

Adult obesity, inactivity associated with violent crime in Black and Hispanic communities

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The prevalence of physical inactivity and obesity in adults were linked to violent crime rates in Chicago's urban Black and Hispanic communities,

according to research to be presented at the American Heart Association's Epidemiology, Prevention, Lifestyle & Cardiometabolic Health Conference 2021.

In the U.S., violence is a major threat to [public health](#) in communities with people from diverse racial and ethnic groups in large urban areas. These communities also have disproportionately higher rates of murder, armed robbery, aggravated assault and other types of [violent crime](#). This study examines the effects of violence on physical activity and [obesity](#) in adults in communities with increased rates of violence.

"This research is timely because exposure to violent [crime](#) is not often considered or accounted for in studies on racial or ethnic disparities in obesity and physical activity, and our results add much-needed insight into this area. To achieve racial equity in health, we must understand and address barriers to maintaining a [healthy lifestyle](#)," said the study's lead author Chelsea R. Singleton, Ph.D., an assistant professor in the department of kinesiology and community health at the University of Illinois at Urbana-Champaign.

Researchers examined 2018 data from the City of Chicago's police records to calculate the violent crime rate per capita; the Centers for Disease Control and Prevention's community profile data for 2018 to assess physical activity and obesity prevalence among adults; and 2018 U.S. census bureau information on socio-demographics to define racial composition and median household income. They accounted for additional variables, including the amount of public park space in the census tract, the number of grocery stores and the walkability index of the communities. Walkability data was obtained from the U.S. Environmental Protection Agency's National Walkability Index, which reflects sidewalk connectivity, pedestrian-oriented intersection density and land use for businesses. A higher walkability score means that the community environment allows for more walkable trips in a given area.

The analysis found:

- In urban Chicago, Black communities had significantly higher rates of violent crime, and adults in those communities had higher rates of physical inactivity and obesity compared to adults in Hispanic or white communities.
- Across all communities, violent crime was associated with higher levels of physical inactivity and obesity among adults.
- As violent crime rates increased, the prevalence of physical inactivity and obesity increased in adults in non-Hispanic Black communities, even after accounting for differences in median family income, availability of grocery stores and the amount of park space.

Singleton notes their results highlight an important question researchers need to address. "We found violent crime was not associated with physical inactivity or obesity in adults within Chicago's predominantly white communities, yet violent crime rates were also lower in white communities compared to communities of color. We are interested in whether future, prospective research will show associations among the violent crime rate, physical inactivity and obesity. Additionally, information about adults in white communities with higher violent crime rates would be valuable."

Researchers believe future studies could combine epidemiological and geographical data to evaluate the role of violent crime rates in maintaining healthy lifestyle behaviors at both the individual and community levels. Future research could also map violent crime in public spaces, particularly those designated for exercise and other physical activities (e.g., trails, parks and recreation centers) to better understand the impact of violent crime on [physical activity](#) levels.

The key limitation of the study is its design—it is an ecological study, an

analysis of environmental data, so no research subjects (people) were involved. Researchers note that also due to the [study design](#), they cannot directly conclude that exposure to violent crime is associated with physical inactivity and obesity risk among Black and Hispanic adults in Chicago or other urban areas, only that areas with higher violent crimes rates also have a higher prevalence of adults who are not physically active and who are obese.

"We can only conclude that predominantly Black and Hispanic census tracts with high [violent crime rates](#) have a higher prevalence of adults who are not physically active and who are obese. The study design must be considered when interpreting the findings," said Singleton.

Provided by American Heart Association

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