

Mapping Food Insecurity and Voter Turnout in the United States: A County-Level Analysis

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Background + Objectives: In 2023, 44.2 million US adults and children did not have access to sufficient food.¹ Food insecurity is influenced by political factors, including federal food subsidies, nutrition programs, housing, and healthcare access, which can all be addressed through political engagement. Here, we explored the understudied relationship between food insecurity and voter turnout at the county level.

Methods: We examined data from the 2024 County Health Rankings (CHR) dataset, a widely-used source that compiles county-level health indicators across the US.² We employed multivariable linear regression to analyze the relationship between food insecurity (% without access to a reliable source of food during the past year) and voter turnout (% who voted in the 2020 US Presidential election). We adjusted for county-level factors known to be associated with both food insecurity and political participation from prior studies:³ age (% <18 and >65 years), race/ethnicity (% non-Hispanic White), educational attainment (% college degrees), language proficiency (% who speak English less than well), unemployment (%), rural area (%), and median income.

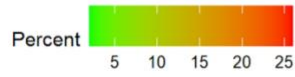
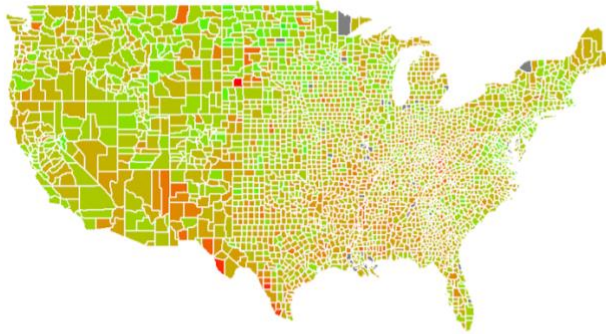
Results: The average rate of food insecurity within each county was 11.5% and the average voter turnout was 65.7%. Results were heterogeneous across the US (*Figure 1*). After adjusting for county-level sociodemographic factors other than median income, there was an inverse correlation between food insecurity and political participation at the county-level; for every 1% increase in the percentage of people experiencing food insecurity, there is a 0.13% decrease in voter turnout [95% CI -0.14 to -0.12, P<0.001]. After adjusting for median income, which had a high degree of collinearity to food insecurity [VIF>5], this relationship was no longer significant.

Conclusions: This US county-level association study found that areas with more food insecurity are politically disenfranchised. Future research must investigate what specific barriers hinder voter turnout to better support policies and programs that ameliorate food insecurity.

Citations:

1. United States Department of Agriculture: Economic Research Service - Key Statistics & Graphics. Accessed October 30, 2024. <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/key-statistics-graphics/>
2. University of Wisconsin Population Health Institute. County Health Rankings & Roadmaps 2024. www.countyhealthrankings.org.
3. Frank RW, Martínez i Coma F. Correlates of voter turnout. *Polit Behav*. 2023;45(2):607-633. doi:10.1007/s11109-021-09720-y

A. Food Insecurity



B. Voter Turnout in 2020

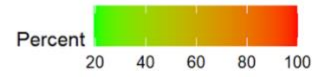
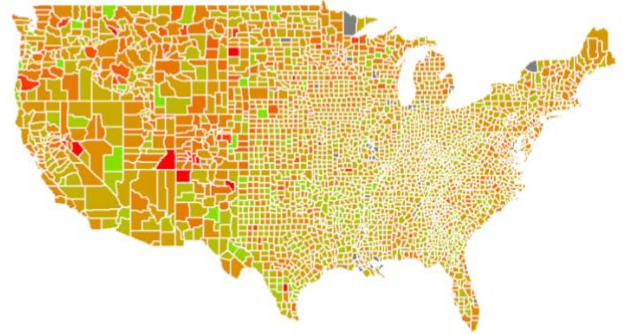


Figure 1: United States County-Level Distribution of A) Percentage of Population Experiencing Food Insecurity and B) Percentage of Voter Turnout in 2020 Elections