

## 'Color-blind' sentencing alone can't cure racial bias in U.S. criminal justice system, new study suggests

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Virginia Tech faculty members James Hawdon (left) and Samarth Swarup helped develop a computational model to assist policymakers in identifying more-effective criminal justice reform measures. Credit: Virginia Tech

According to U.S. Bureau of Justice statistics, American prisons currently house more than 2.2 million individuals, a population roughly the size of Houston, Texas. This incarceration rate is staggeringly high—no other country in the world jails such a high proportion of its citizenry.

If, as these figures suggest, incarceration in America has reached epidemic proportions, its ill effects are felt especially strongly in communities of color.

In addition to sentencing biases that regularly condemn African Americans to longer prison terms for the same crimes committed by other population groups, social scientists have observed that the friends, family, and neighbors of incarcerated people often face an increased likelihood of being incarcerated themselves.

Researchers from Virginia Tech, Louisiana State University, and the Human Rights Data Analysis Group found that the community-wide ripple effect caused by incarceration strongly resembles patterns seen in the spread of a contagious disease.

By re-creating these real-world incarceration trends within a computational model, these scientists have created a toolset that can estimate how a particular set of criminal justice reforms will impact overall rates of imprisonment.

The group's latest findings, which address methods for eliminating racial biases in imprisonment, were recently published in the journal *Corrections: Policy, Practice, and Research*.

"Under our current justice system, communities of color are being exposed to the 'contagion' of incarceration at a much higher rate," said James Hawdon, director of Virginia Tech's Center for Peace Studies and

Violence Prevention and a professor in the College of Liberal Arts and Human Sciences. "Our model suggests that laws enforcing equal sentencing for individuals need to be paired with policies that address elevated risk of incarceration at the community level."

Starting with a simulated population of 1,500 unique individuals, Hawdon's team began by modeling incarceration rates using observed racial differences in sentence lengths and probabilities of being incarcerated. This model produced racial disparities in incarceration rates that closely matched reality.

The team then tested the potential impact of "color-blind" sentencing—assigning the same penalty to every person who commits a particular crime, regardless of race.

Their model projected that, four decades after implementing this policy, African American incarceration rates would still be 2.5 times higher than their white peers.

Researchers compared these results with a more comprehensive set of reforms that equalized the sentences of people who were already in jail and limited community members' repeated exposure to [incarceration](#). Under these conditions, rates of imprisonment among white and African American populations evened out in less than ten years.

Highly detailed simulations like this are a hallmark of the Biocomplexity Institute of Virginia Tech's Network Dynamics and Simulation Science Laboratory (NDSSL.)

The lab uses its immense library of demographic data to construct "synthetic populations" that work, move, and respond to change much like a real-world community. Researchers can use these tools to assess a policy's potential impact on society, before it is put into practice.

"While real-world policy implementation will be much messier than it appears in a model, simulations like this give us a strong indication when we're headed in the right direction," said Samarth Swarup, a research assistant professor in NDSSL. "We can get an idea of what might work, how quickly, and where we should be committing our resources."

In a field as costly and slow-moving as criminal justice reform, technology that can provide fast, reliable estimates of policy's long-term success could prove to be invaluable.

"In the real world, we would have to wait generations to see a reform's full effects," said Hawdon. "That's too long—it's not just an individual's livelihood at stake, it's the wellbeing of their entire community. Until we can ensure true, equal treatment under the law, we need to use every tool at our disposal to start closing this gap."

**More information:** James Hawdon et al. Addressing the Race Gap in Incarceration Rates: An Agent Based Model, *Corrections* (2017). [DOI: 10.1080/23774657.2016.1265472](https://doi.org/10.1080/23774657.2016.1265472)

Provided by Virginia Tech

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