

THE CONNECTION OF NATURE WITH HEALTH AND WELL-BEING



Researchers have recognized that the benefits of nature and the access to nature consist of many benefits that influence the health and well-being of humans. Extensive research demonstrates the connections between human health and well-being, as well as the significance of nature in designing and structuring communities, cities and regions.

Having access to nature in green spaces, parks, gardens, or water scenes and sounds is beneficial, as are trees and other vegetation that helps to filter the carbon dioxide from power and industrial facilities. Green spaces also buffer noise, offer shade, reduce the effect of heat, and filter impurities in the air. Parks and other natural areas filter groundwater, reduce storm water runoff, prevent combined sewer overflows, and improve the functioning of public and private water systems.

Definitions:

- *Nature: The physical world and everything in it, not made by people; such as plants, animals, mountains, water, stars, etc. (Merriam-Webster)*
- *Access to Nature: The opportunity to have contact with nature. For instance parks, plants, animals, rivers/ water, provide opportunities for access to nature.*
- *Vegetation: A general term for plant life such as ground covers, shrubs, and trees.*
- *Green spaces: Area of grass, trees, or other vegetation used as recreational or aesthetic purposes.*
- *Sedentary lifestyles: A lifestyle or way of life with little or no regular physical activity; such as extended periods of sitting or lying down, or limited time doing outdoor activities.*

According to Healthy Parks and Healthy People Central, green spaces are very important for designing communities that benefit the health of the community's residents. It stated that the most "livable" cities tend to demonstrate their value for green spaces through their designs. The way that cities are designed affects whether or not people participate in walking, outdoor recreation and relaxation, biking, interacting with neighbors, etc. The presence of parks is not enough, according to Active Living Research, of the American Public Health Association; they must be well maintained and perceived by the community as safe, and appealing.

<http://www.hphpcentral.com/article/urban-planning-and-the-importance-of-green-space-in-cities-to-human-and-environmental-health>

<http://activelivingresearch.org/taxonomy/communities>

The American Public Health Association (APHA) has supported improving health and wellness through access to nature through their research and policies. The policy statements focuses attention on the importance of how access to safe, natural settings positively influence human health and increases the likelihood for walking and other forms of physical activity. The policy also states that natural settings foster social connections, and reduces stress and illness. In *Improving Health and Wellness through Access to Nature*, the APHA strongly supported the need for incorporation of nature into cities for better health and sustainable communities.

APHA is supports the protection and restoration of nature in the environments where people live, work, and play. It also pointed out that although public parks and recreation facilities are available in many communities across the United States there are often disparities in where parks are located, safety issues, and maintenance of parks in communities with low-income, ethnic and minority populations.

Access to nature represents an important approach to promote healthy and active lifestyles across the life span, based on APHA policy statements. Also when people are exposed to scenes of nature versus buildings, concrete, pavement, etc. the have decreased stress levels and increased well-being. Researcher have found that exposure to simulated nature versus actual natural landscapes demonstrate greater recovery from stress and greater feelings of energy after contact with actual nature.

U.S. cities have evolved from an industrialized and agriculture society to modern urbanization, according to APHA. The shift to urbanization has also evolved into more sedentary indoor lifestyles for many Americans. More sedentary lifestyles have detached many people from nature and deprived them of positive health benefits.

<https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/08/09/18/improving-health-and-wellness-through-access-to-nature>

http://www.nrpa.org/uploadedFiles/nrpa.org/Publications_and_Research/Research/Papers/Parks-Rec-Underserved-Areas.pdf

<http://activelivingresearch.org/potential-safe-secure-and-accessible-playgrounds-increase-childrens-physical-activity>



According to *Social Aspects of Urban Forestry: The Role of Arboriculture in a Healthy Social Ecology*, by Frances E. Kuo (May, 2003), researchers studied the effects of the physical environment on the functioning of individuals, families, and communities residing in Chicago's inner-city public housing. The findings revealed that well used neighborhood common spaces helped to strengthen social ties among residents and it helped to deter crime, which produced healthier, safer neighborhoods.

Over the years researchers have studied the effects of nature in many different populations, and have examined the impact of nature, such as with Chicago public housing residents living in high-rises with one or more trees and some grass outside their apartment buildings; college students exposed to slide shows of natural scenes while sitting in a classroom; children with attention deficit hyperactivity disorder (ADHD) playing in a range of natural settings; senior citizens in Tokyo with access to green walkable streets. The scope and variety of health outcomes and health-related outcomes were all similar and inspiring. Studies involving nature have also been validated through objective measures of police crime reports; blood pressure; performance on standardized neurocognitive tests; physiological measures of immune system functioning.

http://www.nrpa.org/uploadedFiles/nrpa.org/Publications_and_Research/Research/Papers/MingKuo-Research-Paper.pdf

http://magicoflandscapes.com/Research/Arboriculture_in_Healthy_Social_Ecology.pdf

The APHA detailed in *Improving Health and Wellness through Access to Nature*, the connections between green spaces, cognitive, emotional, and physical health outcomes in people. Outdoor activities in natural areas can improve children's health by increasing physical activity, reducing stress, and reducing symptoms of attention disorders.

In addition, children showed higher levels of physical activity outdoors when compared to indoors. They stated that whether outdoor play areas are built or natural, children with access to safe green spaces, park playgrounds, and recreational facilities were more likely to be physically active with healthy weight. It also found evidence that adults exposed to nature as children chose as adults to seek out recreation and relaxation related to nature and to protect the environment.

From preschool children to adolescences, researchers have associated green spaces and activities in green spaces with improved attention spans, better coping skills, better moods, and higher academic achievement. In children diagnosed with ADHD their symptoms were reduced and children who lived in neighborhoods with more trees had lower levels of asthma. The presence of trees and well-maintained grass transformed potential areas for crime into pleasant and inviting areas.



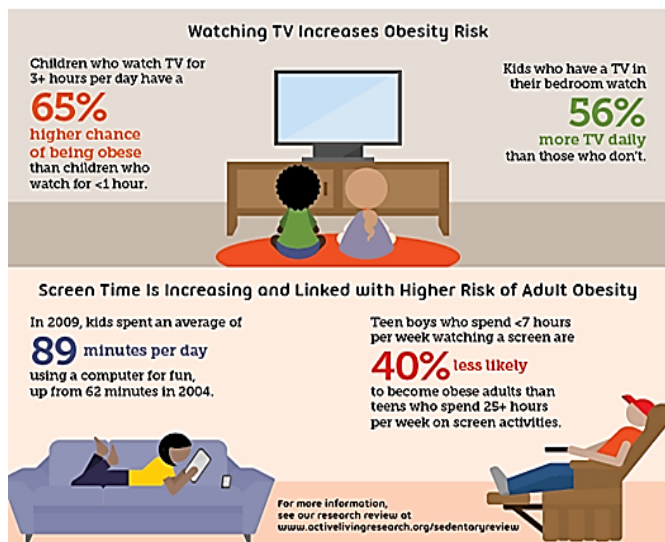
<https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/08/09/18/improving-health-and-wellness-through-access-to-nature>

http://magicoflandscapes.com/Research/Arboriculture_in_Healthy_Social_Ecology.pdf

Sedentary Time

Active Living Research
www.activelivingresearch.org

Studies show kids are sitting still a lot more than they used to—and it's not good for them.



Sources: TV AND OBESITY RISK: Singh G.K. et al. (2008). Racial/ethnic, socioeconomic, and behavioral determinants of childhood and adolescent obesity in the United States: analyzing independent and joint associations. *Annals of Epidemiology*, 18(9): 682-695. TV IN THE BEDROOM AND COMPUTERS FOR FUN: Rosenstock V.J. et al. (2010). Generation M2: Media in the lives of 8- to 18-year-olds. A Kaiser Family Foundation Study. TEEN SCREEN TIME & ADULT OBESITY: Boone J.E. et al. (2013). Screen time and physical activity during adolescence: longitudinal effects on obesity in young adulthood. *International Journal of Behavioral Nutrition and Physical Activity*, 4:26.

According to the *Sedentary Behaviors and Youth: Current Trends and the Impact on Health*, research review from Active Living Research of the Robert Wood Johnson Foundation, There has been increased concern of the excessive amount of time children and teens people spend in sedentary behaviors (activities involving sitting or reclining, watching TV, on cell phones, computers, and other technology).

Youth who are sedentary have greater risk for obesity. Their infographic highlights evidence on trends in sedentary behaviors among youth and their impact on obesity.

http://activelivingresearch.org/sites/default/files/ALR_Brief_SedentaryBehavior_Jan2014.pdf

Sedentary time could be reduced through neighborhoods parks, and schools that provide safe, enjoyable and convenient places for children and their families to walk, bike and play while becoming more active and healthy, based on the Active Living Research.

It noted that for children walking or biking to school could help to reduce the sedentary time spent riding in a car and could add up to 26% of a child's daily recommended physical activity. Also parks when they are viewed as being safe usually inspire physical activity for children, especially when they have trails and playgrounds. The access to facilities such as ball fields, schoolyards, and after school programs could also help kids to be more physically active.

Active Living noted that children and teens spend an average of 6 to 8 hours per day watching TV, playing video games, and using computers. Evidence has linked TV viewing with obesity, as well as increased fat mass, higher BMI, and decreased academic achievement.

http://activelivingresearch.org/files/ALR_Brief_SedentaryBehaviors_IssueBrief_May2014.pdf

Research evidence from the American Academy of Pediatrics, National Association of Sports and Physical Education, and others, was used by the Metro Nashville Public School Board in their recommendation to The Metro Nashville Public Schools (MNPS) for regular physical activities in the schools. The evidence based research showed the relationship between physical activity and cognitive readiness and cognitive developments. The Metro Nashville Public Schools (MNPS) in 2014 addressed the issue of regular physical activity in the elementary schools, with the Chief Academic Officer recommending that elementary schools review their schedules to commit to 20 minutes of recess.

<http://www.healthynashville.org/modules.php?op=modload&name=News&file=article&sid=20302>

<http://www.ischoolguide.com/articles/2381/20140910/metro-nashville-school-principals-agree-additional-recess-time.htm>

People of all ages, abilities, race/ethnicity or income according to researchers, can benefit from contact with nature. Research has shown that elderly residents reported feelings of well-being and pleasure when they had view of a garden from their apartments.

With access to gardening or time to rest in a garden, elderly adults according to researchers had reduced risk of developing dementia and improved mental functioning. Also people with Alzheimer's who were taken into a garden at different times of the day have improved group interaction, reduced agitation, and less wandering.



For elderly adults who spend routine periods of time in a park or feel that they receive health-related benefits from being outside and in park activities and they have reduced blood pressure. Having walkable green spaces has been associated with longevity in elderly adults.

Also patients who had views of nature from their hospital windows recovered from surgery more quickly and needed less medication for pain. The researchers found that gardens in hospitals helped patients and their families with stress-reduction, social interaction and exercise. For incarcerated prisoners with views of nature, there were fewer reports of illness. For employees with nature contact at their workplace, there were fewer reports of stress and health complaints.

<https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/08/09/18/improving-health-and-wellness-through-access-to-nature>

In Nashville the Metro Parks and Recreation Department offers a variety of parks, facilities and programs throughout Davidson County. There are over 12,000 acres of open space, including 108 Parks and 19 Greenways in the county. The department's goal has been to provide unique outdoor recreational opportunities that enhance quality of life and promote physical health while exposing people to our natural environment and the fantastic open spaces in the Metro Parks system. The locations of the county's nature centers are located in 4 of the largest Metro Parks: Warner Parks, Shelby Bottoms, Beaman Park, and Bells Bend Park.

<http://www.nashville.gov/Parks-and-Recreation/Parks.aspx>

<http://www.nashville.gov/Parks-and-Recreation/Nature-Centers-and-Natural-Areas.aspx>

<http://www.nashville.gov/Parks-and-Recreation/Planning-and-Development.aspx>

Based on the *Parks and Recreation in Underserved Areas*, from the National Recreation and Park Association, disparities in park distribution seem to be more evident in areas with low income and racial/ethnic populations. It also stated having parks and recreation resources should be available to all people regardless of income, that are safe and accessible increases their level of physical participation. It stressed the need for availability of parks to address the obesity epidemic and create a lasting impact

on public health. They stated that public parks and recreation agencies using public resources have a responsibility to ensure equitable and accessible services for the public health of all people.

According to the National Recreation and Parks Association, in order to promote a healthier, kinder, smarter, more effective, more resilient and vital communities, it is necessary that every individual have regular access to nature.



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http://www.nrpa.org/uploadedFiles/nrpa.org/Publications_and_Research/Research/Papers/MingKuo-Research-Paper.pdf

