

# Does nature has a positive effect on ADHD children?

January 31 2011, by Roelof Kleis

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Children with Attention Deficit and Hyperactivity Disorder (ADHD) can cope with complex tasks better in the open air, Wageningen research has shown. A natural environment made no difference to simple cognitive tasks.

The beneficial effects of nature on the [concentration](#) capacity of [children](#) with [ADHD](#) are hard to demonstrate. And yet they exist, thinks Agnes van den Berg of Alterra, part of Wageningen UR. For the Dutch ministry of Economic Affairs, Agriculture and Innovation (EL&I), she has investigated the impact of a stay in a natural environment on ADHD children. Van den Berg spoke to experts and put groups of children through a range of tests in both a garden and a meeting room. The different tests demanded various degrees of attention and concentration. The results are not clear-cut.

'That ADHD children can concentrate better out of doors than elsewhere is not something you can make very hard claims for', concluded Van den Berg. 'But for more complex actions, a natural environment does seem to have advantages. The effects are not very pronounced, however, so I am cautious in my conclusions. There are also some effects that point in the opposite direction. The strongest effect was found, for example, in a simple verbal memory test in which the children had to remember words. They turned out to do that better in a bare meeting room than out in the open air.'

## **Nature is unstructured**

'Compared with earlier studies on the effects of nature of 'normal' children, what strikes me is that ADHD children seem to be less responsive to nature', continues Van den Berg. 'Their behaviour is very erratic, and the state of mind they are in when they come in is more decisive for their performance than the kind of space they are in. So they do benefit from nature, but because their behaviour is so changeable, it is less obvious than it is with other children. ADHD children also need a very structured environment: that is what they respond best to. And nature is not structured, and is less predictable and regulated.' That parents and carers see big improvements in the children's behaviour when they are out of doors Van den Berg puts down to the freedom and space in natural play areas. 'It is difficult to establish a direct link between the naturalness of the environment and a reduction in ADHD symptoms. The benefits gained from nature have more to do with being away from the school setting with all its rules and the lack of space to move about.'

## **Expectations too high**

Yet Van den Berg thinks the concept of 'nature as therapy' is worth investigating further. 'The effects are small, but the problems of ADHD children are big. So the net effect of nature can make a difference.' Van den Berg believes there are strong theoretical indications that nature affects the same processes in the brain as ADHD. Within the entire range of alternative treatments for ADHD, nature may even be the best option, she thinks. 'Nature is not a panacea. When I started on this research I was sceptical. I do want to see the therapeutic effects of nature being taken seriously, but I thought that expectations here were too high. I thought it was all a bit of a myth. I think differently now. It's not such a crazy idea. Nature has a function and a value for ADHD

children, but it doesn't solve everything. And the effects are very hard to establish.'

Provided by Wageningen University

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