Decreasing Urban Neighborhood Violence: The Potential Role of Community Greenspace

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Introduction

At a time when so much violence is taking place in society and in the world, we search for some ways to make things better. Unexpectedly, current research indicates that the strategic use of the natural environment, in particular open spaces referred to as greenspace, has the potential to reduce violence in urban neighborhoods (Younan et al, 2016). This information is most welcome, and is further explored below.

The “Built Environment” and “Greenspace”

The natural environment, referred to as “the built environment” in public health terms, is a recognized determinant of health outcomes (Compton and Shim, 2015). The built environment is part of the infrastructure of a community. In many poor urban communities, the built environment constitutes one of many risk factors for negative outcomes. However, part of the built environment includes greenspace – open space that involves protected areas of undeveloped landscape including vegetation. Until now, vegetation and greenspace have been regarded as positive environmental characteristics, but there has been no evidence that greenspace in urban settings is associated with violence reduction.

The Study

The authors followed a group of 1,291 children living in Los Angeles County and surrounding areas from age 9 to age 18. They were of mixed race and ethnicity – e.g., Caucasian, African American, Hispanic, and mixed. The children were either twins or triplets living in an urban area, born between 1990 and 1995 and enrolled in the study in 2000. The children were followed longitudinally to track the presence of aggressive behavior during their transition from childhood to adolescence. Data about aggressive behavior were collected up to 4 different times for each child, over the nine years of the study.

Through a variety of methods, researchers ascertained the degree of residential greenspace for each participant over time. In addition to neighborhood greenspace, other family and neighborhood variables were also determined, including the family’s socioeconomic status, neighborhood quality, degree of neighborhood noise and traffic density, and neighborhood temperature and humidity. Maternal risk factors – maternal smoking during pregnancy and maternal depression – were also obtained.

The Results

Residential greenspace was measured in terms of the amount of greenspace within a 1000-meter buffer from the child’s residence. Data on greenspace were correlated with data on child aggressive behavior. The latter data came from parental responses to the Child Behavior Checklist (CBCL). The outcome was clear and unequivocal: With all other variables non-significant, it was found that living in neighborhoods with higher vegetation and greenspace (such as close proximity to a park, school field, or golf course) was
strongly associated with decreased aggression and violence.

Remarkably, none of the other identified variables, including the socioeconomic status of the family and other characteristics of the neighborhood, altered the relationship between increased greenspace and decreased violence. In addition, no differences in outcome emerged based on the race and ethnicity of the child, or the child’s age.

In response to the findings, the authors note that the benefits of increasing the vegetation commonly seen in urban environments “were equivalent to approximately 2 to 2.5 years of age-related behavioral maturation.” Thus, the presence of greenspace not only decreased aggression, but also promoted behavioral maturation. The authors add that, in California as a whole, an increase in neighborhood greenspace to a specific threshold would decrease the number of youth with clinically significant levels of aggression by 12%.

Discussion

This article, which elegantly combines mental health data and environmental data, is relevant to children and families and to professionals in multiple disciplines. It suggests that, even in the absence of mental health treatment and without addressing the socioeconomic status of the residents, modifying the physical environment in urban areas – by increasing neighborhood greenspace – can decrease the level of individual and community violence. In fact, the environmental intervention can involve use of “the range of vegetation commonly seen in urban environments.”

The authors are uncertain how increased greenspace might lead to decreased violence, and offer a number of possibilities. These involve: 1) exposure to greenspace reducing stress levels and lowering depression; 2) greenspace leading to increased physical activity and improved self-esteem; 3) greenspace reducing pollution levels and mitigating neighborhood noise; and 4) greenspace preserving microbial biodiversity, leading to improved immunoregulation and brain health.

For me, this research highlights the importance of a biopsychosocial and a public health approach. Here, an increase in greenspace in the natural environment, a social intervention, has positive impacts on the biological, psychological and social dimensions of the individual. In addition, consistent with a public health approach, this early intervention strategy has positive implications for the larger community, not just the individual child. A healthier, more welcoming environment is created through creative urban redesign.

Certainly, increasing community greenspace is not enough to improve the lives of youth in urban neighborhoods and their families. All social determinants of health and wellbeing need to be addressed by policy makers, communities and families (Compton and Shim, 2015). Nevertheless, given the tragedy of violence and the diminished lives of all those affected, the potential benefit of increased community greenspace represents a valuable source of hope and change.

References
