

Exploring Voter Behavior, Turnout, and Apathy: An Agent-Based Model

Lucy Wilson '25

In recent decades, voter turnout in U.S. elections has fluctuated. Here we present an agent-based model (ABM) to study several factors contributing to voter apathy; specifically, we ask how voters weigh their individual demographic characteristics against their community's political opinions to inform their likelihood to participate in an election. We examine how varying initial settings—such as party breakdown and the degree to which voters tend to communicate in echo chambers—impacts election results and voter turnout. Using sensitivity analysis, we deduce which of our input parameters have the greatest effect on turnout, as well as the extent to which the electorate is represented in the election results. Our model shows that turnout rates are tied to the level of political similarity in an agent's surroundings, as well as the degree to which individuals are swayed to abstain or vote based on their interactions within the community. Furthermore, we find that the minority party's level of mobilization can skew the breakdown of election results, allowing for an unexpected winner to emerge.

Wednesday, October 25, 2023

at 7 p.m. in Park 245 or via Zoom

<https://brynmawr-edu.zoom.us/j/95807982212?pwd=aXBBMnFZMUUyWDQ1S1d3TGozc0t5Zz09>

Meeting ID: 958 0798 2212

Passcode: 792030