

Close encounters of the green kind

Dr Aric Sigman reports on the latest research showing that there is indeed a profound link between childhood well-being and the natural world.

We care for what we know and what we love. Learning about climate change from a video or classroom or reading about it is not the same as coming to know and love the natural world firsthand from an early age. Across the entire industrialised world, there has been a marked decline in children's contact with nature. A study commissioned in 2007 in the UK found that of 1,000 pupils across England, one in five never visits the countryside and a further 17% have only visited it once or twice.

Children not developing a connection to the natural world when they're young seems to bring about the ecological equivalent of an attachment disorder whereby a child's separation from Mother Nature causes a failure to bond properly with her and to go on to establish and maintain a caring relationship thereafter.

On the other hand, childhood participation with nature may set children on a trajectory toward adult environmentalism, according to a 2006 study at Cornell University. And furthermore, research in the mainstream academic fields of environmental medicine and ecopsychology indicates that exposure to nature provides significant physical, behavioural and intellectual benefits for children that reach deep into the classroom and the soul.

'Green Exercise'

There is growing evidence that 'green exercise' – combining activities such as walking or cycling in nature – boosts well-being more than just exercise alone. A recent study on this by the Department of Biological Sciences, University of Essex

found "every green environment improved both self-esteem and mood; the presence of water generated greater effects". Most interesting was their finding that "...for self-esteem, the greatest change was in the youngest... This study confirms that the environment provides an important health service." The strongest response was seen almost immediately and the health changes were both physical and mental.

Natural Attention

A growing number of scientists now believe that being exposed to greenery has general benefits for children's ability to pay attention. Studies report "superior attentional functioning" and that "the effect of nature on inattention is robust". A study published in *The American Journal of Public Health* found that exposing children with Attention Deficit Hyperactivity Disorder (ADHD) to outdoor greenery significantly reduced their symptoms, and the greener the setting, the greater the relief from symptoms. In a follow-up study children with ADHD were taken on 20 minute walks in one of three environments – a city park and two other well-kept urban settings. The results were extraordinary: "Effect sizes were substantial and comparable to those reported for recent formulations of methylphenidate (Ritalin)." They concluded that "20 minutes in a park setting was sufficient to elevate attention performance relative to the same amount of time in other settings." The researchers also pointed to research conducted among people without ADHD, showing that inattention and impulsivity are reduced after exposure to green natural views and settings.



One of the most influential longitudinal studies, from Cornell University, found that children who experienced the biggest increase in green space near their home after moving improved their cognitive functioning – especially the ability to focus their attention – more than those who moved to areas with fewer natural resources nearby.

Stress

Greenery is relaxing but a study of 337 school-age children found that, even in rural areas, the presence of nearby nature – number of indoor plants, amount of nature seen in window views, a garden of grass rather than concrete – bolsters a child's resilience to stress and adversity, particularly among those children who experience a high level of stress.

Other investigators believe that "views of green help girls foster life success". In a study published in 2001, 169 inner-city girls and boys were randomly assigned to 12 architecturally identical high-rise buildings with varying levels of nearby greenery in view. (As boys spent less time at home and played elsewhere, the results did not apply to them.) The researchers found that the greener and more natural a girl's view from home, the better she

scores on tests of concentration, impulse inhibition and delayed gratification. They see this as happening through an improvement in "self-discipline – a predictor of delinquency, drug abuse, poor school grades and teenage pregnancy." Self-discipline requires your attention, so when your attentional system becomes tired your self-discipline declines. And greenery is thought to provide "attentional restoration".

We are hard-wired to gravitate toward greenery. Our ancestors who sought green areas or lived as subsistence hunters, gatherers and farmers were more likely to eat, drink and survive. Today, many of the benefits associated with our exposure to greenery may be part of an evolutionary reward system reinforcing the very thing that kept us alive for hundreds of thousands of years.

To start the love affair between children and nature, all of the researchers above recommend more outdoor play time, greener playgrounds, more plants in schools, school gardening and school trips to the countryside.

Dr Aric Sigman lectures at schools on health and well-being topics and is the author of *Remotely Controlled*, which contains a detailed discussion of this subject. www.aricsigman.com