

1135-91-873

**Tucker E Evans\*** (`tucker.e.evans.19@dartmouth.edu`), Tucker Evans, Dartmouth College, 1314 Hinman, Hanover, NH 03755, and **Feng Fu**. *Why do they not believe?: The network dynamics of opinion.*

We model opinion-holding individuals as nodes in a weighted graph such that the connections between nodes represent the strength of influence that nodes have on the opinions of neighbors. Pulling from cognitive dissonance theory, we allow these connections and the opinions of the nodes to evolve under the influence of a fitness function that penalizes incongruity between the opinions of graph neighbors while rewarding stronger connections and higher magnitudes of opinion. We show that the relative emphases on each of these priorities can be used to characterize the resultant behavior of the network. We apply the model to a case study of the United States House of Representatives and the growing phenomenon of partisanship in American politics. (Received September 23, 2017)