THE ROLE OF THE NATURAL ENVIRONMENT IN HUMAN HEALTH & WELL-BEING

Nancy M. Wells, PhD

Design & Environmental Analysis, College of Human Ecology, Cornell University
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Global Health Challenges

- Obesity
- Physical Health
- Crime
- Domestic Violence
- Attention Deficit Disorder
- Asthma
- Stress / Mental health
Nature is our home...

If the last 2 million years of our species’ history were scaled to a single human lifetime of 70 years, then the first humans would not have begun settling into villages until 8 months after the 69th birthday. ... We have broken with long-established patterns of living rather late in our life as a species

- Howard Frumkin (2001), p 235

Views of nature speed surgery recovery

1980’s study:
surgery patients with views of trees & grass recovered faster and requested less pain medication than patients with a view of a brick wall.

Nature is linked to self-reported health

In a study of more than 250,000 people, Dutch researchers found an association between the % green space near home and perceived health.

Nature is linked to reduced mortality

A study 3000+ older adults in Japan found among the best predictors of 5-year survival were:

- Place for a stroll
- Nearby parks & trees

Nature views & walks reduce stress

- More green space is linked to lower salivary cortisol (stress) hormone levels.

- Nature views (compared to no view) linked to decline in diastolic blood pressure; Nature walk boosts attention and enhances mood.

- 7-day trip to the forest linked to decreases in systolic & diastolic BP (compared to urban trip) Shinrin-Yoku: Japanese “Forest Bathing”

Street trees associated with less asthma

New York City: street tree density linked to lower prevalence of asthma among 4-5 year olds, even after adjusting for confounders.

Nature fosters social interaction

Treed spaces within urban public housing communities are associated with more use & social interaction (Coley et al., 1997).

Green spaces support children’s play and intergenerational interaction (Faber Taylor et al., 1998)

Nature fosters community cohesion

In Chicago public housing:

Residents living in buildings surrounded by trees had greater social cohesion — they knew each other better and had more social support from their neighbors (Kweon et al, 1998; Kuo et al., 1998)

Vegetation is associated with less crime

Crime is lower in areas of high vegetation (i.e., grass and high-canopy trees) than in areas of low vegetation (controlling for building height, number of apartments per building, vacancy rate).

Nature bolsters cognitive functioning

College students with natural views from their dorm rooms perform better on cognitive tasks than those with views of streets, buildings, & cars.

Nearby nature boosts cognitive functioning

Children who moved to greener neighborhoods showed corresponding increases in cognitive functioning (Wells, 2000)

Wilderness vacations (v. “staycation” or urban vacation); & nature walks → improved performance on proofreading & other cognitive tasks (Hartig et al, 1991; Berman et al., 2008)

Nature reduces attention deficits symptoms

Several studies document that time spent in nature reduces symptoms among children with attention deficits.

Faber Taylor, Kuo & Sullivan, 2001 Coping with ADD... *Environment & Behavior*, 33, 54-77; Kuo & Faber Taylor, 2004; Faber Taylor & Kuo, 2009 Children with Attention Deficits... *J. of Attention Disorders*;
Children in greener neighborhoods were less likely to increase their BMI’s (Bell et al., 2008)

Neighborhoods with more park area are associated with more physical activity among children (Roemmich et al., 2006, 2007)

.... and among adults (Ellaway et al 2005; Deshpande et al, 2005; Giles-Corti et al., 2005)
Nature moderates health disparities bolsters resilience
Nature dampens health disparities

Green space reduces the influence of poverty on health (N=40,000,000).

Nature as a buffer: green boosts resilience

Green space reduces the effect of stress on mental health.

Nature’s Pathways to Health

- General Health
- Mortality
- Community Cohesion
- Stress
- Crime
- Domestic Violence
- Cognitive functioning
- Psychological well-being
- Asthma
- Physical activity / obesity
Tools, Policies, Strategies

- **Nature Prescription** ("Nature Rx")

- **Parks** within ¼ mile of all addresses

- **Health Impact Assessment** – to assess health benefits & risks of a proposed project or program, with particular focus on low income & disenfranchised groups.
Nature Matters.

- Nature is critical to human health + well-being.
- Nature is not a mere amenity; it is critical infrastructure.
- A healthy & sustainable future depends on our protection & prioritization of the natural environment.