

Men, residents of higher crime areas see reduction of heart disease deaths due to benefit from community parks

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There's a well-established link between green space and health benefits, including lower rates of heart disease risk factors, such as [high blood](#)

[pressure and diabetes](#).

Now, according to a recently published study, rates of deaths from heart disease—especially among men—are lower in neighborhoods with more [green space](#). The findings, from researchers at Drexel University's Dornsife School of Public Health, were recently [published](#) in the journal *Health & Place*.

Studying heart disease deaths in Philadelphia from 2008 to 2015, the researchers also found that contrary to their hypothesis, it was in neighborhoods with more crime where greater park access and [tree canopy](#) cover were linked to lower rates of heart disease deaths.

The data comes from the first study of gender-specific associations of green space and heart disease deaths that also factored in [violent crime](#).

"We found the modifying role that violent crime plays in influencing the health benefits from green space most surprising," said senior author Leah Schinasi, Ph.D., an assistant professor at Dornsife. "By better understanding the [complex interactions](#) between [social context](#), built environments and personal identities, we can design safer community spaces to maximize health benefits for all."

Studies from [Canada](#) and [Lithuania](#) also found disproportionate health benefits for men, when compared to women, from green space access.

Heart disease is the leading cause of death in the United States, killing 702,880 people annually, according to the CDC.

The team gathered data on neighborhood poverty, [racial composition](#), and population density from the U.S. Census Bureau's American Community Survey; rates of heart disease deaths among men and women (data did not indicate those identifying as non-binary or transgender)

from the Pennsylvania Department of Health; 2013 violent crime stats from Philadelphia Police Department via the City of Philadelphia's Open data repository; tree canopy and vegetation cover data from land cover assessments performed in Philadelphia in 2008 and 2018; and data on perceived access to a park from [the 2013 Southeastern Pennsylvania Household Health Survey](#), which contains responses from a representative sample of adults residing in Southeastern Pennsylvania.

In 2009, former Philadelphia mayor Michael Nutter announced "Greenworks Philadelphia," with the goal of 30% [tree cover](#) in each Philadelphia neighborhood by 2025. In 2018, the city estimated it was at about 20% tree coverage. Last year, Philadelphia's city government released a 10-year plan for tree planting and maintenance to recover from tree loss from 2008–2018 that could span 1,000 football fields.

"This paper is yet another reminder of the value that green space may have due to the many ways it improves health, including an association with heart disease," said Wanyu Huang, who contributed to the research as a doctoral candidate at the Dornsife School of Public Health. "Cleaner air, reducing stress, providing a cooler living environment for us during summer—trees and other greenery can even make areas quieter and reduce noise pollution."

The researchers hope that future studies will delve deeper into how differences in perceived safety—whether women feel less safe than men in parks and to what degree, for example—can explain gender differences in the link between green space and heart health. The authors speculate that the additional [heart disease](#) benefit for men might be due to data showing that women use parks less often than men and for less time each visit.

A previous study found that women also perceive a greater fear of crime than do men and this can influence the use of public spaces. The authors

say they would like to see future studies that better illuminate where experiences and behavior in green space are different according to forms of identity that are influenced by both personal and social factors, such as gender.

Other authors on this study include Anneclaire De Roos, Jane Clougherty and Yuzhe Zhao of Dornsife, and Michelle Kondo of the USDA Forest Service.

More information: Wanyu Huang et al, Gender and violent crime modify associations between greenspace and cardiovascular disease mortality in Philadelphia, PA, *Health & Place* (2024). [DOI: 10.1016/j.healthplace.2024.103372](https://doi.org/10.1016/j.healthplace.2024.103372)

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