

A photograph of a person and a child walking away on a paved path through a lush forest. The path is flanked by dense green ferns and moss-covered trees. In the background, tall, straight tree trunks rise into a canopy of green leaves. Overlaid on the image is a white rectangular box containing the text 'PaRx : A Prescription for Patient and Planetary Health'. The 'PaRx' is in a large, green, serif font, and the rest of the text is in a smaller, black, sans-serif font.

PaRx : A Prescription for Patient and Planetary Health



healthy  
by nature

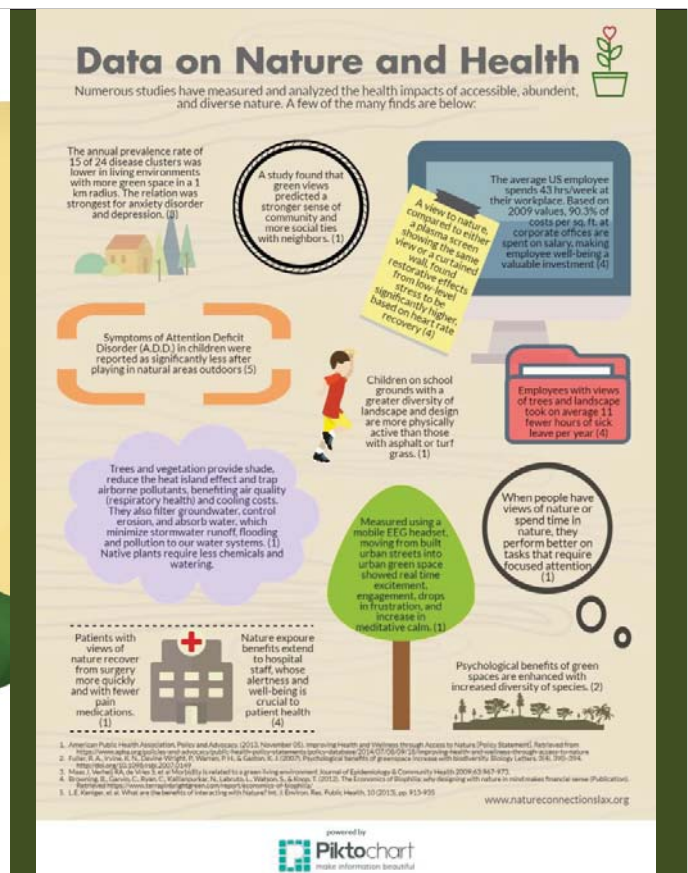




Photo by [Alex](#) on [Unsplash](#)



# SCIENTIFIC REPORTS

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## Neighborhood greenspace and health in a large urban center

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Omid Kardan<sup>1</sup>, Peter Gozdyra<sup>2</sup>, Bratislav Misić<sup>3</sup>, Faisal Moola<sup>4</sup>, Lyle J. Palmer<sup>5</sup>, Tomáš Paus<sup>6</sup> & Marc G. Berman<sup>1,7</sup>

- Study in Toronto combined:
  - High-resolution satellite imagery
  - Individual tree data
  - Ontario Health Study data and self-reports of health perception
- 10 more trees/block ↑ health perception by:
  - Increase in personal income of \$10,000/year
  - Moving to a neighbourhood with \$10,000/year higher median income
  - Being 7 years younger

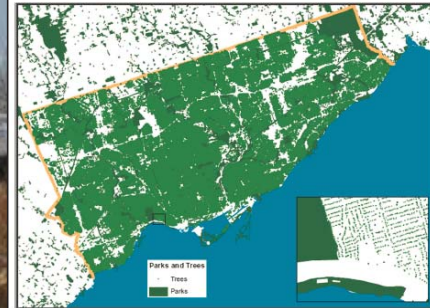


Figure 1. The Greenspace map of the city of Toronto constructed from the individual tree information Street Tree General Data. This image is shown in much lower resolution compared to the real image and the dissociation between individual trees and other areas is clearly perceivable for the zoomed-in area. Parks are shown in dark green. This figure was created using Environmental Systems Research Institute's (ESRI) ArcGIS software v. 10.2.

## Children With Attention Deficits Concentrate Better After Walk in the Park

Andrea Faber Taylor  
Frances E. Kuo  
*University of Illinois, Urbana-Champaign*

Journal of Attention Disorders

Volume 12 Number 5

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10.1177/1087054708323000

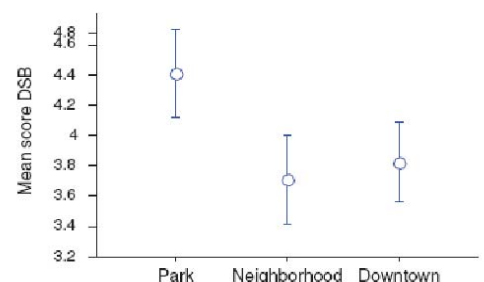
<http://jad.sagepub.com>

hosted at

<http://online.sagepub.com>

- 17 children with ADHD were guided on three 20-minute walks through:
  - city park
  - downtown area
  - residential area
- A 20-minute walk in the park:
  - improved DSB performance to levels in children w/o ADHD
  - rivalled the peak effects of Ritalin

Figure 1  
Mean Postwalk Scores on Digit Span Backwards for Park, Neighborhood, and Downtown Conditions



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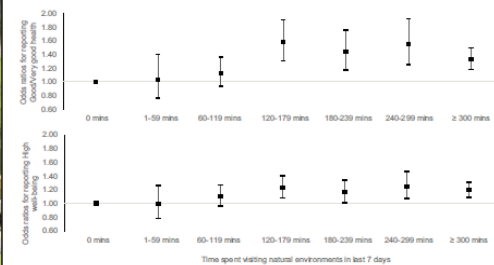
OPEN

## Spending at least 120 minutes a week in nature is associated with good health and wellbeing

Received: 8 May 2018  
Accepted: 8 May 2019  
Published online: 13 June 2019

Mathew P. White<sup>1</sup>, Ian Alcock<sup>1</sup>, James Grellier<sup>1</sup>, Benedict W. Wheeler<sup>1</sup>, Terry Hartig<sup>2</sup>, Sara L. Warber<sup>1,3</sup>, Angie Bone<sup>1</sup>, Michael H. Depledge<sup>1</sup> & Lora E. Fleming<sup>1</sup>

- Study of 19,806 adults in England
- Likelihood of reporting good health or high well-being significantly greater at nature contact  $\geq 120$  min/week
- Positive associations peaked between 200–300 min/week



**Figure 1.** The odds ratios (OR) and 95% confidence intervals of reporting good health and high well-being as a function of nature visit duration in the last 7 days (0 mins = reference category). Note: Adjusted for urbanicity, neighbourhood greenspace, area deprivation, background PM10, sex, age, SES, restricted functioning, physical activity, employment status, relationship status, ethnicity, children in household, dog ownership and year.

frontiers  
in Psychology

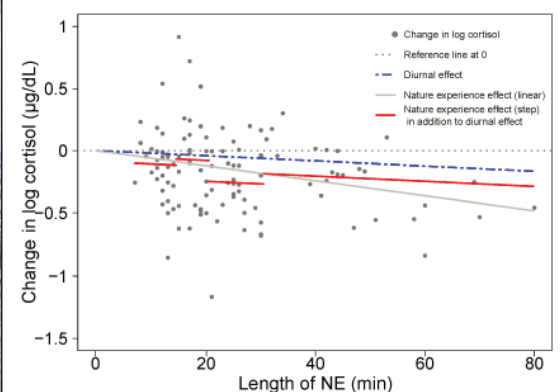
ORIGINAL RESEARCH  
published: 04 April 2019  
doi: 10.3389/fpsyg.2019.00722

## Urban Nature Experiences Reduce Stress in the Context of Daily Life Based on Salivary Biomarkers

MaryCarol R. Hunter<sup>1\*</sup>, Brenda W. Gillespie<sup>2</sup> and Sophie Yu-Pu Chen<sup>3</sup>

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- Over 8 weeks, 36 urban dwellers were asked to have a nature experience (NE):
  - In an outdoor place that brings a sense of contact with nature
  - At least 3 times/week
  - For 10 minutes or more
- Cortisol/stress levels  $\downarrow$  21.3% more after a NE
- Efficiency of 'nature pill' greatest between 20–30 minutes



**FIGURE 4 |** A visual comparison of cortisol response to NE duration with linear (gray solid line) and step function regressions (solid red line segments) based on the results shown in **Tables 1** and **2**. As in **Figure 2**, the blue dashed line represents the diurnal effect of change in log cortisol. The difference between the blue dashed line and the red solid line segments represents the nature experience effect in addition to the diurnal effect.

# Health as an Effective Message

- Lessons from climate change research:
  - 342 US parents questioned about their greatest concerns re: global environmental issues
  - 3 different forms of environmental concern:
    - Biospheric (concern for nature, eg. marine life)
    - Social-altruistic (concern for other people, eg. my kids)
    - Egoistic (concern for oneself, eg. my lifestyle)
  - Social-altruistic and Egoistic people weren't swayed by polar bears and coral reefs
  - Focusing on personal and family health impacts in public policy messaging = more motivating to change behaviour



Credit: [www.org.uk](http://www.org.uk)

[Global Environmental Change. 2018;48:158-167](#)

## Why Connecting to Nature is Good for the Planet

- Health care is a major contributor to global CO<sub>2</sub> emissions<sup>1</sup>
- Urban nature makes cities healthier<sup>2</sup>
- “Nature is ‘one of the most effective ways’ of combatting climate change and should be part of every country’s climate strategy” - Inger Andersen, Executive Director of the UN Environment Programme ([UNEP](#))<sup>3</sup>
- Children who have more nature experiences are more likely to become adult environmentalists—and adults who are more connected to nature are more likely to protect it<sup>4</sup>

<sup>1</sup> <https://noharm-global.org/documents/health-care-climate-footprint-report>

<sup>2</sup> <https://www.epa.gov/green-infrastructure/reduce-urban-heat-island-effect>

<sup>3</sup> <https://news.un.org/en/story/2019/09/1046752>

<sup>4</sup> Wells NM, Lekies KS. Children Youth Environ. 2006;16(1):1-24.

## Connect to Better Health Through Nature

Get Started

2 hours a week. That's all it takes.

People who spend at least two hours in nature each week report significantly better health and wellbeing.

A prescription worth filling.

Name \_\_\_\_\_

Date \_\_\_\_\_

My Outdoor Activity Plan (2 hours/week, 20+ minutes at a time):



Health Professional's Signature \_\_\_\_\_

Prescription #: BC-SA001 – \_\_\_\_\_ – \_\_\_\_\_  
(YYMMDD) (Patient's Initials)

Register your PaRx for a chance to win prizes.  
Head to [PARKPRESCRIPTIONS.CA](https://www.parkprescriptions.ca)



### 2 hours/week, 20+ minutes at a time. That's all it takes.

Research shows that people who spend at least 2 hours in nature each week report significantly better health and wellbeing.<sup>1</sup> Science suggests that the most efficient drop in cortisol (stress hormone) levels happens between 20 to 30 minutes<sup>2</sup> —hence our 20-minute rule.

#### Spending time in nature:

**Busts stress.**  
Sitting in a forest for just 15 minutes significantly reduces your cortisol levels and heart rate variability—while sitting on a urban street does nothing.<sup>3</sup>

**Makes you feel richer.**  
Living in a neighbourhood with 10 more trees per block improves your health perception similar to an increase in your personal income of \$10,000 per year.<sup>4</sup>

Increases your happiness.  
9 in 10 Canadians say they feel happier when they're more connected to nature.<sup>5</sup>

**Gives your brain a rest.**  
People who take a walk in green space instead of on a busy street have fewer repetitive, racing thoughts.<sup>6</sup>

**Connects you to others.**  
Spending time in neighbourhood green spaces makes you feel more connected to your community and improves social cohesion.<sup>7</sup>

#### Make the most of your nature prescription with these simple tips:

1. Make easy green tweaks to your routine. Avoid adding extra time and effort by substituting outdoor activities for indoor ones.
2. Write nature into your schedule. Prioritize your date with nature by entering it into your day planner.

3. Phone a friend or family member. Involving others increases your chances of meeting your goals.

4. Respect nature—and yourself. Dress for the weather, stay on the trail and pack out what you pack in.

5. Do what feels right for you. The health benefits of nature start to add up when you feel like you've had a meaningful nature experience.

<sup>1</sup>White, M.P., et al. *Sci Rep* 9: 7726 (2019). <sup>2</sup>Hartig, M.S., et al. *Ecog Psychol* 10: 722 (2019). <sup>3</sup>Hartig, M.S., et al. *Atten Rev* (2015). <sup>4</sup>Ward, J., et al. *Sci Rep* 11: 16723 (2021). <sup>5</sup><https://www.parkprescriptions.ca/en/park-prescriptions-are-when-connected-nature-they-feel-happier>. <sup>6</sup>Stratton, G.N., et al. *Proc Natl Acad Sci USA* 117: 8547 (2020). <sup>7</sup>Stratton, G.N., et al. *Sci Adv* 5: eaaa0113 (2019).

Ready to Fill Your Prescription?  
Head to [PARKPRESCRIPTIONS.CA](https://www.parkprescriptions.ca)

