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## Living amid green space is highly beneficial to children

ITHACA, N.Y. -- A house surrounded by nature seems to help boost a child's attention capabilities, a study by a Cornell University researcher suggests.

"When children's cognitive functioning was compared before and after they moved from poor- to better-quality housing that had more green spaces around, profound differences emerged in their attention capacities even when the effects of the improved housing were taken into account," says Nancy Wells, assistant professor of design and environmental analysis in the New York State College of Human Ecology at Cornell.

Wells also conducted a study that suggests the mental health of adults improves with a move from poor to quality housing.

Although the green-space study sample was small -- only 17 children -- the statistical findings were highly significant, says Wells. Children in the study who had the greatest gains in terms of "greenness" between their old and new homes showed the greatest improvements in functioning. "The findings suggest that the power of nature is indeed profound," she says.

To conduct the study, published in *Environmental and Behavior* (2000, Vol. 32, pp. 775-795), the researcher assessed the extent of natural surroundings around the children's old and new homes by rating, for example, the amount of nature in the views from various rooms and the degree of the yard's natural setting. To assess their children's abilities to focus attention, parents answered a series of questions from the Attention Deficit Disorders Evaluation Scale, a nationally standardized measure of directed attention capacity.

"The results suggest that the natural environment may play a far more significant role in the well-being of children within a housing environment than has previously been recognized," Wells says. She notes that simple interventions, such as preserving existing trees, planting new trees or maintaining grassy areas, would likely have a significant impact on children's welfare.

The study was funded in part by the University of Michigan and the U.S. Department of Agriculture (USDA) and its Forest Service. Wells' other study, which found a link between housing quality and mental health, appears in the *Journal of Consulting and Clinical Psychology*. Wells and her co-authors developed an observer-based rating of quality of homes occupied by 207 low- and middle-income women with at least one child. They also gauged the women's levels of psychological distress. In addition, these measurements were used in an urban sample of 31 low-income women before and after they moved into a home constructed in collaboration with Habitat for Humanity.

"We consistently found that housing quality can affect mental health, in that better-quality housing was related to lower levels of psychological distress, while statistically taking into account the effects of income," says Wells. "The research suggests that significantly better housing quality is linked to improvements in psychological well-being. Such evidence is

important and can be used to encourage legislators and policy-makers to promote housing improvements for low- and moderate-income families." The researchers concluded that improved housing quality can benefit mental health. In addition, follow-up interviews conducted two years later revealed that the women's levels of psychological distress remained low, suggesting that the improvements in mental health are unlikely to be a mere "honeymoon" effect.

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The study, co-authored by Cornell colleague Gary Evans and former Cornell undergraduates Hoi-Yan Erica Chan and Heidi Saltzman, was supported in part by the USDA, the John D. and Catherine T. MacArthur Foundation Network on Socioeconomic Status and Health, the National Institute of Child Health and Human Development, and the University of Michigan.