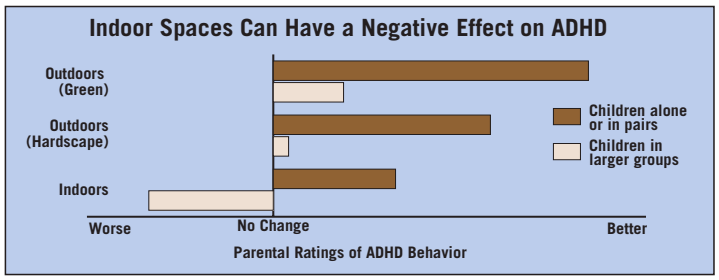
Experiencing Nature May Help to Quell ADHD



BY KEVIN FOLEY
Senior Writer

Exposure to natural, or "green," environments appears to reduce symptoms of attention-deficit hyperactivity disorder in children from different locales and social strata, according to Frances E. Kuo, Ph.D., and Andrea Faber Taylor, Ph.D., of the University of Illinois, Urbana-Champaign.

In a national nonprobability sample conducted online from Sept. 15 to Oct. 31, 2000, 452 parents or legal guardians of children 5-18 years old who had been formally diagnosed with ADHD by a physician or psychologist answered a survey about how green spaces affected their children's ADHD (Am. J. Public Health 2004;94:1580-6).

The parents were asked to compare the aftereffects of 49 common after-school and weekend activities on their child's ADHD symptoms. Three different types of environments were defined: indoor settings, green outdoor settings (defined as "mostly natural area—a park, a farm, or just a green backyard or neighborhood space"), or built outdoor settings (defined as "mostly human-made—parking lots, downtown areas, or just a neighborhood space that doesn't have much greenery").

Parents were asked to rate their children's ADHD after exposure to several environments by using the following scale: –20 (worst), –10, 0 (same as usual), 10, and 20 (best). Activities performed in green outdoor settings significantly reduced children's symptoms of ADHD. The best results occurred when the children were alone or in pairs (16.91), but there was also improvement when they were in a larger group (3.77).

By contrast, built outdoor settings reduced ADHD symptoms in children who were alone or in pairs (11.65), but not when the children were in larger groups (0.82), Dr. Kuo and Dr. Taylor said.

Indoor activities also reduced ADHD symptoms in children who were alone or in pairs (6.56), but "significantly exacerbated symptoms when conducted in larger groups (–6.68)," they added.

"Thus, only in green outdoor settings did activities reduce symptoms regardless of social context," the investigators concluded.

Next, the investigators tested whether or not the results held up when adjusted for social context. They put green outdoor settings head-to-head against both built outdoor settings and indoor settings.

They found that green outdoor settings reduced ADHD symptoms significantly more than the two other settings over 54 of 56 measures, including sex, four different age groups, four household income brackets, different regions, and rural to large-city environments.

"The advantage of green outdoor activities over other activities was consistent for children across a wide range of individual, residential, and case characteristics," Dr. Kuo and Dr. Taylor commented.

The study was limited by the possibility of systematic error in parents' perceptions of the different settings, which could have clouded their judgment on whether or not their children's symptoms responded to certain settings better than others, the investigators said.

They noted, however, that if future research confirms their findings, it would have implications for treatment: "Daily doses of 'green time' might supplement medications and behavioral approaches to ADHD." ■