

Research Digest

New evidence for advancing
the children and nature movement.



children & nature
NETWORK

SEPTEMBER 2016

TOPICS IN THIS ISSUE:

Outdoor Play/Physical Activity
Nature-Based/Outdoor Learning
Families
Environmental Identity Formation
Community Engagement
Disparities
Nature Preschools
Place Attachment
Immune Functioning
Reduced Aggression
Restoration

ANNOUNCING:

New Research Library & monthly Digest launched to help you "make the case" for children and nature.

We are so pleased to announce the launch of our upgraded [Research Library](#), containing nearly 400 peer-reviewed research articles relevant to the children and nature movement. This expertly curated, free online resource offers robust search functionality to help you find the scientific evidence you need to increase nature access for all children, families and communities.

Articles in our Library are international in scope, represent a variety of research methodologies, and are drawn from the scientific literature of different disciplines, including public health, urban design, education, psychology, conservation, architecture and more.

We curate and summarize peer-reviewed literature exclusively, and update our collection regularly. To keep you informed of the latest additions to our Research Library, we're also launching a monthly **Research Digest**.

You are receiving our inaugural **Research Digest** because you attended our 2016 conference -- or you are a member of one of our mailing lists. (*You may unsubscribe at any time with the SafeUnsubscribe™ option at the bottom of the Digest.*) We hope you enjoy your monthly update on the latest research from the children and nature movement!

Best Regards,
*Your friends at the
Children & Nature Network*

RESEARCH ARTICLES

Outdoor Play/Physical Activity

Active play influenced by number of age-appropriate toys and limits on media use

Examination of the connection between residential physical and social environments and sedentary and active time among young children in Latino farmworker families suggested that adding more age appropriate toys and more limits to media usage increased children's physical activity. The addition of each age appropriate toy was associated with an additional 12.3 minutes per day of outdoor play. | *Arcury et al. Residential environment for outdoor play among children in Latino farmworker families.*

[Access Study](#)

Children's independent travel to public open space differs by ethnicity

Examination of the association between public open space and children's independent mobility in urban neighborhoods revealed that higher scores on a measure of public open space were not associated with increased levels of independent mobility as expected. Possible ethnic differences, however, were identified.

| *Chaudhury et al. Using the Public Open Space Attributable Index tool to assess children's public open space use and access by independent mobility.* [Access Study](#)

Physical and social factors influence adolescents' physical activity and neighborhood park usage

Interviews with twenty overweight adolescents about environmental factors influencing their physical activity and park visitation identified adequate facilities, aesthetic quality, and proximity as important physical factors and safety and security issues as important social factors. | *Danis, Sidek & Yusof. Park characteristics influences to physical activity among overweight adolescents.*

[Access study](#)

"Play friendly places" counteract deterrents to active outdoor play

This design guide, published by the Australian Institute of Architects, provides a synthesis of research on the playability of outdoor spaces and discusses the importance of improving nature access for children. Also included are some ideas on how the process of creating play friendly environments can promote social connections and contribute to the wellbeing of children and the larger society. | *Donovan. Enabling play friendly places.*

[Access Study](#)

Longitudinal study identifies modifiable predictors of outdoor play and screen-time in 2- to 5-year-olds

Repeated interviews with mothers identified several modifiable predictors of children's physical activity level and amount of screen time that can be used to inform early intervention health-related programs. | *Xu. A 5-year longitudinal analysis of modifiable predictors for outdoor play and screen-time of 2- to 5-year-olds.* [Access study](#)

Young children prefer playspaces combining natural and manufactured elements

The most natural area of an outdoor preschool seemed to promote higher levels of cognitive play while an area with mixed natural and manufactured elements was the most preferred area by children. | *Zamani. Young children's preferences: What stimulates children's cognitive play in outdoor preschools?*

[Access Study](#)

Nature-Based/Outdoor Learning

Age and length of time in natural surroundings influence positive changes in connectedness to nature

A quasi-experimental study examined the effects of 1-day and 5-day environmental education interventions, compared to control groups, on the degree of students' connection to nature. Students in both interventions made significant long-term changes in their connectedness to nature, but students in the 5-day program and -- within this sample -- the youngest age group demonstrated the strongest effects. | *Braun & Dierkes. Connecting students to nature - How intensity of nature experience and student age influence the success of outdoor education programs.*

[Access Study](#)

Hands-on activities increase environmental knowledge and reduce animal-related prejudices

A quasi-experimental study examined the effects of 1-day and 5-day environmental education in

Direct experiences with nature in a national park along with hands-on follow-up activities increased students' understanding about the local environment and decreased prejudices against wolves and lynx. | *Dieser. Young people's cognitive achievement as fostered by hands-on-centred environmental education.* [Access Study](#)

Green spaces in close proximity to schools stimulate environmental education fieldwork

This study examined the impact of the elimination of green space resulting from the "compact cities" urban planning trend on outdoor environmental education in secondary schools in Amsterdam. Schools with nearby greenspace not only conducted more outdoor environmental education activities but also reported more fieldwork excursions to other destinations further away from the schools. | *Wolsink. Environmental education excursions and proximity to urban green space.* [Access Study](#)

Aesthetic experiences support meaning-making in outdoor learning

This case study sought to identify elements in outdoor aesthetic experiences that make them meaningful to students. Four such elements were identified: prior personal experiences; responses to environments and artifacts; social interaction; and situations allowing for responsibility, trust and independence. | *Manni, Ottander & Sporre. Young students' aesthetic experiences and meaning-making processes in an outdoor environmental school practice.* [Access Study](#)

Non-formal environmental education programs support development of children's environmental identity

Former participants of three different environmental education programs shared memories and discussed ways in which those experiences influenced their environmental identities and academic or career choices. Over 50% of the participants reported that the nature program influenced their career choice, and 89% reported that those experiences helped shape their environmental identity. | *Williams & Chawla. Environmental identity formation in nonformal environmental education programs.* [Access Study](#)

Study suggests expanding idea of environmental education in a nonformal context

This microethnographic study examined strategies a rural working class family used as they interacted during a nature walk outside of a nature center, including guided participation strategies as they used such cultural tools as magnifying glasses and other scientific equipment. Results indicated that nature trails and other outdoor spaces alongside nonformal environmental education sites can provide valuable learning opportunities for families. | *Zimmerman & McClain. Family learning outdoors: Guided participation on a nature walk.* [Access Study](#)

Families

Study suggests expanding idea of environmental education in a nonformal context

This microethnographic study examined strategies a rural working class family used as they interacted during a nature walk outside of a nature center, including guided participation strategies as they used such cultural tools as magnifying glasses and other scientific equipment. Results indicated that nature trails and other outdoor spaces alongside nonformal environmental education sites can provide valuable learning opportunities for families. | *Zimmerman & McClain. Family learning outdoors: Guided participation on a nature walk.* [Access Study](#)

Environmental Identity Formation

Nonformal environmental education programs support development of children's environmental identity

Former participants of three different environmental education programs shared memories and discussed ways in which those experiences influenced their environmental identities and academic or career choices. Over 50% of the participants reported that the nature program influenced their career choice, and 89% reported that those experiences helped shape their environmental identity. | *Williams & Chawla. Environmental identity formation in nonformal environmental education programs.* [Access Study](#)

Community Engagement

Youth provide a wealth of information regarding their experiences conducting park audits

Youth participating in a community park audit reported increased awareness of community resources, motivation for further action, and increased physical activity. | *Gallerani et al. "We actually care and we want to make the parks better": A qualitative study of youth experiences and perceptions after conducting park audits.* [Access Study](#)

Disparities

Access to natural areas identified as another indicator of health inequalities among children

A pattern of unequal distribution of natural areas at the sub-district level within a city overlaps with the distribution of other, regularly used indicators of intra-urban health inequalities. | *Kabisch, Haase & van den Bosch. Adding natural areas to social indicators of intra-urban health inequalities among children: A case study from Berlin, Germany.* [Access study](#)

Nature Preschools

Children given a significant amount of freedom and trust at nature preschools in Norway

Compared to typical preschools in Norway, children in Norwegian nature preschools spend a large amount of time in nature and enjoy a significant amount of freedom and trust in exploring the outdoor environment. | *Lysklett & Berger. What are the characteristics of nature preschools in Norway, and how do they organize their daily activities?* [Access Study](#)

Place Attachment

Children and youth benefit from place attachment in disaster preparedness and recovery

This literature review reports that place attachment-especially if connected to nature -- can be helpful to children and youth before, during, and after disaster-related trauma by offering a protective effect and bolstering resilience. | Scannell et al. *"That was the last time I saw my house": The importance of place attachment among children and youth in disaster contexts.* [Access Stud](#)

Immune Functioning

Children and youth benefit from place attachment in disaster preparedness and recovery

This literature review reports that place attachment-especially if connected to nature -- can be helpful to children and youth before, during, and after disaster-related trauma by offering a protective effect and bolstering resilience. | Scannell et al. *"That was the last time I saw my house": The importance of place attachment among children and youth in disaster contexts.* [Access Stud](#)

Reduced Aggression

More residential greenness linked to decreased aggressive behavior

An examination of the relationship between nearby greenspace and aggressive symptoms in a large sample of adolescents residing in urban areas in southern California demonstrated that both short-term and long-term exposures to nearby greenspace were associated with reduced aggressive behaviors. | Younan et al. *Environmental determinants of aggression in adolescents: Role of urban neighborhood greenspace.* [Access Study](#)

Restoration

Children's agricultural work constrains perceived restoration, but the effect is mediated by familiarity, security and social context

For children who help their parents in the agricultural family business as opposed to those who only spend free time in agricultural settings, being involved in agricultural work constrains perceived restorativeness. However, this finding was explained by the mediating variables of familiarity with the

agricultural area, perceived security and preference for not being accompanied by family members. | *Collado, Staats & Sorrel. A relational model of perceived restorativeness: Intertwined effects of obligations, familiarity, security and parental supervision.* [Access Study](#)

Children & Nature Network, 808 14th Avenue SE, Minneapolis, MN 55417