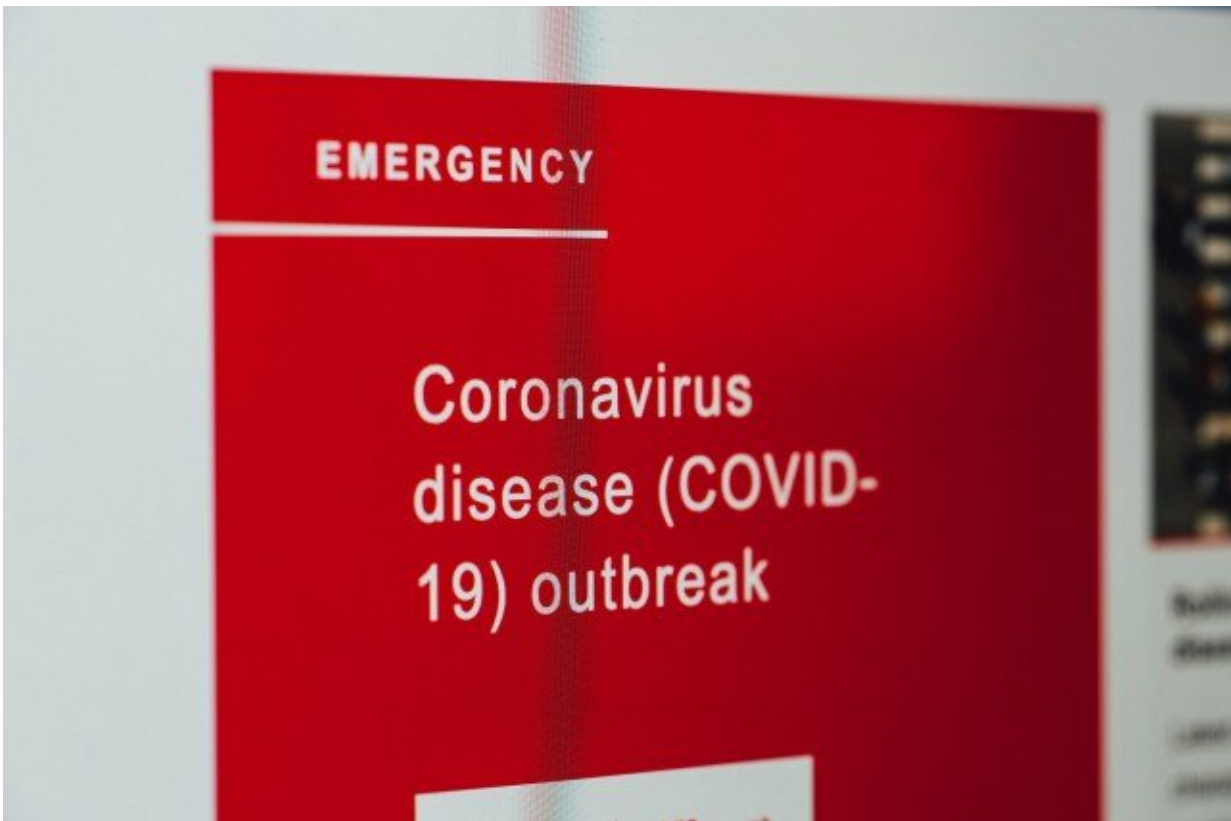


Cultural values and demographics impact COVID-19 pandemic

March 5 2021



Credit: Markus Spiske on Unsplash

Researchers from the University of Tennessee, Knoxville, have collaborated on two studies examining the socioeconomic factors involved in the spread of COVID-19.

Professor Alex Bentley and postdoctoral fellow Damian Ruck, both from the Department of Anthropology, joined Josh Borycz, a librarian at Vanderbilt University, to conduct the studies.

"One of our studies considers the global scale of nations and the other uses the national scale for US counties to analyze results during 2020," explained Bentley.

The studies show that the numbers of COVID-19 cases and deaths are significantly affected by the [cultural values](#) and demographics of local or national populations.

"Local and national leaders have to work within the parameters set by the values and demographics of their constituents. Top-down government decisions are important, but bottom-up effects from the [population](#) matter too," added Ruck.

For the US, researchers were able to use the abundance of county-level data to help predict the true number of COVID-19 infections at a given time. This is important because cases were severely underestimated in early 2020. The model identifies the five most predictive factors as [population size](#), population density, public transportation use, percentage of the population that is African American, and Democrat election vote share.

The researchers' work shows how measuring relatively stable features of society, such as culture and demographics, can help predict the spread of COVID-19. As such factors will change little over the course of a pandemic, this information could help in planning for the deployment of scarce resources in future pandemics.

More information: Damian J. Ruck et al, Early warning of vulnerable counties in a pandemic using socio-economic variables, *Economics &*

Human Biology (2021). [DOI: 10.1016/j.ehb.2021.100988](https://doi.org/10.1016/j.ehb.2021.100988)

Provided by University of Tennessee at Knoxville

Citation: Cultural values and demographics impact COVID-19 pandemic (2021, March 5)
retrieved 6 May 2024 from
<https://medicalxpress.com/news/2021-03-cultural-values-demographics-impact-covid-.html>

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