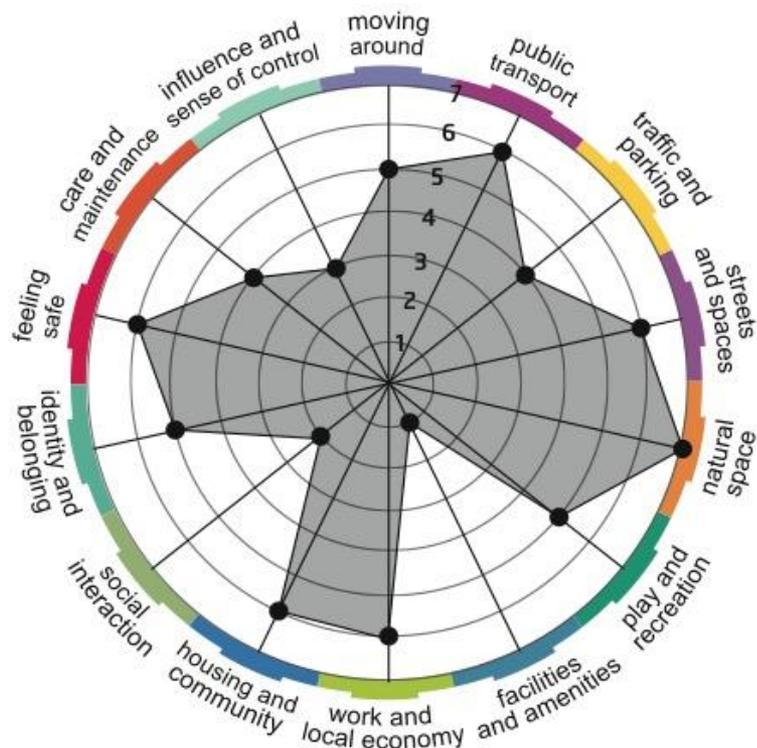
NO PARKING
IN THIS
AREA

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5. Nature is important from before we're born, and in ways we are only just beginning to understand
6. We need access to nature from pre-birth to oldest old age; does our built environment reflect this?

Place Standard – How good is Our Place?

The Place Standard was launched in December 2015 by
NHS Health Scotland
Scottish Government
Architecture & Design
Scotland



The Place Standard is a tool to evaluate the quality of a place. It can evaluate places that are well-established, undergoing change, or still being planned. The tool can also help users to identify their priorities.

The tool is simple and free to use. It consists of 14 questions which cover both the physical and social elements of a place. Prompts are provided to help users answer the questions. When all 14 questions have been completed, the results are shown in a simple diagram.

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NHS
Health
Scotland

The Scottish
Government
Riaghaltas na h-Alba

www.openspace.eca.ed.ac.uk

 @OPENSspace_rc



**Urban Green
Space Interventions
and Health**

*A review of impacts
and effectiveness*

WHO European Region report 2017

A review of local case studies and Impact Assessment experiences, their impact on environment, health, wellbeing and equity

