



national tree day

PLANET ARK



TOYOTA

Planting Trees: Just What The Doctor Ordered

Key Findings



Introduction

In May 2012, Planet Ark developed a report, sponsored by Toyota Australia, focusing on the benefits of interaction with nature for children's health, wellbeing and development. The report builds on a 2011 study commissioned by Planet Ark that showed a dramatic and worrying shift in childhood activity in Australia from outdoor play to indoor activity in the space of one generation.

Planet Ark's 2012 report, *Planting Trees: Just What The Doctor Ordered*, includes two elements: a review of local and international research into the intellectual, psychological, physical and mental health benefits of contact with nature for children; and the results of a new Australian study* called the Nature and Children's Health Survey, which was commissioned by Planet Ark and conducted by research company Pollinate. This survey focuses on how Australians, particularly those who regularly care for children, perceive the link between nature and children's health, wellbeing and development. This factsheet summarises the report, which is available at TreeDay.PlanetArk.org/PlantingTrees.

* A nationally representative sample of 1,006 Australians aged 18 to 85 years was surveyed between May 3 and May 10, 2012.

Benefits of contact with nature: Healthy minds, healthy bodies

- There is an emerging body of local and international research linking childhood contact with nature with a range of health and wellbeing benefits, including:
 - Positive mental health outcomes, such as reduced symptoms and severity of ADHD, reduced stress levels, reduced depression, and increased confidence and self esteem;
 - Physical health benefits, such as reduced risks of obesity and myopia, and improved recovery from certain medical conditions;
 - Enhanced intellectual development, such as improved creativity and imagination, and improved academic performance;
 - A stronger sense of concern and care for the environment in later life.
- The Planet Ark Nature and Children's Health Survey showed that people do not generally associate regular contact with nature as an effective way to address these issues.





Green equals serene: Contact with nature is good for mental health

- Researchers have found that contact with nature helps **reduce stress** in children.
 - A US study found that stress levels were reduced for children with high levels of nearby nature (nature close to their homes) compared with those with little nearby nature.
 - The same US study found that children with higher levels of nearby nature had a higher sense of self-worth. High self-worth in children makes them more resilient during life's stressful times.
 - Deeper, more active contact with nature can provide children with calming and stabilising memories that they can draw on during stressful periods later in life.

Green boosts the brain: Contact with nature is good for the mind

- Research has shown that contact with nature can provide a wealth of learning opportunities and **improve academic achievement**.

- Nature has been shown in several studies to restore the ability to direct attention and improve the processing of information after extended periods of concentration. This is called **Attention Restoration Theory**.
- A Florida-based study found that environment-based education increased critical thinking skills in high school students.
- Learning to discriminate, categorise and name different objects is a critical part of a child's intellectual development. The rich diversity of nature provides extensive opportunities for children to acquire these abilities.
- Researchers at the University of Illinois have been investigating nature-based activities and their potential to **reduce the symptoms of ADHD** in children. They have found that:
 - Children with ADHD and ADD concentrate, complete tasks and follow directions better after they play outside in green settings. The greener the settings, the more improvement they show.
 - Children with ADHD concentrate better after a 20-minute walk in a park than after a 20-minute walk in a well-kept urban setting.



- Studies have shown that contact with nature **improves creativity and imagination.**

→ A study found that children in areas with trees and vegetation show more creative social play than children in more barren, hard-surfaced or built play areas.

Green is for “go”: Contact with nature is good for the body

- Research has shown a link between body mass index (BMI) scores in children and their access to “green” areas and levels of outdoor play. BMI is often used by health authorities and researchers to indicate healthy weight ranges.



→ Researchers at the University of South Australia suggest that while increasing the residential density of an area may make it more ‘walkable’ for residents, it can come at the expense of open green space, which research shows is strongly associated with healthier body weight in children. They argue that improving the ‘walkability’ of a neighbourhood may not be the best thing for preventing obesity in children.

→ A US-based study of children aged 3-16 years found that children living in greener neighbourhoods had lower BMI scores after two years.

→ Researchers have found that BMI in children has a positive association with hours spent watching television and is negatively associated with hours of outdoor play, and that the ratio of outdoor play to television time was a significant predictor of BMI.

→ One study has shown that children with better access to public parks and recreation programs are less likely to have significant increases in BMI over time.

- Contact with nature through vegetable gardening at home or school can play a role in promoting healthy eating in children. Food gardening at school offers an opportunity for children to learn about nutrition and supports healthy eating choices.

- Natural environments encourage resilience and flexibility and improve **balance and coordination** in children.

→ One Norwegian study found children who played in the woods behind their school performed better on tests of motor coordination than those who played in a traditional playground.

- Outdoor play at certain times of the day can provide safe exposure to sunshine, which promotes the body’s synthesis of **vitamin D**. Vitamin D is important for strong bones, muscles and overall health. A 3-year longitudinal study on



school aged children in Colombia also found that vitamin D deficient children, compared to vitamin D sufficient children, had greater increases in body mass index, skinfold-thickness ratio and waist circumference over time.

- Outdoor play can have an impact on **eyesight**. Outdoor environments challenge children's eyes with a diversity of focal points at a wide range of distances from the eye, giving them the stimulation and exercise they need to develop.
 - The Sydney Myopia Study found that high levels of outdoor activity were associated with lower myopia (short sightedness) in students. Children who combined high levels of 'near work', such as reading or electronic games, with low levels of outdoor play were more likely to have poor eyesight.

Carers of children: Is contact with nature on their health radar?

The Planet Ark Nature and Children's Health Survey showed that the vast majority of Australians who regularly care for children (89%) agree that contact with nature has many benefits for kid's wellbeing and development, but they don't know what the benefits are.

Carers most frequently identified regular exercise and sporting activities, strong family and social networks, and a healthy diet and nutrition, among the three interventions or influencers they considered to be most effective for reducing stress levels, reducing the symptoms of depression and increasing confidence and self-esteem in children.

Only 33% of carers considered contact with nature to be one of the top three ways of reducing stress, and less – 24% – considered it to be one of the top three ways of reducing the symptoms of depression.

Just 13% considered contact with nature a top method of improving confidence and self-esteem.

The survey shows that contact with nature is far from 'top of mind' among carers as a means of supporting children academically, with only 7% choosing it among their top three. Yet there is strong evidence linking contact with nature with intellectual development and academic performance. Similarly, only 16% of carers think contact with nature is one of the three most effective ways of reducing the symptoms of ADHD, despite research that suggests otherwise.

Other key results from the Planet Ark Nature and Children's Health Survey are:

- 72% of carers don't think the children in their care spend enough time participating in outdoor, nature-based activities like climbing trees, bushwalking, gardening, and playing in the gardens or bushland in local parks.
- Nearly half of carers questioned believe the children in their care prefer indoor activities.



- 25% of carers said the children in their care have **never climbed a tree**.
- 26% of carers said the children in their care have **never been bushwalking**.
- 17% of carers said the children in their care have **never visited a national park**.
- 11% of carers said the children in their care have **never been to the zoo**.
- 39% of carers said the children in their care have **never been camping**.
- 1 in 5 carers said they don't know enough about the nature-based activities that children can do.
- The general public perception is that most children have never planted a tree (76% agree) and that most children are not able to identify common Australian native trees like wattle or bottlebrush (76% agree).



Contact with nature is good for carers too

- Children help us reconnect to the natural environment. The Planet Ark Nature and Children's Health Survey found that about half of Australian adults have regular care of children and that adult carers are more likely to participate in outdoor activities than non-carers.
- Most of the benefits to children of connecting with nature apply to adults. As with children, contact with nature is good for our physical health, supports vitamin D production, provides interest and relaxation, and benefits our mental health too.
- A 20-year study showed that people who do conservation volunteering in midlife (such as tree planting) have typically better long-term mental and physical health.
- Increasingly, the construction and renovation of health care facilities, such as children's hospitals, are considering the therapeutic potential of nature in planning their building and landscaping designs. Green spaces in health care facilities offer relaxation and psychological support for health care workers, the families of patients and visitors, as well as the patients themselves.



Green time vs Screen time: Barriers to nature play

The nature of childhood has changed significantly over the last 20 years as a result of dramatic shifts in lifestyle trends, such as the nature of houses and gardens, urban design, the working hours of parents, the use of childcare, time pressures on families, increased uptake of electronic entertainment and increased consumerism.

- There have been increases in the time spent by children in activities structured or arranged by adults and in adult-supervised youth sport, and significant **decreases in time spent by children exploring nature, climbing trees and in other self-directed activities.**
- The well-documented shift from outdoor to indoor play over recent decades has seen a growing diversity of sedentary activities, such as **television and electronic games.** Researchers say these activities 'squeeze out' time for more active pursuits.
- One side effect of the shift to indoor playtime is that children are **losing their knowledge of local biodiversity,** compared with previous generations. A UK-based study compared children's ability to recognise and identify local wildlife species, such as oak trees and badgers, and Pokémon characters. The results showed children in their primary school years know far more about Pokémon characters than native wildlife.
- Trends in new housing and renovations show a dramatic shift towards **larger houses on smaller blocks, with decreased garden space** and increased indoor space. Many time-poor parents favour low-maintenance gardens or no gardens. Our cities are also becoming denser, reducing the available natural or garden settings that might have

provided nature play opportunities in the face of shrinking backyards.

- Parents' perceptions of **'stranger danger' and fear of crime,** perhaps fed by increased media reporting, have reduced the willingness of parents to allow their children to play outside unsupervised, while changing work patterns have reduced the time many parents can spend with their children outside.



Growing responsible adults

- Research shows that nature-based experiences during childhood have an influence on children's attitudes and, depending on the type of the experience, this influence can last a lifetime.
 - One US study found a clear positive association between participation in wild nature activities, such as hiking and camping, during childhood and future environmental attitudes and behaviours.
 - Research has shown that direct interaction with nature (including pets) stirs feelings of empathy, making the animal or plant worthy in the child's eyes of moral consideration, such as concern for their needs or a desire to protect them.



- Increased time spent indoors watching television can lead to attitudes of materialism and consumerism in children. Research has shown that, over time, excessive materialism encourages superficiality and a self-centeredness that leads to less concern for others, the community and the broader environment.
- When children recognise themselves as being part of nature, they develop a sense of **ecological self**. The stronger this self-perception as part of nature, the more likely a child is to protect it.
- The Planet Ark Nature and Children’s Health Survey shows an overwhelming **nine out of ten Australians believe contact with nature has benefits for the wellbeing and development of children** and is important in increasing children’s desire to protect the natural environment. Further, 86% agree that kids are not spending enough time in nature. However, the changing nature of childhood is making it more and more difficult for children to connect with nature and identify with it. The result is a declining sense of moral responsibility towards the environment.
- The natural environment itself has changed. When children are able to spend time in nature, they may be visiting degraded environments, which are less able to inspire the kind of intense and joyful “ecstatic” experiences that have proven so powerful in the past.
- We are at risk of **generational environmental amnesia**, a phenomenon in which people view the state of the environment as they experienced it in their childhood as the benchmark of ‘normal’ in order to evaluate future environmental degradation. The youth of each ensuing generation becomes more likely to view a degraded environment as normal, non-degraded and acceptable. Over time, our society’s baseline by which we view the health of the environment declines.

A good dose of nature: National Tree Day

At heart, Planet Ark’s *Planting Trees* report is a call to action. We want carers to get children actively playing outside and reconnecting with nature. **Planet Ark suggests a daily dose of 30 minutes of green time** that could incorporate exercise, family time and moderate sunlight exposure, as a way to promote the health and wellbeing of our children and reconnect them with the natural environment.

The Planet Ark Nature and Children’s Health Survey showed that most people (85%) agree that nature-based events or activities such as **Planet Ark’s National Tree Day** are a good way for kids to connect with and value nature.

National Tree Day is Australia’s largest tree planting and nature care event, where kids and their families can get out into nature and have fun in their local environment. With thousands of sites at schools, parks, gardens and other locations across the country, National Tree Day and Schools Tree Day are great ways for Aussie kids and their families to get their daily dose of green – just what the doctor ordered!

What are you waiting for? Dig in! Take part in National Tree Day 2012 on Sunday 29th July or Schools Tree Day on Friday 27th July.

Visit TreeDay.PlanetArk.org for more information.

