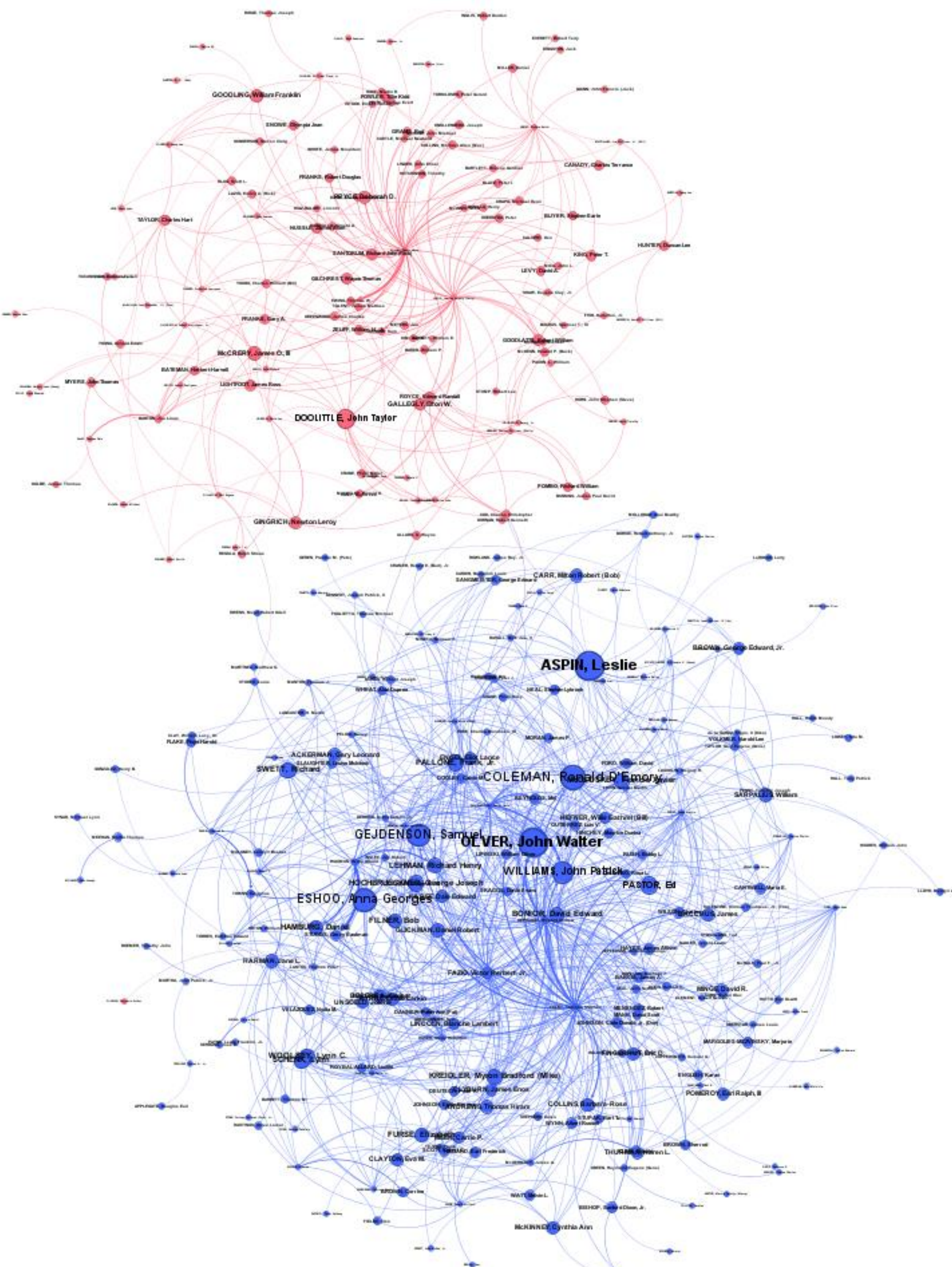


ABSTRACT

As part of the data visualization team for Dr Victor's Political Capital manuscript, I conducted a visual and anecdotal analysis of the campaign finance network in the House of Representatives. I focused on visualizing vulnerability in this network.



Campaign Finance Network of the 103rd Congress

INTRODUCTION

Dr. Jennifer Victor's manuscript uses the campaign finance network to highlight different forms of political capital as emerging properties of political networks. One such property, electoral vulnerability, is posited to emerge as high in-degree. This is because electorally vulnerable members pose a threat to the party's control in the legislature and as such will receive financial support to help them win elections. Thus, in the campaign finance network, electoral vulnerability would be visualized as high in-degree since vulnerable members would receive the most donations.

RESEARCH QUESTION/HYPOTHESIS

My research question was: how do campaign contributions indicate electoral vulnerability?

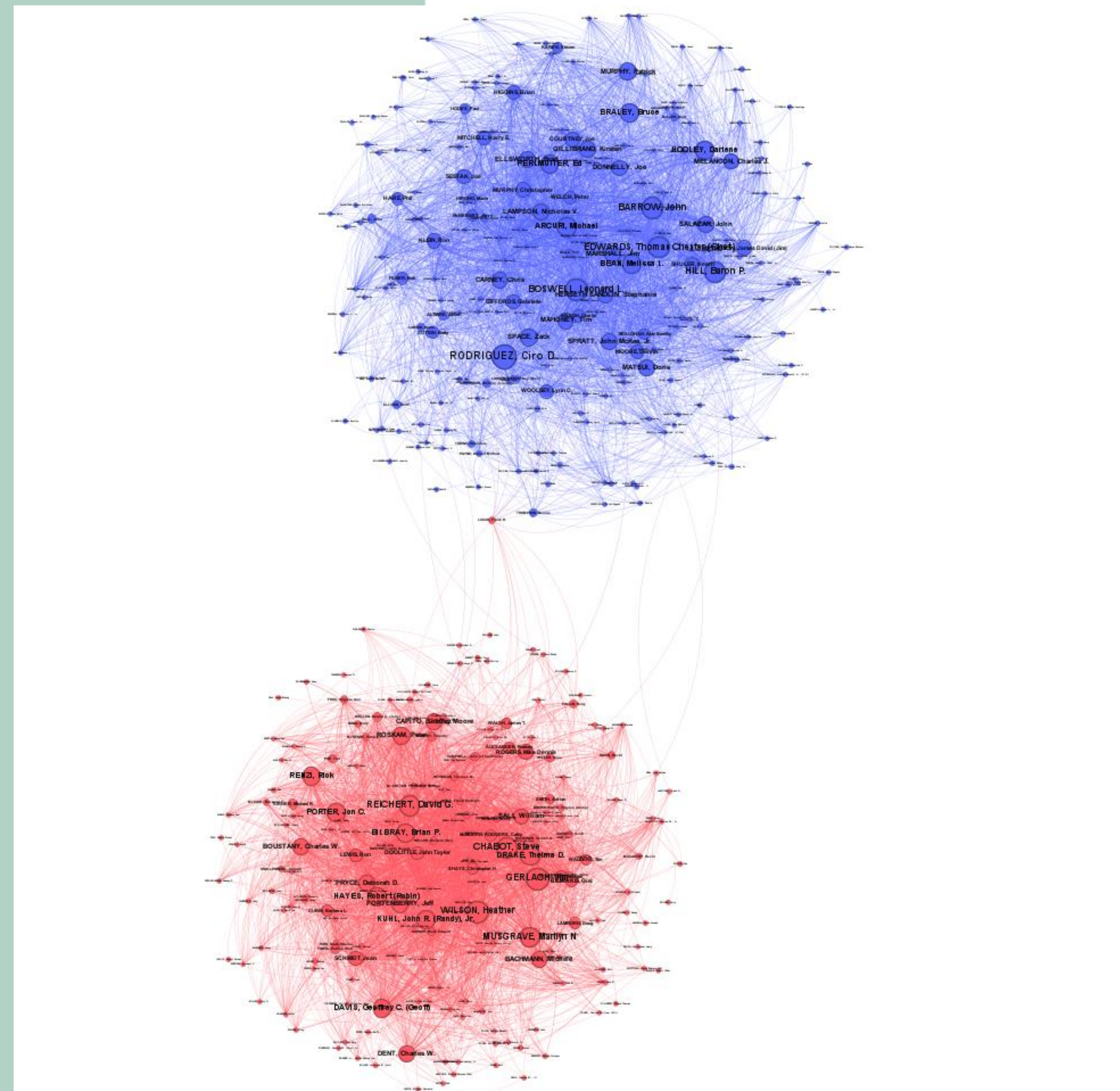
I hypothesized that, in comparing members of Congress, those who are electorally vulnerable will have a higher in-degree than those who are not electorally vulnerable.

METHODOLOGY

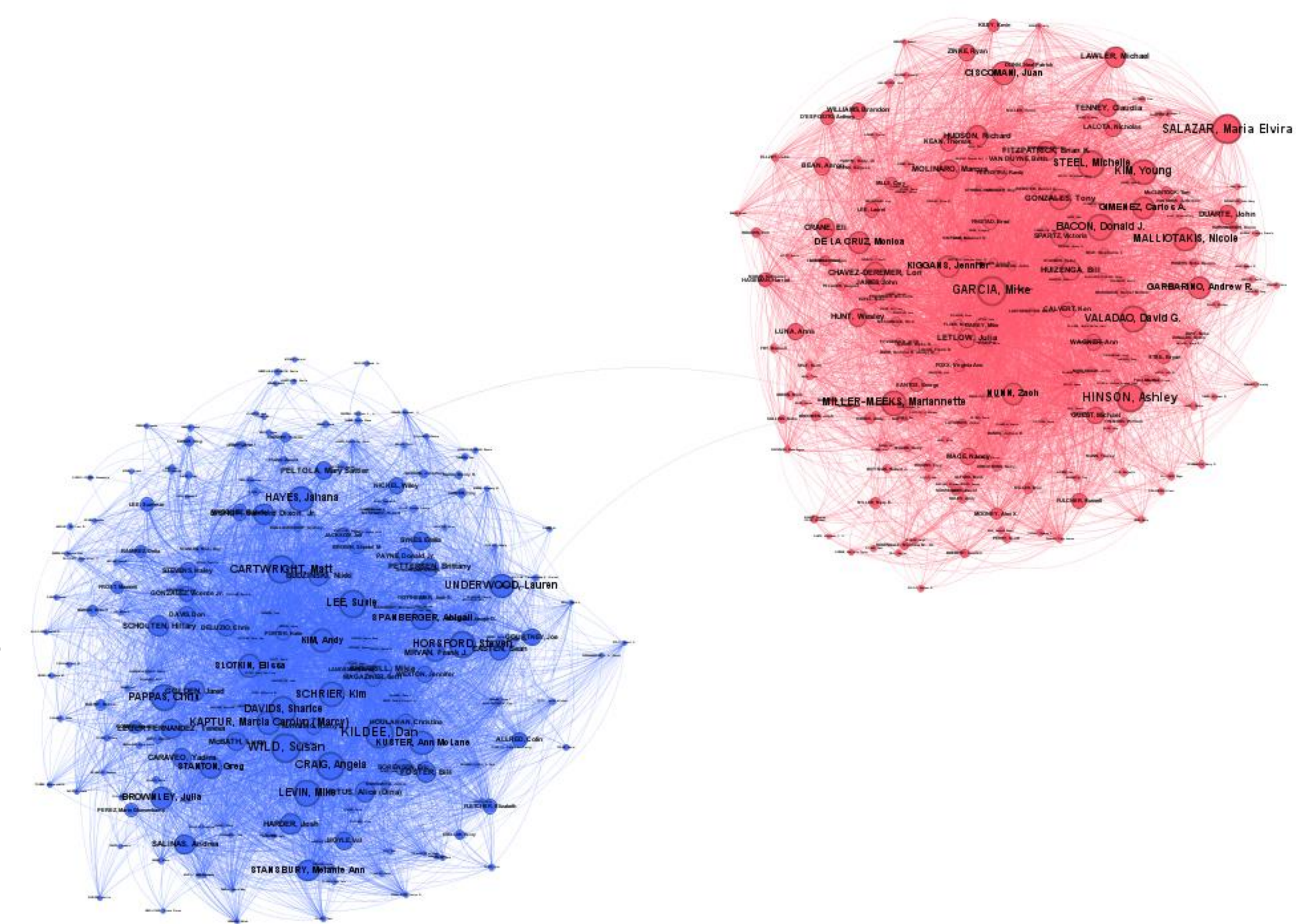
I input the campaign finance network data for the 103rd Congress into Gephi. I then used the force atlas 2 layout and expansion to determine a general structure of the network. I colored the nodes by party and sized the nodes by in-degree. I also included node labels in order to identify each House member. After looking at the largest nodes in the graph, I then briefly researched their electoral history to assess their electoral vulnerability in the electoral year of that Congress. I repeated that process for the 110th and 116th Congresses.

RESULTS

The anecdotal analysis of the largest nodes' electoral vulnerability supports my hypothesis; members with high in-degree, or the largest sized nodes in the graph, faced more contentious elections that year than the smallest sized nodes. This trend continued throughout all three Congresses. This also demonstrates how the network functions to protect electorally vulnerable members; vulnerable members gain shielding in the form of higher campaign contributions to help them win elections. Thus, vulnerability emerges as a property of political finance networks, visible as high in-degree individuals.



Campaign Finance Network of the 110th Congress



Campaign Finance Network of the 116th Congress

DISCUSSION/CONCLUSIONS

The emergent politics framework presents a convincing new lens through which to view the campaign finance network; one can literally see that the network acts as a shield to electorally vulnerable members. One can also see electoral vulnerability as a form of negative political capital in high in-degree individuals. It is also intriguing to see the correlation between high in-degree and lack of leadership; members who are electorally vulnerable are more likely to be rank-and-file members. This investigation also highlights the importance of network analysis in political science in general, as can observe not only vulnerability, but also partisanship and the increase in cost of campaigns when looking at the graphs' trends over time.

REFERENCES



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