Nature time

Evidence for why kids need it, and how to achieve it in a fast-paced world

Andrea Faber Taylor, PhD
Landscape and Human Health Laboratory
University of Illinois, Urbana-Champaign
Children’s *physical* environments

Supporting development?
Physical environments & children’s healthy development

Remember the languishing bean seed…?
Kids are always growing, whether their physical environments are supporting them or not.
Contact with nature & children’s healthy lifestyles

Supportive physical environment $\Rightarrow$ Healthy day-to-day functioning $\Rightarrow$ Healthy development into young adults
Children’s healthy lifestyles

How can communities foster healthy day-to-day functioning in children?
How can communities foster healthy day-to-day functioning in children?

Provide frequent contact with nature (greenspace)
Children need contact with nature
Children and greenspace

Greenspace as accessory?

Or....

Greenspace as *necessity*
Why greenspace is a necessity

overview
Overview

*Why greenspace is a necessity*

1. Why does nature help?
2. What we studied
3. What we found
4. What this means for families and communities
Why does nature help?
Why does nature help?

Attention
Restoration
Theory

being in nature is mentally restorative
Attention Restoration Theory

We need to frequently restore attention from fatigue
Theory

Two types of attention

Directed attention

Involuntary attention
Theory

**Directed Attention** (effortful) necessary for daily activities
Theory

**Directed Attention** *(effortful)*

necessary for daily activities

**Involuntary attention** *(easy)*

watching fire, moving water, wildlife
Nature can foster...
mental restoration in fatigued parents, teachers
mental restoration in fatigued children, students
mental restoration... translates into

- improved responding to children’s needs
- improved focus and learning
What we studied
What we studied

*Day-to-day functioning*

Self-discipline
Concentration
Impulse control
Delay of gratification
What we studied

*Day-to-day functioning*

Self-discipline
  Concentration
  Impulse control
  Delay of gratification

Play and creative forms of play
What we studied

Day-to-day functioning

Self-discipline
  Concentration
  Impulse control
  Delay of gratification

Play and creative forms of play

Access to / interaction with adults
What we studied

*Day-to-day functioning*

Self-discipline

Concentration

Impulse control

Delay of gratification

Play and creative forms of play

Access to / interaction with adults

ADHD symptoms
What we studied

Greenspace

- Tree cover
- Grass cover
- Residential space greenness
- Play space greenness
- Activity setting greenness
What we studied

**Greenspace**

- Private spaces (e.g., private residential yard)
- Public / common spaces (e.g., public housing courtyard)
- Greenness of space around home
- Greenness of views from home
What we studied

**Techniques**

<table>
<thead>
<tr>
<th>Performance measures</th>
<th>Many participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent ratings</td>
<td>Many settings</td>
</tr>
<tr>
<td>Raters blind to hypothesis</td>
<td>High vs. low green conditions</td>
</tr>
<tr>
<td>Within and Between Subjects design</td>
<td>Conditions otherwise identical</td>
</tr>
<tr>
<td>Statistical testing</td>
<td></td>
</tr>
<tr>
<td>Testing for alternative mechanisms</td>
<td></td>
</tr>
</tbody>
</table>
What we found
What we found

Greenspace & healthy functioning

Findings:

• Statistically significant

• Build on theory (Attention Restoration Theory)
What we found
Barren & green courtyards
Chicago Public housing
What we found

Greenspace & healthy functioning

The greener the view
the greater girls’ self-discipline

What we found

Greenspace & healthy functioning

Combined self-discipline test scores

Greenness of Apartment Views

What we found

Greenspace & healthy functioning

On average, the greener a girl’s view from home:

- the better she concentrates
- the less she acts impulsively
- the longer she delays gratification

7-12 years old
What we found

Greenspace & healthy functioning

Greenness of Apartment Views

What we found

Green & barren courtyards

Chicago Public housing
What we found
Greenspace & healthy functioning

Green common spaces:
- 2 x as much play
- more creative play
- No difference in other activities

Inner city, low SES, ages 3-12

What we found

Greenspace & healthy functioning

Green common spaces: more accessible adults

Inner city, low SES

What we found

Greenspace & healthy functioning

Children with ADHD – Midwestern U.S.
What we found

Play environments

“Places where there are big trees and grass”
What we found

Play environments

“Places indoors where it feels very much indoors”
What we found

*Greenspace & healthy functioning*

- Frequent play in greener spaces is associated with less severe ADHD symptoms overall.

Children with ADHD - Midwestern U.S.

7-12 years old
What we found

Greenspace & healthy functioning

Activities in green settings reduced ADHD symptoms

Post-activity

Children with ADHD - Midwestern U.S.
What we found

Greenspace & healthy functioning

Mean rating of ADHD symptoms after activities

Better

Indoors

Built outdoor Activity Setting

Green outdoor

What we found

Greenspace & healthy functioning

Children with ADHD - **Nationwide U.S.A.**

(over 450 participants)
What we found

Greenspace & healthy functioning

Frequent play □ less severe
greener spaces ADHD symptoms overall

Children with AD/HD - Nationwide U.S.A.

What we found

Greenspace & healthy functioning

Children who typically play in greener spaces have less severe ADHD symptoms overall…

Even when family income level is controlled

Children with ADHD - Nationwide U.S.A.
What we found

Greenspace & healthy functioning

Activities in green settings reduced ADHD symptoms

Post-activity

Children with AD/HD - Nationwide U.S.A.
What we found

Green activity settings related to better attentional functioning

❖ Regardless of:

Community size (rural to large city)

Region of the U.S.

Gender

Age (5-18)

Severity of symptoms

What we found

Field study –
Controlled walks through

- park
- neighborhood
- downtown
What we found

After a walk in PARK
higher scores - measure of attention
than after neighborhood or downtown walks
What parents say…

Greenspace & healthy functioning

“…my son can fish for hours and afterwards his symptoms are hardly noticeable.”

- parent of child with AD/HD
What parents say…

“…two weeks camping in a pop-up camper is just bliss. We have a great time. He’s great.”

- parent of child with AD/HD
What we found
## Summary

<table>
<thead>
<tr>
<th>Trees / greenspace</th>
<th>Healthy functioning</th>
<th>Populations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Views from apartment</td>
<td>‘Self discipline’</td>
<td>Low SES</td>
</tr>
<tr>
<td>Overall home greenness</td>
<td>Concentration</td>
<td>Middle SES</td>
</tr>
<tr>
<td></td>
<td>Impulse control</td>
<td>Upper SES</td>
</tr>
<tr>
<td></td>
<td>Delay of gratification</td>
<td>Children with AD/HD</td>
</tr>
<tr>
<td>Play space greenness</td>
<td>Play &amp; creative play</td>
<td>Children with regular attention function</td>
</tr>
<tr>
<td>Public/common space greenness</td>
<td>Adult supervision</td>
<td></td>
</tr>
<tr>
<td>Activity setting greenness</td>
<td>Reduced AD/HD symptoms</td>
<td></td>
</tr>
</tbody>
</table>
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Summary others’ research

Nature - health link in children

- Residential nature - **attentional functioning** (Wells, N.)
- - coping with stressors (Wells, N. & Evans, G.)
- – lower obesity (Liu, et al.)
- Daycare nature - **attentional functioning** (Grahn, P.)
- Schoolyard nature – **better outcomes high school** (Matsuoka, R.)
- **Childhood experiences with nature** (bonding) – more **pro-environmental BEHAVIORS as adults** (Wells, N. & Lekies, K. 2006; Chawla, L. 2007)
Summary

Trees / greenspace support:

- Healthy day-to-day functioning
- Healthy development & outcomes
What this means

Implications for families, educators, and the rest of us...
What this means

Trees / green space -

a *necessity* for supporting children’s healthy development
A *necessity* for children’s healthy development

**Kids today…**

- **Playing outdoors less** *(Hofferth & Curtin, 2006; Clements, 2004)*

- **More *screen time*?** *(what got replaced?)*

- **Other deterrents** *(access, schedules, fear)*
A *necessity* for children’s healthy development

Children’s nature time *IS* valuable.

It *DOES* make a measurable difference.

Avoid allowing it to fall by the wayside in our pursuit of “activities” and electronic media.
A *necessity* for children’s healthy development

Even a few trees and grass make a difference in harsh environments
A *necessity* for children’s healthy development

We can’t “fix” all the stressors families endure...
... we CAN put ourselves in supportive environments
What this means

Findings suggest **daily “doses”** of green space beneficial

- Need to educate families & caregivers
- Need to educate communities
Put greenspace where kids are GROWING

- Schools / Daycare
- Residential
- Public spaces
Choose green spaces for play and relaxation
Parents need contact with nature too
Form new habits - parents be a model
Explore together
look for insects
rocks & shells
nuts & leaves
Let curious minds wander...
Raise the priority in the scramble for “time”
Even in winter, nature may help
Provide some props
Overcome obsession with cleanliness
“There is no bad weather, ...just bad clothing”

Scandinavian saying
Where children grow...

“Green” schoolyards and daycare centers

- for recess
- class activities
- outdoor learning
- within view from classroom, cafeteria?
“Green” schoolyards and daycare centers

Time in greenspace = happier, healthier teachers and students
Some resources

The Children and Nature Network
www.cnaturenet.org

Our research
www.lhhl.illinois.edu
Prairie plants feed imagination…