

February 6, 2021

Dear Search Committee Chair:

I am currently a Ph.D. Candidate in the Department of Political Science at the University of Notre Dame where I study American politics, with specialties in legislative institutions, state politics, and methodology. My substantive research agenda focuses on how institutions affect legislative behavior, policy responsiveness, and representation. In political methodology, I am interested in network analysis, particularly networks of diffusion and influence, clustered/multilevel data, and research transparency. My published research has appeared in *Political Analysis* and I am currently preparing my dissertation research for submission to peer-reviewed journals. I expect to complete my dissertation in the Spring 2021 semester.

In my dissertation, *Influence in State Legislatures*, I explore the concepts of cue-taking and influence, which are well-documented means by which representatives communicate preferences on bills to approximate fully-informed decisions in otherwise low-information settings. Despite being a largely latent process, the information hierarchy created by this system is a central organizing component of most observable legislative outcomes, including policymaking, agenda setting, and internal advancement. However, relative to traditional conceptualizations of political power, which tend to measure an actor's capacity according to institutional rank or "connectedness" to other members, I argue that influence creates an unobserved distribution of informal power that could be used effectively by anyone, entirely distinct from the codified institutional hierarchy. In this framework, I argue that the ease, utility, and implications of influence vary both within and across states, as well as over time, resulting from differences in the individual, institutional, and district-level incentive structures facing legislators in different political contexts. Consequently, the extent to which influence functions as a reliable heuristic, those whose preferences it ultimately reflects, and the level of policy congruence it achieves are all likely to differ across states. In addition, despite the representational tensions posed by this process, I expect that Americans will nonetheless favor influential representatives.

My dissertation is structured in three empirical chapters, each engaging a distinct methodological approach. In the first chapter, my job market paper, I infer networks of influence based on the timing of cosponsorship decisions across state legislatures, model the formation of ties in those networks, and compare how they have changed over time and differ across context. To infer the networks, I use NetInf, an algorithm developed by Gomez-Rodriguez et al. (2010, 2012), that relies on temporal data describing the time and order in which actors engage in an activity. In this case, I use ten years of cosponsorship data from eight U.S. legislatures. With this information, the algorithm identifies a directed network for each state-chamber-biennium that can be used to partially explain legislators' decisions across a large number of repeated events, or "cascades." Here, influence is measured according to the most consistent relationships over time, using four main conditions: 1) the temporal order of legislators' behavior, 2) the length of time between them, 3) the number of intermediary observations, and 4) the relative predictive capacity of each relationship in a large number of observations. Legislators whose decisions strongly and consistently predict others' are considered influential (even on a small number of bills) relative to those whose decisions do not. As a whole, this measure allows for influence to be modeled as comprehensively relational — occurring among all members of the legislature — rather than as an individual or dyadic trait. I then use these results to test a theory about the role of ideology and polarization in cue-giving relationships, using the inferred networks as dependent variables in Latent Space network models to evaluate how the predictors of influence have changed over time and differ across states. Here, I evaluate whether and under what conditions partisans evaluate cues spatially, accepting influence from ideologically

proximate members of the opposite party, or directionally, from same-party extremists. This analysis illuminates the interrelated nature of information-sharing and polarization in legislative politics.

The latter two chapters of my dissertation build on these findings in two ways. First, by comparing the results of each state-network with policy outcomes and public opinion to determine how influence and institutional design are related to policy congruence; and second, by examining the value of political influence to constituents given the preceding context. To evaluate how the influence networks relate to policy congruence, I use multilevel models of public opinion and post-stratify the results by population share (MRP). This two-stage process first models opinion on salient policy issues among samples of respondents drawn from a large-N survey, the Cooperative Congressional Election Studies (CCES) as a function of demographic and geographic variables, which are then weighted according to the actual demographic composition of each district according to Census data (Lax and Phillips 2009; 2013). These results allow me to make both within and across-state comparisons regarding how the use of influence relates to policy congruence generally, which legislative institutions enhance or diminish the utility of influence as a heuristic for information, and whether ideologically polarized networks produce more or less congruent policy outcomes. The final empirical chapter examines the role of influence from the perspective of constituents with two survey experiments. First, using a conjoint design, I test whether politically influential candidates are perceived more positively than others. Here, respondents are presented with two hypothetical candidate profiles in which influence along with five additional traits are randomly varied. This test shows the independent contribution of influence to voters' evaluations of candidates relative to other traits, such as party, gender, and race. An additional experiment puts influence into a tradeoff context to determine respondents' representational preferences. In short, influence requires credibility and professional rapport, which must be maintained through consistent, highly visible activity. As a result, these legislators may be less able to provide certain types of representation, such as constituency service, which necessitate spending more time in the district and less time at the capitol.

Future publication plans build on my dissertation research in both American politics and methodology. Substantively, I plan to continue work on political influence first by validating the measures used in my dissertation and comparing the results to estimates of legislators' influence gathered from related activities, such as online. I also plan to continue work with my current cosponsorship data to develop a measure of relative weakness. Specifically, some states allow legislators to remove themselves as cosponsors. Leveraging this distinction, I hope to improve both my current substantive work as well as the study of diffusion and influence in political networks. Finally, I am also interested in incorporating legislative effectiveness into my work on influence, from both a conceptual and methodological standpoint. For example, I am interested in exploring the ways in which effective lawmakers use influence to reduce the transaction costs of legislative negotiation and policy implications of this practice.

To date, my published research focuses on political methodology, and in particular, the utility of replication studies in the development of new methods. This co-authored article, which appears in *Political Analysis*, examines the prevalence of selection bias in replication studies used to demonstrate the validity of novel methodologies, and proposes a new framework for implementing replication studies in similar work to reduce researcher bias. Using a sample of 78 articles published in major political science journals, we find evidence that replication studies in this context appear to be cherry-picked; namely, they are selected because their results differ with the new method relative to the original. To overcome this limitation, we argue that the utility of new methods would be better demonstrated if their effects on prior studies were preregistered and modeled as a distribution over a large sample of replications, rather than simply predicated on one or two examples. As a result, research using replication studies to demonstrate the effectiveness of new methods would be held to a higher standard of evidence than is the current best practice, representing an improvement in research transparency.

I have enclosed my curriculum vitae in addition to contact information for Notre Dame faculty members Jeffrey Harden, Geoffrey Layman, and Christina Wolbrecht. Thank you very much for your consideration.

Sincerely,



Hannah Wilson  
Ph.D. Candidate  
University of Notre Dame