

This technology bulletin is based on the article, "Growing Up in the Inner City; Green Spaces as Places to Grow" that is published in the journal *Environment and Behavior*, Volume 30, Number 1, January 1998. The journal article was written by Andrea Faber Taylor, Angela Wiley, Frances E. Kuo, and William C. Sullivan.



Examples of the high and low vegetation courtyards at the Ida B. Wells public housing development in Chicago, where researchers studied the link between vegetation and developmentally helpful activities.

In hardscrabble inner cities, maintaining trees and greenery is often considered a luxury, if it is considered at all. Given the weight of human needs and social problems in America's poorest communities, how can trees and plants be a priority? Does the presence of green space matter? The findings of this study show that urban trees are not luxuries, but important outdoor features where children learn and practice skills for survival and success in life.

Low-income urban children are at high risk for developmental problems, including academic underachievement, juvenile delinquency, withdrawal, apathy, aggression, depression, and more. In seeking ways to offset these negative outcomes, studies in the past have concentrated on children's social and economic environments. However, what is the role of the physical environment in offsetting these negative influences? At the University of Illinois, a team of scientists wanted to know if the amount of vegetation in outdoor spaces of urban public housing units play a role in the activities and experiences of a developing child. The scientists wanted to answer these questions: Does vegetation foster play in outdoor spaces?

Does it encourage creative forms of play? Does it promote greater access to adult supervision and interaction? This research focused on "play" and "access to adults" because these are two important factors necessary for healthy childhood development. Underlying these research questions was the quest to reveal whether the presence of trees in the physical environment could help children of low-income urban families develop their potential and gain life skills.

BACKGROUND ON STUDY

The study was conducted in Chicago at the Ida B. Wells public housing development, one of America's poorest communities. Most of the residents were African-American, unemployed, and receiving public assistance. At that time, 44 percent of the residents were children younger than age 14. The buildings were low-rise apartments with courtyards that created common outdoor spaces shared by an average of 16 families.

The courtyards were selected as the location to observe children's activities and their access to adults, because these areas are commonly used by inner-city children for play. The court-

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7 TECHNOLOGY BULLETIN

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7

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yards were similar (i.e., architectural-ly, vacancy rate of adjacent apartments, and distance from busy streets) except for differences in the amount of vegetation, mainly tree cover, which was quantified on a scale ranging from relatively barren to high level of vegetation. Two residents from another public housing development were hired and trained to conduct the observations. They fit unobtrusively into the observation sites and assisted with setting up an appropriate system for recording children's ages, activities, and access to adults.

On four separate occasions, they recorded the types of outdoor activities engaged in by a total of 262 children. Also noted was the children's access to and interaction with adults. Types of play were classified into nine categories drawn from play taxonomies and later refined for use in the study. Levels of adult access were coded in four categories ranging from no access (no adults nearby or in view) to interaction (at least one adult was present and engaged with the children).

DOES VEGETATION INFLUENCE CHILDREN'S OUTDOOR PLAY?

Specialists in child development consider play, "the work of children," very important for social and cognitive development. And that creative play, such as pretending and playing games with flexible rather than strict rules, may be the most important. In this study, researchers found that the amount of vegetation in outdoor spaces influences not only the amount of play but also the quality of play. Nearly twice as many children were playing in spaces with many trees as in the more barren spaces and were especially engaging in the type of creative play that fosters language and collaborative skills.

DOES VEGETATION PROMOTE GREATER ACCESS TO ADULTS?

An important part of a child's training in "growing up" is associating and interacting with adults. This is essential if children are to learn values, appropriate behavior, and communication skills. Does vegetation influence availability of adults in neighborhood outdoor spaces? This study, as in a previous research study, found that children and adults are more likely to jointly occupy a space when higher levels of vegetation are present. It also found that children playing in highly vegetated areas had twice as much access to adult supervision.

WHAT DOES THIS MEAN FOR PUBLIC HOUSING?

Urban trees create oases for some of the very activities that give disadvantaged children the skills to succeed in life: creative play that builds language, communication, and collaboration skills; and higher levels of adult-child supervision and interaction where values and communications skills are instilled in the younger generation. The results of this study suggest that trees may promote healthy development in a population of children at the center of some of our most pressing public concerns. This research suggests that administrators, planners, designers, landscape architects and urban foresters should include more trees and green space in public housing developments to promote healthy development in children. This will not only benefit the children but also their families and their communities. Often branded as a soft benefit and a hard sell, urban trees are seen increasingly as investments that return stronger, more unified communities and help America's children grow to potential.

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