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- Email [customerservice@OccupationalTherapy.com](mailto:customerservice@OccupationalTherapy.com)
Harnessing Nature for OT: The Evidence Therapists Need to Develop Programs and Implement Interventions in Nature

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NATURE

Viewing nature employs the mind without fatigue and yet exercises it;

Tranquilizes it and yet enlivens it; and thus, through the influence of the mind over the body,

Gives the effect of refreshing rest and reinvigoration to the whole system

-Olmstead
Learning Outcomes

As a result of this course, participants will be able to…

1) Identify 1 benefit of participation in natural outdoor environments for targeted individuals and groups.

2) Recall 1-2 reasons for decreased participation or barriers to participation outdoors.

3) Describe at least 1 opportunity/movement aimed to engage clients in the natural outdoor environment.

Get into Nature!!
Nature Deficit Disorder  
(Louv, 2008)
Trends

- Increased risk of sedentary behaviors lead to obesity (Prentice-Dunn & Prentice- Dunn, 2012)
- 9.4% of children 2-17 years of age are diagnosed with ADHD (CDC, 2018)
- Children are spending 8 hours per day on technology

OTs alignment to use of nature

- Approaches to intervention such as create, establish, maintain, modify and prevent;
- Outcomes related to enhancement of occupational performance, prevention, health and wellness, quality of life, participation and occupational justice

(AOTA, 2014)
Theory supporting participation outdoors

- Attention Restoration Theory
- Biophilia Hypothesis
- Psycho-evolutionary framework

Health benefits of participating outdoors
Vital signs and Immune system

- Miyazaki and Lee (2004) leisurely forest walks compared with urban walks
- Viewing aquariums with high levels of marine life (Cracknell, 2014)

Respiratory Health

- 50% increase in asthma from 1980-2000
- Increase in tree lined streets → Decrease in childhood asthma
  (Lovasi et al., 2008)
Vitamin D

90% comes from ultraviolet B radiation from the sun
Deficiency linked to a number of diseases
(Reeves et al., 2014)

Physical Activity and Balance

- **Balance.** Hiking has positive effects on static balance; with girls displaying more improvement in balance than boys.
- **Physical Activity.** Casey et al. (2015) total physical activity was up to 3.3 times higher outdoors than indoors.
- Children who spent 1 hour or more outdoors had 4.4% less sedentary time than those who did not.
Vision and Sleep

- **Vision** - Rose et al. (2008) participation outdoors was found to be protective against myopia in children.
- Natural, bright light improves attention and **sleep** (Harb, 2015).
- Children who get exposure to outdoor light in the morning (as compared to staying indoors) actually set their body clock for a better night’s **sleep** (Rensselaer, 2010).

Emotional Regulation and Mental Health

- Berto (2014) states that increased accessibility to forest and green spaces increase happiness and result in improved mood and concentration.
- Green spaces lower stress, anger, depression in people of all ages.
- Protective association between greenness or green space and risk of depression (Bezold et al., 2018)
Sidenote: Indoor workers

- High rates of vitamin D deficiency among healthcare professionals (Sowah et al., 2017)
- High exposure to indoor nature contact at work also affected stress and health complaints (Bjørnstad, Patil & Raanaas, 2016)

Social Skills/Pro-social behaviors

- Redesign of Preschool playgrounds into nature spaces
- Found increase in pro-social behavior, engagement and play behaviors (Brussoni et al., 2017)
ASD and Nature

Li et al. (2019) conducted interviews with 22 parents of children aged with ASD diagnosis, asked:

- How often does your child go outdoors?
- Is green space a part of his or her outdoor experience?
- Please describe the last time you took your child to a green space.
- What are the benefits of visiting green space to your child?
- What are the barriers that may prevent you from taking your child to a green space?
- What are your concerns?

Benefits and Barriers

- Sensory development
- Inappropriate behaviors
- Motor development
- Safety issues
- Emotional development
- Phobias

(Li et al, 2019)
Other Special Populations

- Children with severe physical disabilities and importance of sensory garden spaces
- Least ADHD symptoms in “open space” which is defined as open green space. “Big trees” and “grass and open grass” were associated with milder symptoms than “built outdoors” and “deep indoors.” (Taylor & Kuo, 2011)
- Comparison of outcomes use of Snozelean rooms to traditional common indoor areas and outdoor spaces in students with severe developmental disabilities
- Older adults with dementia benefitted from reminiscence and sensory stimulation (Whear et al., 2014)
  - encouraging a relaxing and calming environment
  - providing an opportunity to maintain life skills and habits

Existing Programs and Movements

- Free Forest School
- Park & Nature Prescriptions
- Edible School Gardens
- Surfers Healing Surf Camp
- Creative Spaces Dementia Program
- Accessibility of State and Local Parks
Free Forest School

- https://www.freeforestschool.org/

Edible school gardens

https://www.wholekidsfoundation.org/programs/school-gardens-grant
Park and Nature Rx

http://natureprescriptions.org/

http://www.nature-rx.org/

Surfers Healing Surf Camp
Creative Spaces Dementia Program

“It has helped dementia professionals breathe new life into the care they provide and to realise the value of adding these practices into their care programmes” (para 4)

Accessibility and Use of State and Local Parks

https://dnr.maryland.gov/Publiclands/Pages/accessforall.aspx
Patapsco Valley State Park Cycling Trails

**Avalon/Glen Arm Area**
- Grist Mill Trail
  - Patapsco Valley State Park’s most accessible cycling trail
  - 0.3 miles of paved pathway
  - Pathway width of 4 feet
  - Grade: 0.5 degrees
  - Only trail that permits the use of electric-powered equipment, including powered wheelchairs and other propulsion assist devices

**McKeldin Area**
- Plantation Trail
  - Moderate difficulty
  - Quarter mile of relatively flat trail
  - Past the quarter mile mark is not accessible for those utilizing adaptive cycling equipment
  - Handicap parking within 100 feet of the start of the trail

**Orange Grove Area**
- River Road Trail
  - Alternative to the Grist Mill Trail for those who are seeking more of a challenge
  - Paved for the first .36 miles and then turns to gravel for the remaining half mile
  - Trail width of 14 feet
  - Peak cross slope of 6.8%
  - The trail extends 0.8 miles to the Bloede Dam, but is most accessible up to the quarter mile mark for those using adapted cycling equipment

Policy and Advocacy

Steps to take in individual practice, at local, state and national levels

https://www.nwf.org/~/media/PDFs/Be%20Out%20There/CKN_action_guide.ashx
Harnessing Nature for OT

More information and to subscribe:

https://harnessingnature.org/

Questions: gkaplanis@towson.edu

References


References


