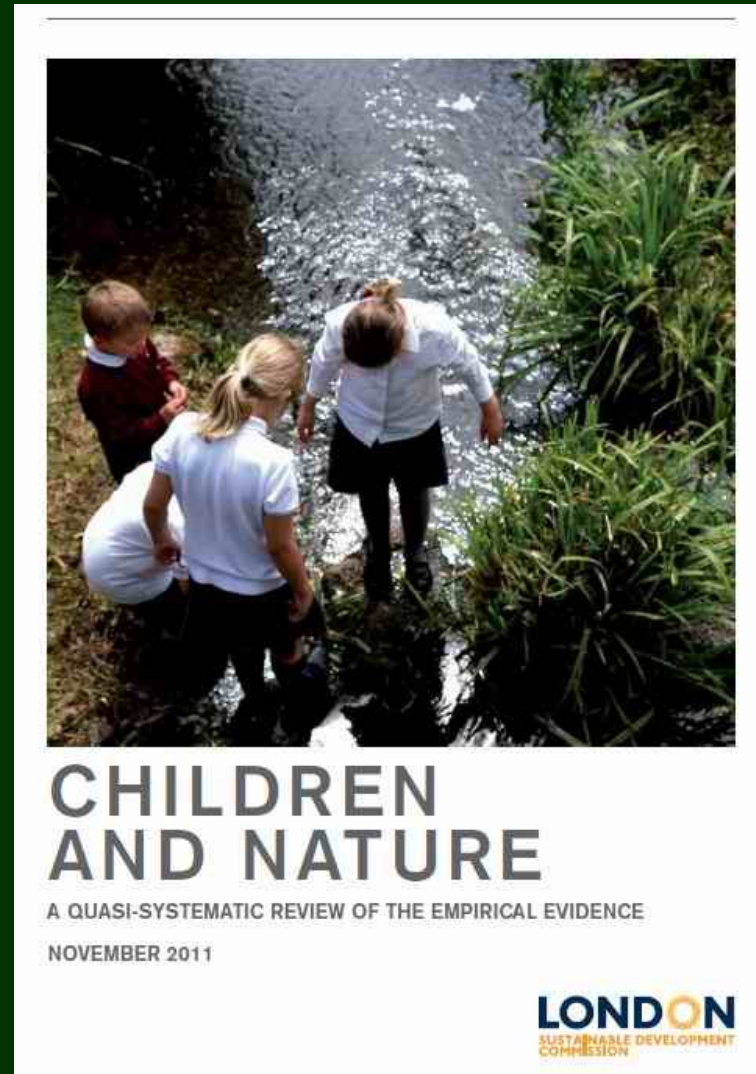


# Children and Nature



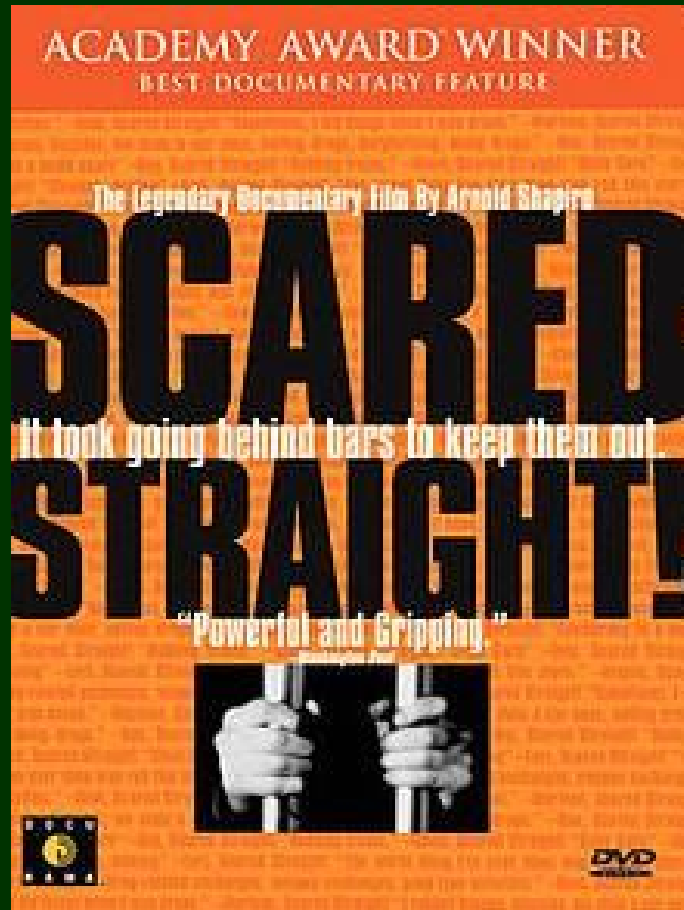
A quasi-systematic review of the literature



LAST CHILD  
IN THE  
WOODS

SAVING OUR  
CHILDREN  
FROM  
NATURE-  
DEFICIT  
DISORDER

RICHARD LOUV



“We conclude that programs like 'Scared Straight' are likely to have a harmful effect and increase delinquency relative to doing nothing at all to the same youths”

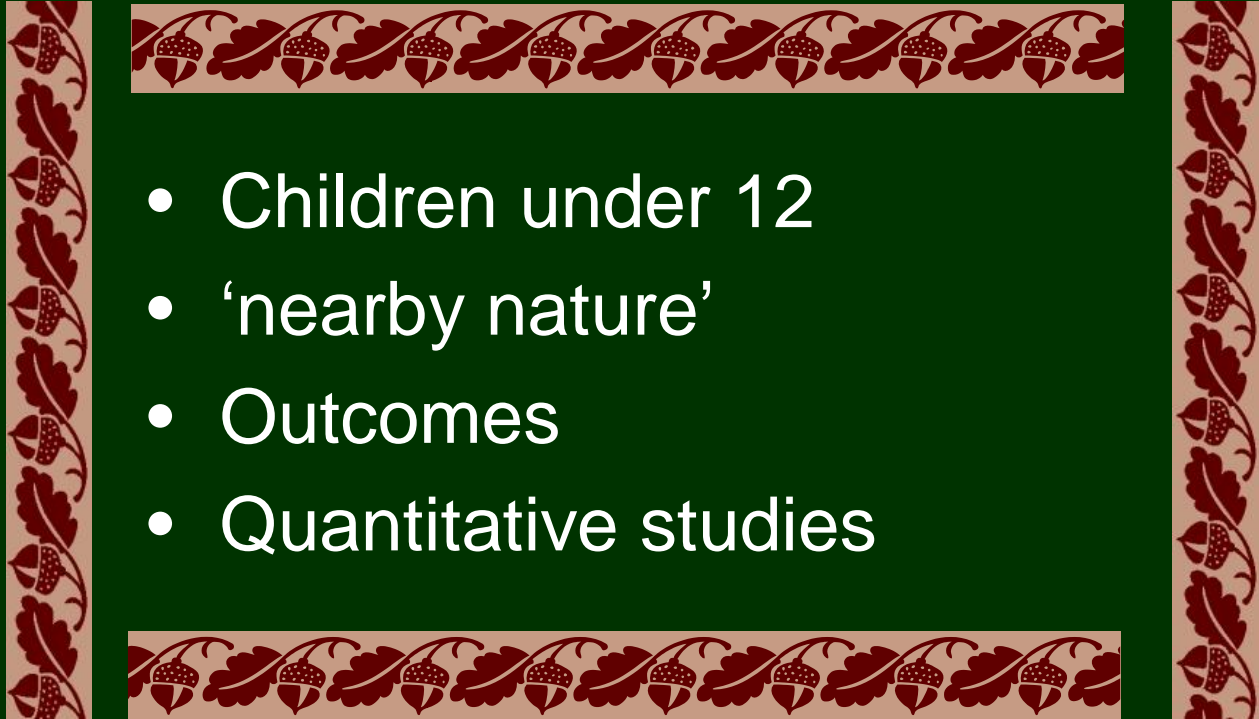
Petrosino, Turpin-Petrosino & Buehler (2003)

# What I'll cover

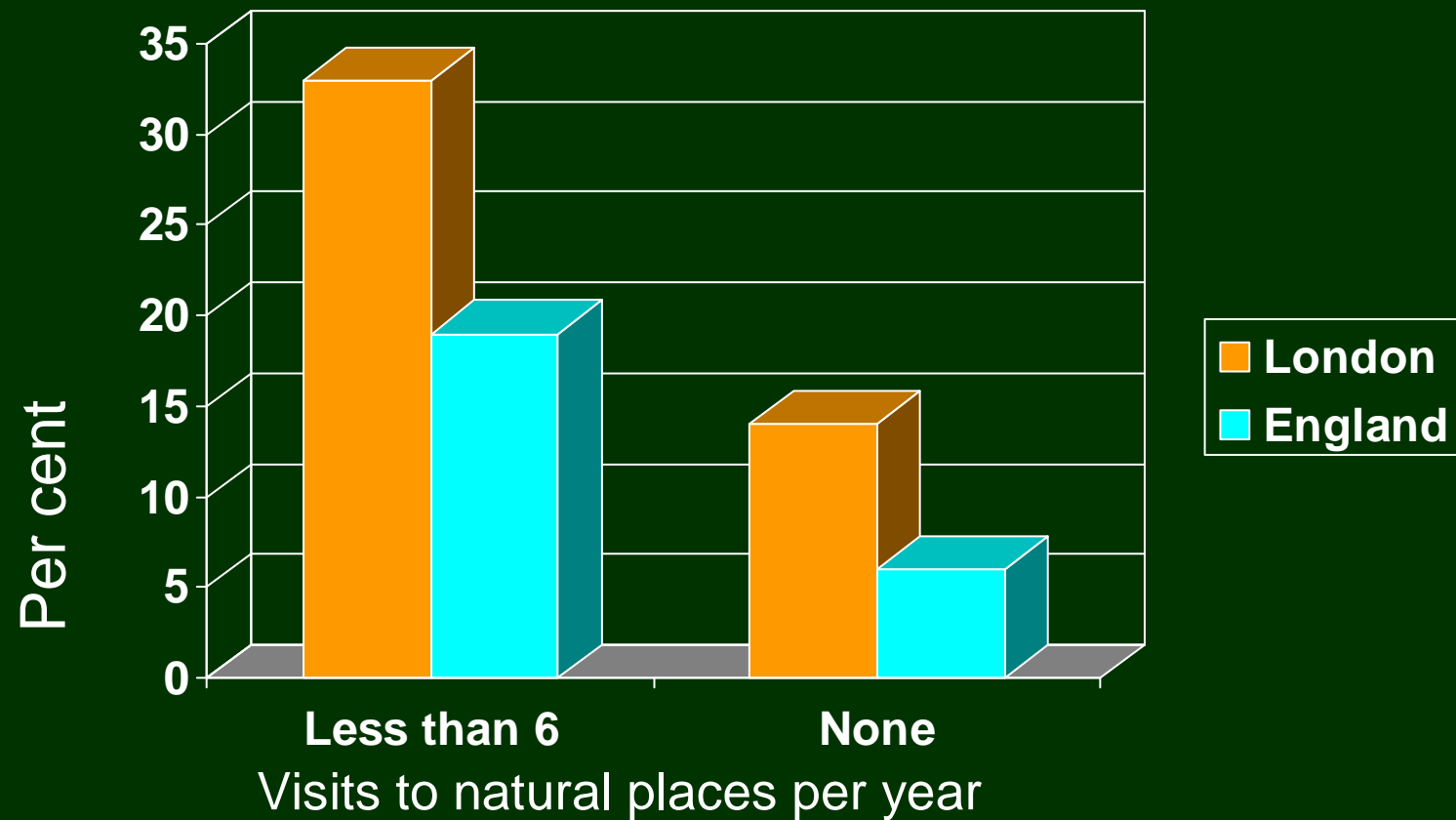
- My approach
- Findings
- Some thoughts on reviews, evidence and policy arguments



# Framing the project

- 
- Children under 12
  - 'nearby nature'
  - Outcomes
  - Quantitative studies

# London's children & nature



200,000+ children under 12 have little or no everyday experience of nature

# My approach



- Systematically search for relevant studies
  - Other literature reviews
  - Contact with leading primary researchers
  - ~~Keyword search of bibliographic databases~~
- Analyse selected studies
  - Evaluate study quality
  - Categorise by benefits/outcomes
  - Categorise by degree of playfulness
- Evaluate evidence for each benefit
  - Based on number & quality of studies



# Claims that are well supported (1)

- Spending time in natural environments is associated with
  - adult pro-environment attitudes
  - being connected with the natural world
  - sense of place
- Living near to green spaces is associated with greater physical activity
- Spending time in nearby nature leads to improvements in mental health & emotional regulation



## Claims that are well supported (2)

- School gardening projects improve scientific learning & lead to healthier eating habits
- Experience of green environments is associated with greater environmental knowledge
- Play in natural environments leads to improved motor fitness

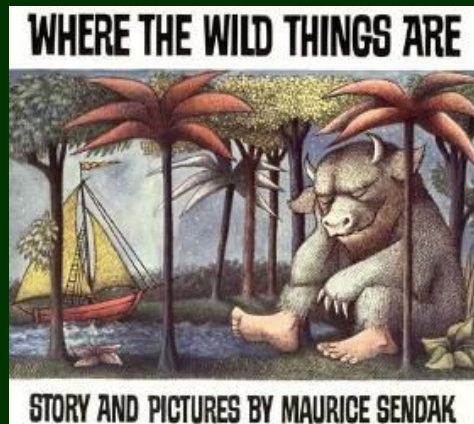
# Claims that have some good support

- Forest school & school gardening projects are associated with improved social skills
- Forest school leads to improved self-control
- School gardening projects lead to increased self-awareness

# Claims with some support

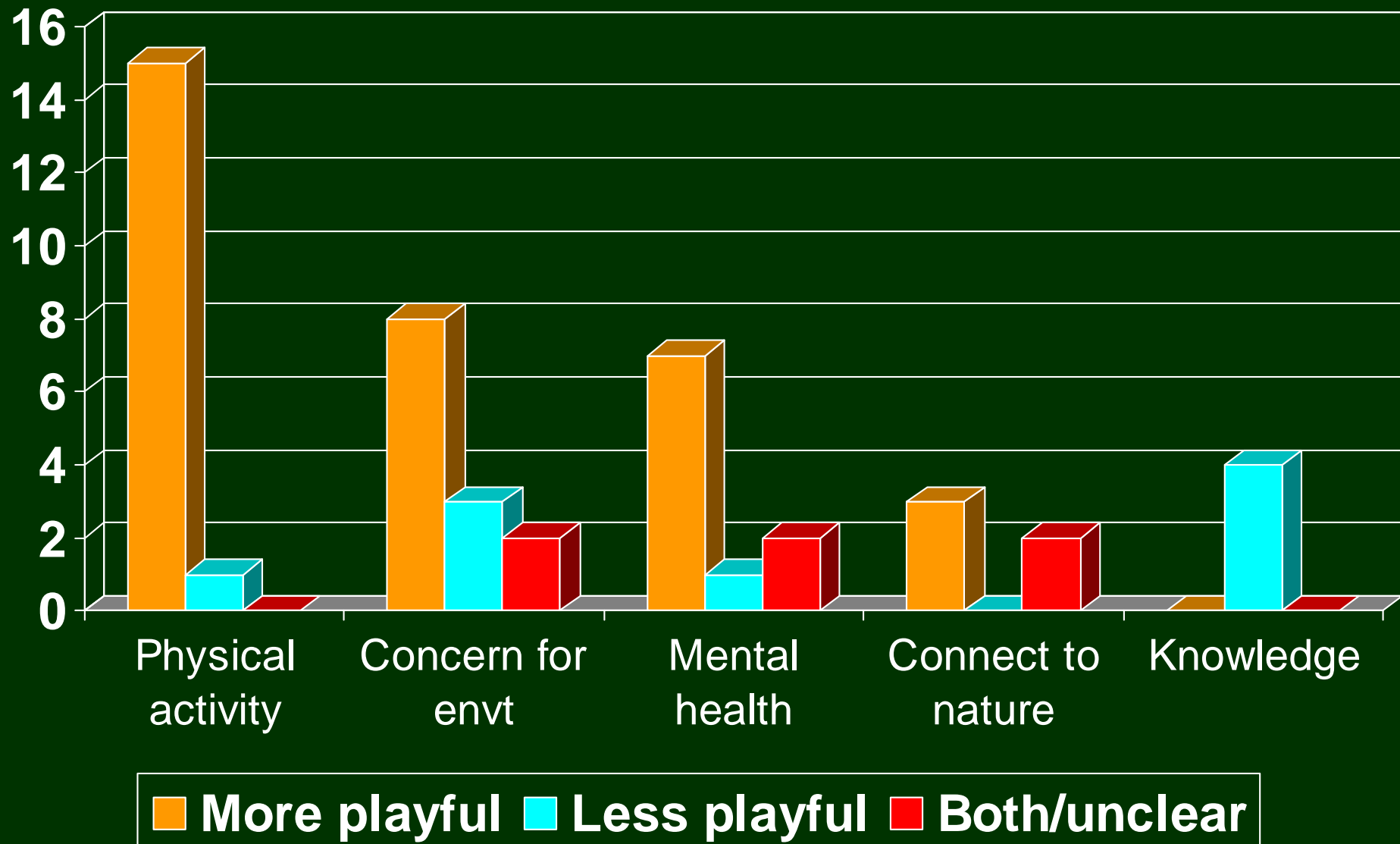
- Nearby nature is associated with more outdoor play & hence improved well-being
- Forest school is associated with improved self-confidence, & language & communication
- Conservation activities in school grounds & nearby open spaces are associated with improved psychosocial health

# Why does children's engagement with nature matter?



For non-cognitive outcomes, the most significant experiences are repeated, hands-on & playful

# Engagement style & outcomes

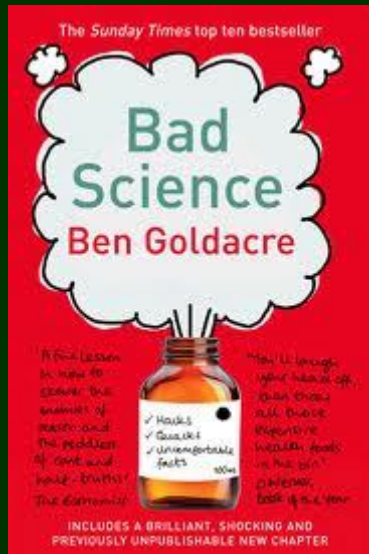


# Some thoughts on 'evidence'



Systematic reviews are unlike “reviews of the studies I could find”, “reviews of the authors I admire,” “reviews which leave out inconveniently inconclusive findings or findings I don’t like,” and “reviews which support the policy or intervention I intend to introduce.”

Prof Helen Roberts (from Roberts and Petticrew, 2006)



- Correlation is not causation (“the sandal-tofu hypothesis”)
  - “Things can only get better”
  - Placebo effect
  - Value of longitudinal & intervention studies & importance of controls
- ‘Evidence’ is not the plural of ‘anecdote’
  - Populations, sample size & statistical significance
- Biases are everywhere
  - Subject bias
  - Observer bias
  - Publication bias

A policy argument... tells a story: it provides a setting, points to the heroes and villains, follows a plot, suggests a solution, and, most importantly, is guided by a moral. Since policy arguments are designed to persuade, they are necessarily value-oriented. Yet this does not mean that policy arguments are mere opinion. Policy arguments explicate problems by recourse to rational methods... Policy arguments are successful, not because they are based on an objective standard, but because they persuade.



John Adams, author of *Risk*

[www.rethinkingchildhood.com](http://www.rethinkingchildhood.com)

