

# New study measures neighborhood inequality and violence based on everyday mobility

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A new study looking at the patterns of movement from 400,000 people offers fresh insights into how a neighborhood's economic conditions mixed with the mobility patterns of its residents and visitors relates to

the well-being of the neighborhood and can serve as a predictor of violence.

The analysis, published in the *American Sociological Review*, develops the concept of [neighborhoods](#) that have a "triple disadvantage." These are neighborhoods that score high on common traits measuring "disadvantage"—such as concentrated poverty, unemployment, and how many residents receive public assistance—but also have deep connections with similarly disadvantaged neighborhoods through its resident's own mobility and through mobility into the neighborhood from around the [city](#). The authors suggest these networks are formed through everyday movements, such as going to work, leisure activities, or visiting friends or family. Overall, the theory argues that a neighborhood's well-being depends not only on its own socioeconomic conditions but on the conditions of the neighborhoods its residents visit and are visited by.

The findings underscore that neighborhoods, even ones distant from each other, are not islands in isolation but are inherently connected. In fact, the implications of triple disadvantaged neighborhoods are broad and potentially affect a wide range of issues, including community capacity, gentrification, transmission in a pandemic, and racial inequality.

"We're trying to get researchers but also policymakers to think beyond just the characteristics of one neighborhood in isolation, which has driven a lot of research, including my own," said Robert J. Sampson, the Henry Ford II Professor of the Social Sciences and author on the paper. "What we're arguing is that triple disadvantage essentially exacerbates racial segregation [and other related factors]. ... [It's] the compounding of inequality by not just living in [poor neighborhoods](#), but having disproportionate contact with other poor neighborhoods."

The authors draw on a long tradition of research showing that violence is highly concentrated in certain neighborhoods and that a neighborhood's poverty rate is strongly related to homicide. The researchers go beyond this traditional focus on residential areas and combine it with mobility data to study cross neighborhood ties and networks in entire cities.

Analyzing nearly 32,000 neighborhoods and 9,700 homicides in 37 of the largest U.S. cities, the authors show that triple disadvantage metrics can independently predict homicides after adjusting for known links of violence, such as density, race, age, and residential stability.

The authors look at neighborhoods in cities like New York City, Houston, Chicago, and many others, including smaller cities like Kansas City, Miami, Oakland, and Tulsa. Maps are available for all cities.

The researchers found that mobility-based disadvantage—meaning people flowing in and out of disadvantaged neighborhoods—accounts for roughly one-fifth of the relationship between residential disadvantage and homicide. Digging further, they saw that using measures of triple disadvantage rather than residential disadvantage increased the authors' ability to predict neighborhood homicide counts by almost a third.

"The key there is that taking into account triple disadvantage, or taking into account these everyday mobility patterns, gives us added value in the prediction of homicide patterns," Sampson said. "In other words, that it goes beyond just residential poverty—we show that there's this additional explanatory value with respect to triple disadvantage."

In the study, the authors also show what makes a neighborhood triply disadvantaged can swing the opposite way, too. When those from already advantaged neighborhoods visit and are visited by those from other advantaged neighborhoods, they become triply advantaged. This isolates

and segregates affluent neighborhoods.

Working on the paper with Sampson was Brian L. Levy, an assistant professor at George Mason University, and Nolan E. Phillips, a data scientist at Accenture. Both were former postdoctoral fellows at Harvard.

The researchers say their work represents only the tip of the spear and builds on earlier work on segregation. They hope to expand their theory and have others use their methodologies, data, and new geographic data sources to run their own assessments.

"There's a sense in which we hope that these ideas can be used by other researchers to create measures for studies around the world," Sampson said. "Furthermore, we can imagine that researchers and even policymakers could create metrics for other kinds of indicators beyond what we started. ... [The theory] has very expansive possibilities in our view."

**More information:** Brian L. Levy et al, Triple Disadvantage: Neighborhood Networks of Everyday Urban Mobility and Violence in U.S. Cities, *American Sociological Review* (2020). [DOI: 10.1177/0003122420972323](https://doi.org/10.1177/0003122420972323)

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