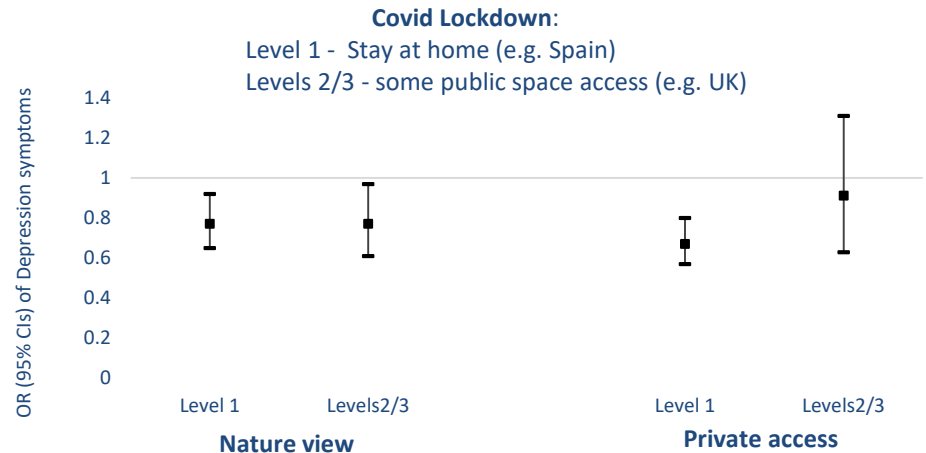
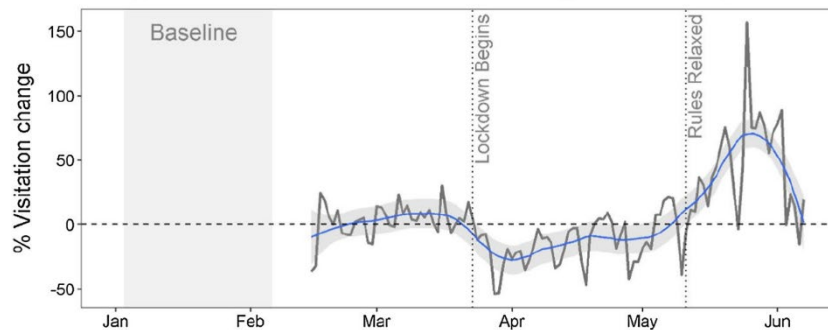


COVID-19 & the benefits of contact with nature for mental health: Early findings

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Google estimates of park visitation change across England





1) Contact with nature & mental health pre Covid

- Nature visits
- Gardens

2) During Covid

- Spike in nature visits
- Gardens/visits & mental health in UK
- Gardens/visits & mental health across Europe

3) Early (tentative) take home messages

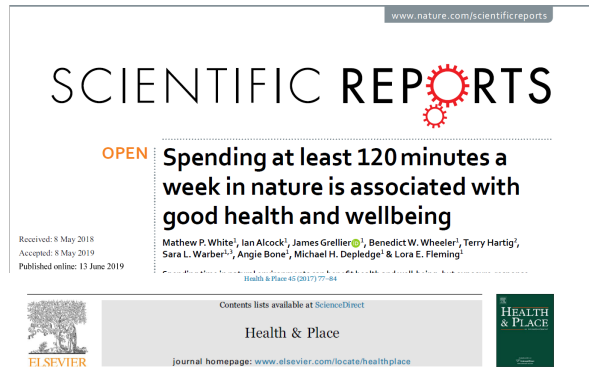


1) Contact with nature & mental health pre Covid

- Nature visits
- Gardens



Monitor of Environment with the Natural Environment (MENE) 2009-2019 ~40,000 people a year (total n = 460,000) – fully representative (Official National Statistics status)



Natural environments and subjective wellbeing: Different types of exposure are associated with different aspects of wellbeing

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^a European Centre for Environment and Human Health, University of Exeter Medical School, UK
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Research Paper

Who doesn't visit natural environments for recreation and why: A population representative analysis of spatial, individual and temporal factors among adults in England

Francesca Boyd^a, Mathew P. White^a, Sarah L. Bell^a, Jim Burt^a

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^c Natural England, United Kingdom

ARTICLE INFO

Keywords:
Natural environment
Recreation
Engagement

ABSTRACT

Contact with natural environments may be beneficial for various health and social outcomes but is often lower among groups who could benefit the most. Using data from > 60,000 adults in England, we explored the spatial (e.g. amount of local green space), individual (e.g. socio-economic status) and temporal (e.g. seasonality) predictors of infrequent contact and the reasons given for it. Regular contact, smaller studies, infrequent users were more likely to be female, older, in poor health, of lower socioeconomic status, of ethnic minority status, live in relatively deprived areas with less neighbourhood green space and be further from the coast. Extending previous findings, we also identified regional, seasonal and annual effects. Although response on issues of time availability were important, being too interested and too particular reason were also common. Identifying the



Nature contact, nature connectedness and associations with health, wellbeing and pro-environmental behaviours

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^a Natural England, UK
^b School of Psychology, University of Plymouth, UK
^c European Centre for Environment and Human Health, University of Exeter Medical School, UK
^d Human Sciences Research Centre, University of Derby, UK

ABSTRACT

Contact with, and psychological connectedness to the natural world are both associated with various health and sustainability-related outcomes. To date, though, the evidence base has been fragmented. Using a representative sample of the adult population of England (N = 4,960), we investigated the relationship between three



Spending time in the garden is positively associated with health and wellbeing: Results from a national survey in England

Siân de Bell^a, Mathew White^a, Alistair Griffiths^a, Alison Darlow^a, Timothy Taylor^a, Benedict Wheeler^a, Rebecca Lovell^a

^a European Centre for Environment and Human Health, University of Exeter, United Kingdom
^b Royal Horticultural Society, United Kingdom
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The effects of meteorological conditions and daylight on nature-based recreational physical activity in England

Lewis R. Elliott^a, Mathew P. White^a, Christophe Saran^a, James Grellier^a, Joanne K. Garrett^a, Enrico Scoccimarro^a, Alexander J. Smalley^a, Lora E. Fleming^a

^a European Centre for Environment and Human Health, University of Exeter, UK
^b Met Office, Exeter, UK
^c Centre Euro-Mediterranean and Concomitant Climate, Climate Simulation and Prediction Division, Bologna, Italy

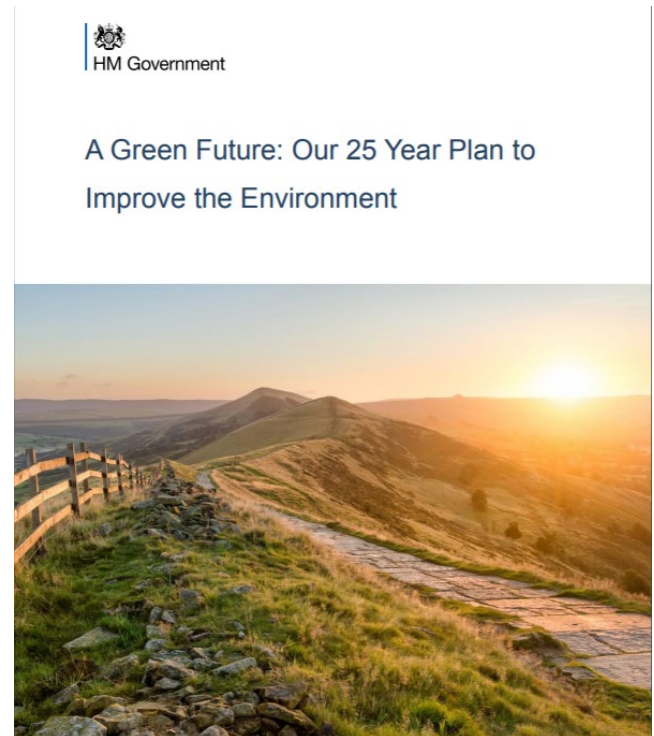
ARTICLE INFO

Handling Editor: Malinda van den Bosch

Keywords:
Energy expenditure
Green space
Leisure
Spill-out
Weather

ABSTRACT

Meteorological conditions affect people's outdoor physical activity. However, we know of no previous research into how these conditions affect physical activity in different types of natural environments – key settings for recreational physical activity, but ones which are particularly impacted by meteorological conditions. Using responses from four waves (2009–2013) of a survey of leisure visits to natural environments in England (n = 47,033), visit dates and locations were ascertained estimates of energy expenditure (MET minutes) and assigned meteorological data. We explored relationships between MET minutes in natural environments (in particular, parks, woodlands, inland waters, and coasts) and the hourly maxima of air temperature and wind speed, levels of rainfall, and daylight hours using generalized additive models. Overall, we found a positive linear relationship between MET minutes and air temperature, a negative linear relationship with wind speed, no relation with rain, and a positive, but non-linear relationship

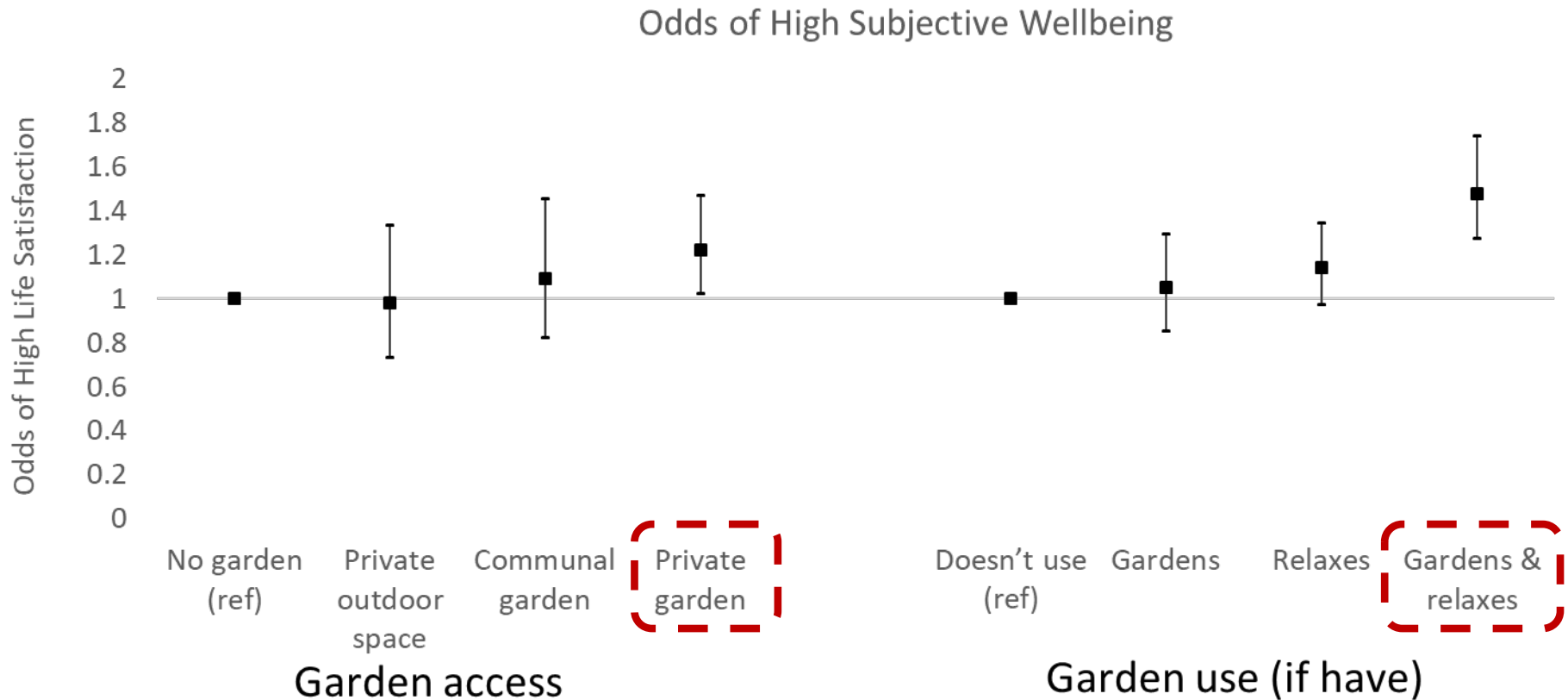


White, Alcock, Grellier, Wheeler, Hartig, Warber, Bone, Depledge & Fleming, (2019). 120 minutes of nature contact per week is positively related to health and wellbeing. *Scientific Reports*, 9, 7730

MENE



2009/2010 – 2015/2016; Life Satisfaction; N = 7,814



Controlling for wide set of individual & area variables

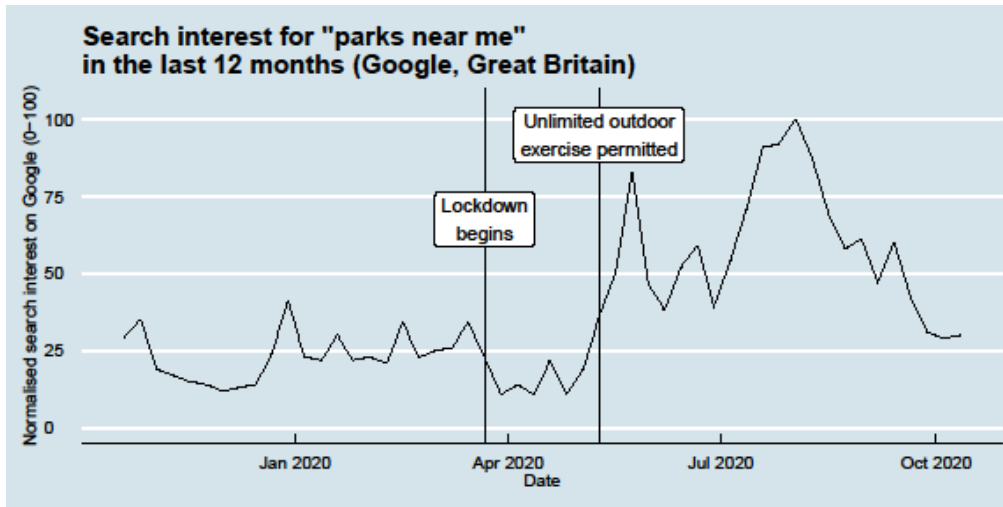


1) Contact with nature & mental health pre Covid

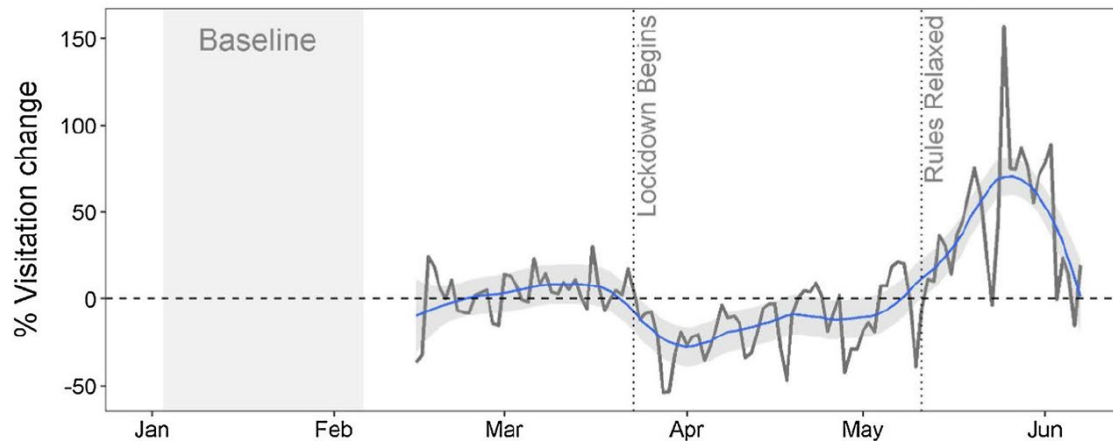
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Google estimates of park visitation change across England



MENE



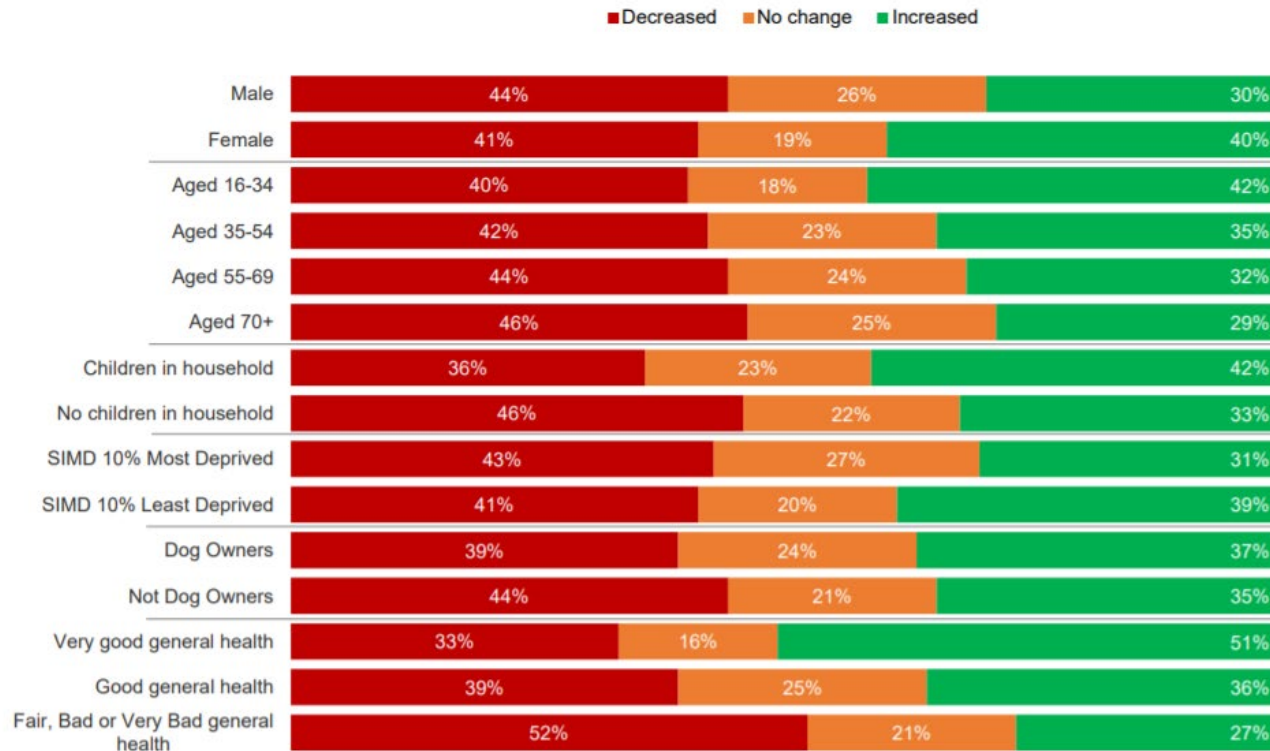
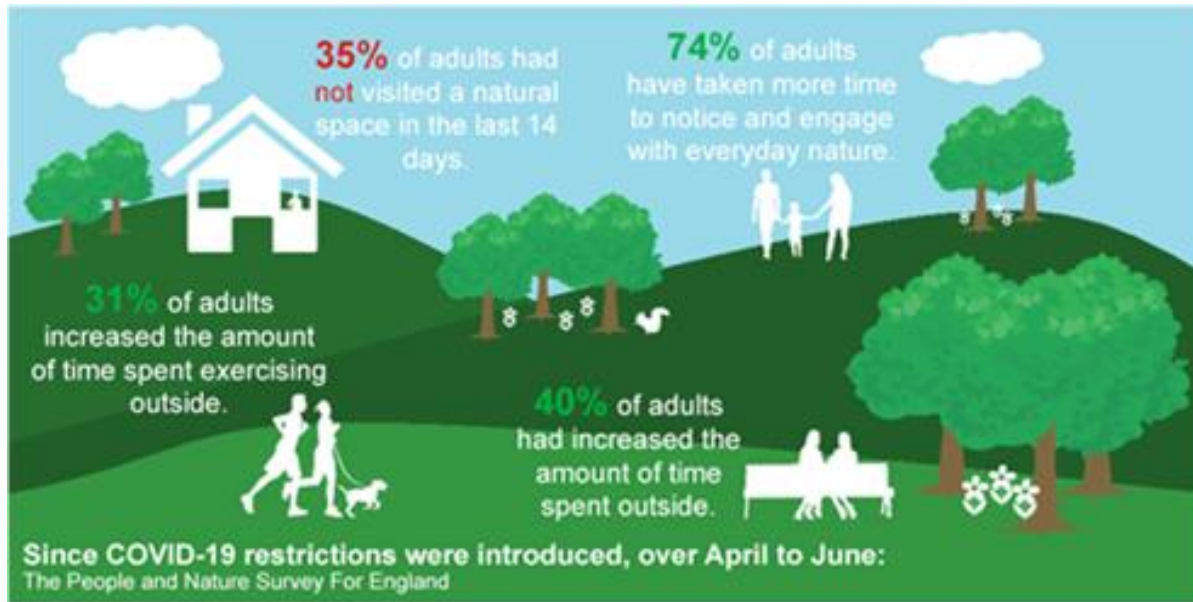


Figure 4. Amount of time spent outdoors for exercise during lockdown (23 March to 28 May 2020) compared to the same period a year ago by population group. Base: All respondents (1,008)

But the spike was not present for all groups – some groups visited less (e.g. poor health)

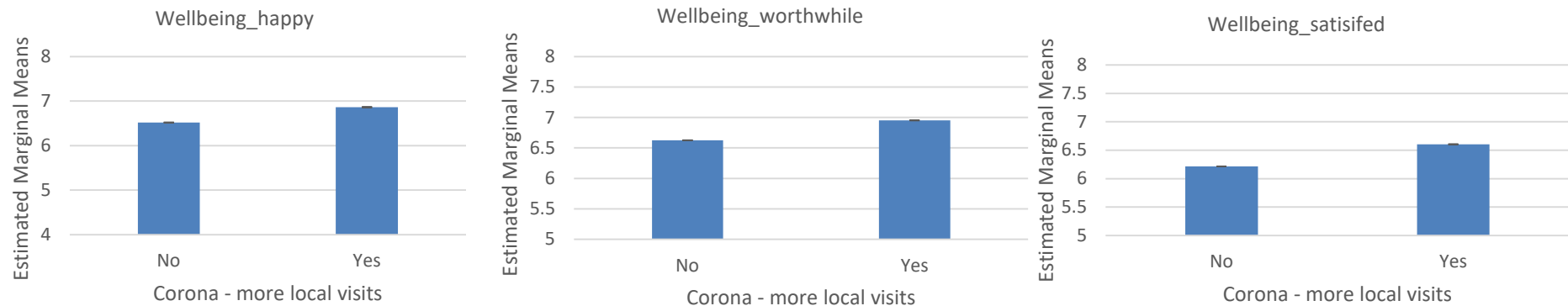
MENE → People & Nature Survey (April/June 2020, N = 6,500)



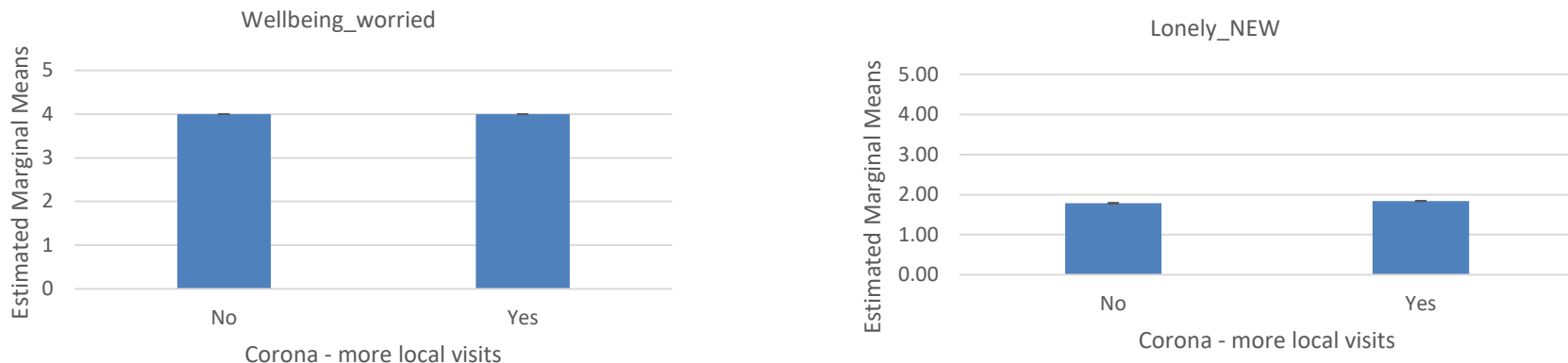
Self-reported changes

Currently combining April-June: 2009-2019 in MENE to look at change in nature visits and garden use

Associated with increased happiness, eudaimonic wellbeing and overall life satisfaction (positive outcomes)



Not associated with less worry/anxiety or loneliness (negative outcomes)





MENE
2009-2019
(N = 2,721)

PNS 2020
(N = 1,177)



Preliminary unadjusted models

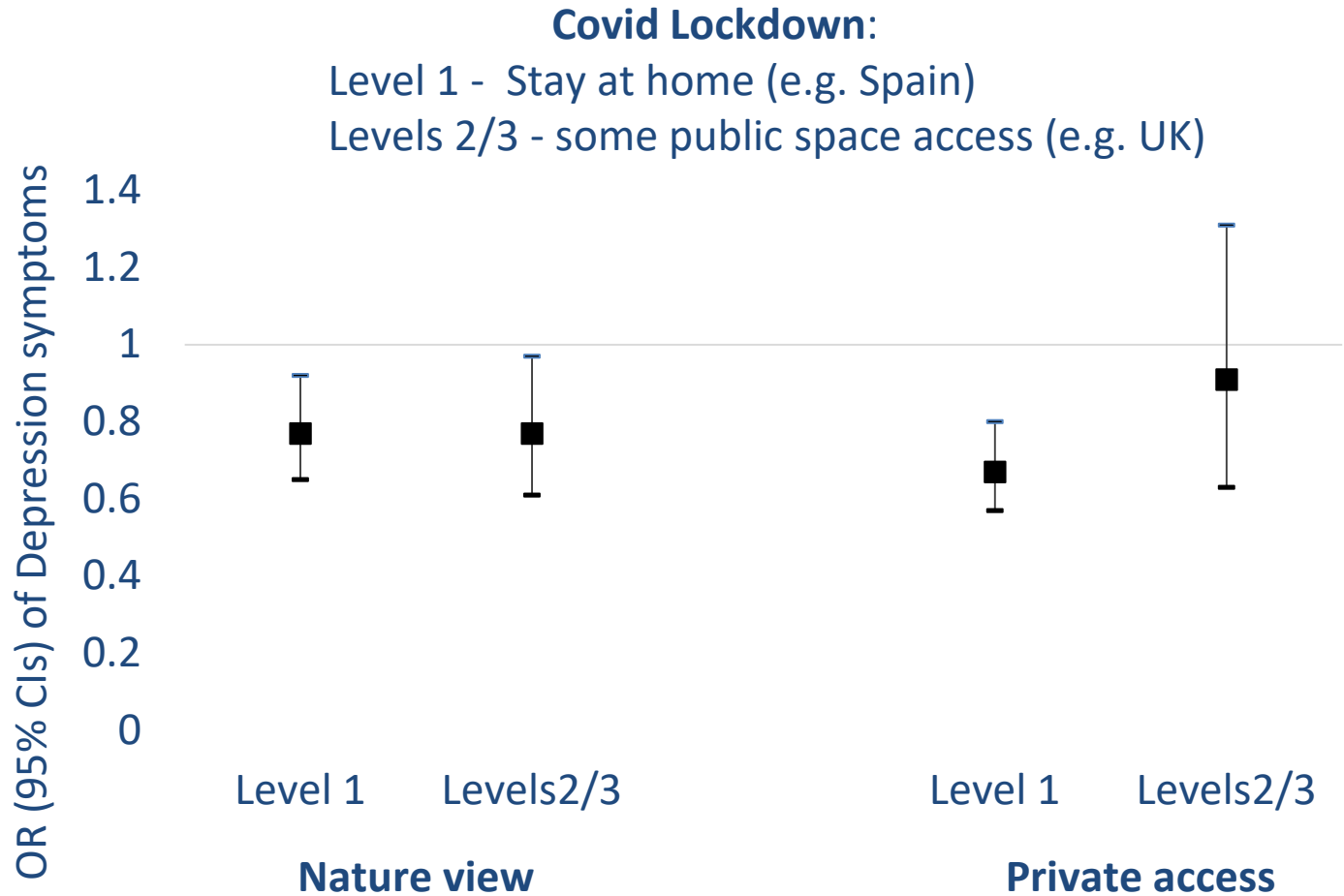


April/May 2020

Online
convenience
sample

N = 6,080

> 20 countries



Controlling for age, gender, h/h size, income, education, children, dog.



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3) Early (tentative) take home messages



- 1) Pre-Covid: nature visits/gardens related to mental health & wellbeing
- 2) Covid UK: spike in visits when restrictions lifted; not all groups (poor health)
- 3) Increased nature visits associated with positive mental health but NOT lower anxiety/loneliness
- 4) Compared to Springs (2009-2019), Spring 2020 associated with lower life satisfaction largely independently of garden access/visits
- 5) Across Europe, having nature views from home associated with lower likelihood of depression and anxiety symptoms
- 6) Having a garden only associated with lower likelihood of depression and anxiety symptoms in Level 1 lockdown (no park access)
- 7) Caution - findings are VERY preliminary and much work still to be done



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