

Nature and human health

Expertbijeenkomst Rotterdam, 23 November 2023

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Intro



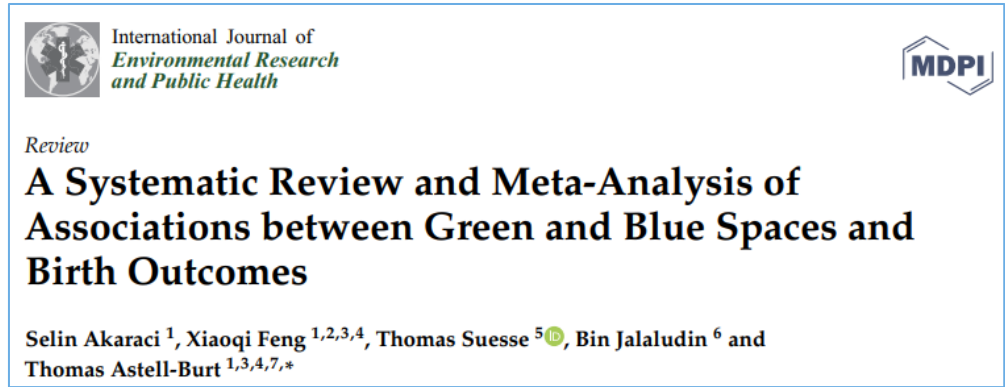
[Nature Rx part 1 hyperlink](https://youtu.be/Bf5TgVRGND4)
<https://youtu.be/Bf5TgVRGND4>

Onderwerpen

- Relatie natuur en gezondheid
 - en onderliggende mechanismen
- Het belang van nabijheid
 - en terloops contact met natuur
- Verschillen in toegang tot en belang van natuur
 - met name sociaaleconomisch

Association between nearby nature and health 1

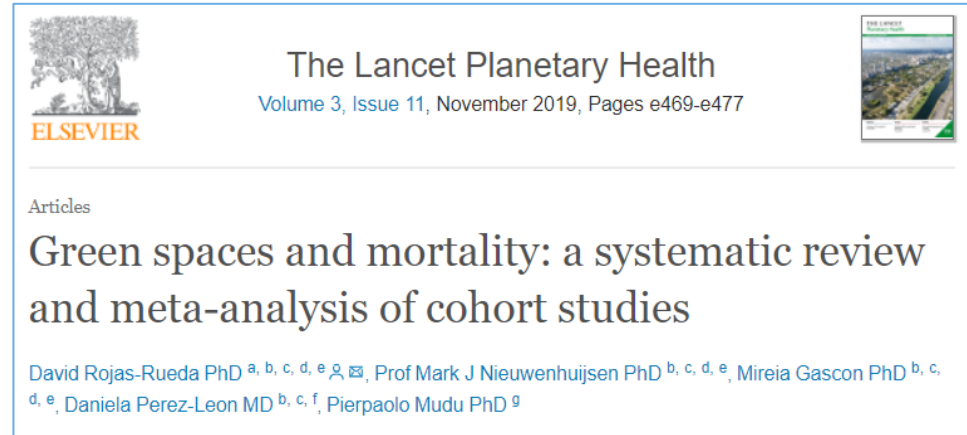
- Already starts at birth:



- Systematic review by Akaraci et al. (2020):
 - Greener residential surroundings of mother are associated with higher birth weight of babies
 - And lower probability of baby being small for gestational age

Association between nearby nature and health 2

- And continues till death:



- Systematic review by Rojas-Rueda (2019):
 - In a greener residential environments is the risk of premature death smaller

Associations between nearby nature and health 3

And between birth and death beneficial associations for, among others:

- Social-emotional development of children (Vanaken & Danckaerts, 2018)
- Being overweight by children (Fyfe-Johnson et al., 2021)
- Being overweight by adults (Luo et al., 2020)
- Diabetes (De la Fuente et al., 2020)
- Mental health and well-being (Li et al., 2021)
- Cardiovascular disorders (Yuan et al., 2021)

The issue of causality of observed associations

- Thus, nearby nature is beneficially associated with many health outcomes, mental as well as physical.
- But are the observed associations causal in nature, with nearby nature being the driving force?
 - will greening residential environments help?
- The possibility of reversed causality
 - A poor health status might lead people to move to a less green (more urban) residential environment

Potential pathways requiring nearness/contact

- Providing microbes that improve our immune system functioning
- Improving air quality, esp. with regard to fine dust
- Reducing heat stress, esp. needed in cities
- Reducing stress, restoring attention, improving mood
- Inviting physical activity
- Facilitating social contacts and social cohesion

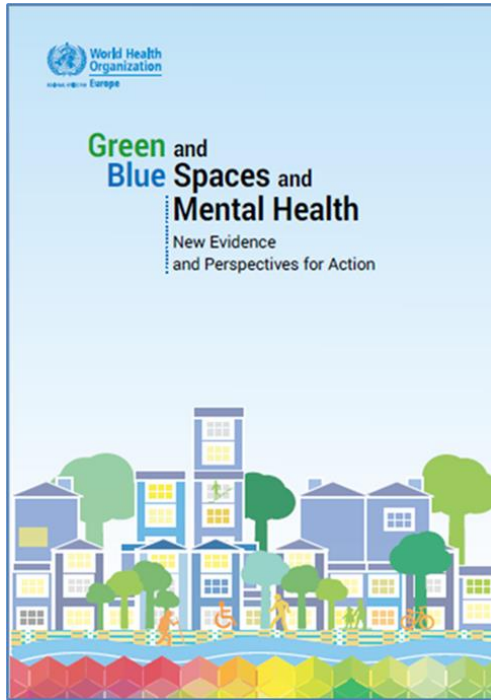


Purposeful visits vs. casual encounters



Types of green and blue space and mental health

- Systematic evidence mapping by Expert Working Group




PEOPLE
AND
NATURE

BRITISH
ECOLOGICAL
SOCIETY

REVIEW AND SYNTHESIS |  Open Access |  

How do different types and characteristics of green space impact mental health? A scoping review

F. Beute, M. R. Marselle , A. Olszewska-Guizzo, M. B. Andreucci, A. Lammel, Z. G. Davies, J. Glanville, H. Keune, L. O'Brien, R. Remmen, A. Russo, S. de Vries

First published: 07 September 2023 | <https://doi.org/10.1002/pan3.10529>

Importance of **nearness** during COVID-19

The image displays a collage of journal covers and article titles. The top row features the cover of 'ECOLOGICAL APPLICATIONS' from the Ecological Society of America. Below it, the title 'Environmental Research' is centered. The middle row shows the cover of 'Landscape and Urban Planning' from Elsevier, with the text 'Volume 211, July 2021, 104092' below it. The bottom row features the cover of 'Environment International' from Elsevier, with the text 'Volume 154, September 2021, 106664' below it. The main article title 'Exposure to nature and mental health outcomes during COVID-19 lockdown. A comparison between Portugal and Spain' is prominently displayed in the lower half. The authors 'Wouter Denitz' are listed at the bottom left. The Elsevier logo is visible on the journal covers.

ECOLOGICAL APPLICATIONS
ECOLOGICAL SOCIETY OF AMERICA

environmental research

Environmental Research

Landscape and Urban Planning
Volume 211, July 2021, 104092

Environment International
Volume 154, September 2021, 106664

Exposure to nature and mental health outcomes during COVID-19 lockdown. A comparison between Portugal and Spain

Wouter Denitz

WAGENING UNIVERSITY & RESEARCH

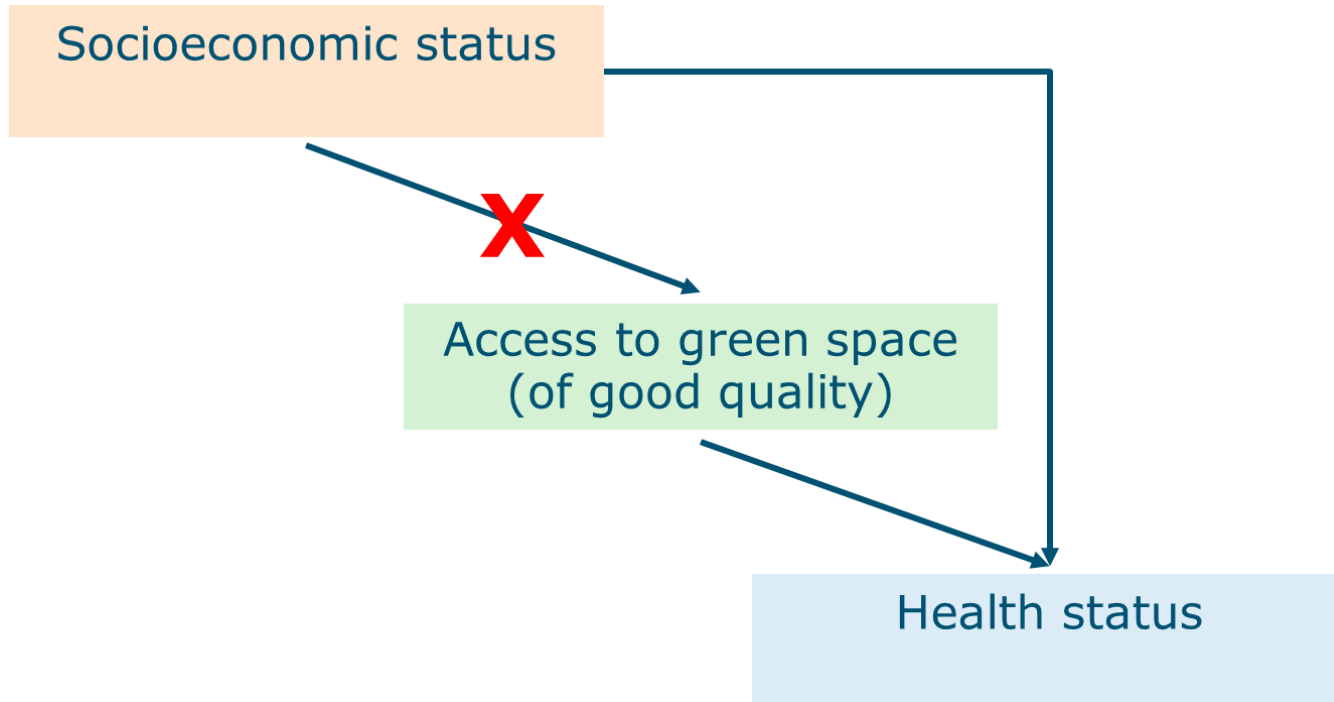
Reducing socioeconomic health disparities

Large socioeconomic health disparities, even in the rather egalitarian Netherlands:

- 7 years shorter life expectancy
- 15 years shorter healthy life expectancy

At the same time, low socioeconomic status (SES) is associated with poorer access to green space, especially amount of green space per capita: about one third of that in high SES neighbourhoods.

Can breaking the link between SES and access to green space help to reduce socioeconomic health disparities?

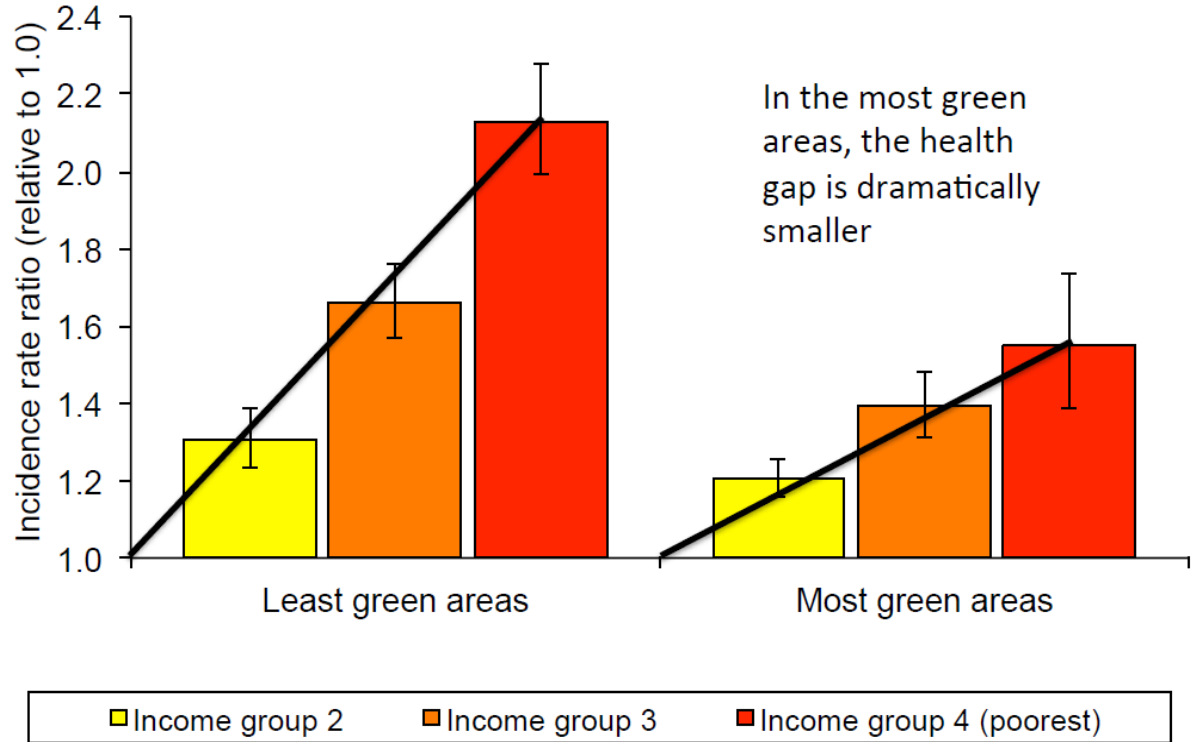


Nearby nature more important for low SES

THE LANCET
Volume 372, Issue 9650, 8–14 November 2008, Pages 1655–1660

Articles
Effect of exposure to natural environment on health inequalities: an observational population study

Dr Richard Mitchell PhD ^{a, R, B}, Frank Popham PhD ^b



Systematic review (Rigolon et al., 2021)



International Journal of
*Environmental Research
and Public Health*



Review

Green Space and Health Equity: A Systematic Review on the Potential of Green Space to Reduce Health Disparities

Alessandro Rigolon ^{1,*}, Matthew H. E. M. Browning ², Olivia McAnirlin ² and Hyunseo (Violet) Yoon ³

- Conclusion: the beneficial association between residential green space and health is stronger among poorer segments of the population
 - Especially so when it comes to public green space
 - This phenomenon is stronger in Europe than in North America

Overall conclusions

- Nearby nature is beneficially associated with many health outcomes
- The pathway is not always clear, but there are several plausible candidates
 - such as heat stress, mental stress, social cohesion
- Which type of nature works best is not very clear, but nearness is important
 - amount of exposure likely to be more important than high quality exposure (however defined)
- Providing low SES neighbourhoods with green space of at least reasonable quality may help to reduce socioeconomic health disparities

*Thanks for
your attention!*



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