

Doctoral Dissertation Research: Influence in American Legislatures

Project Description

Nancy Pelosi is undoubtedly one of the most influential representatives of her time. As Speaker of the U.S. House of Representatives, she holds an enormous breadth of formal powers, such as the ability to appoint committee chairs and shape the legislative agenda, which largely dictate both the ideological character and policy output of the legislature under her term. As a result of possessing these formal duties — or perhaps, in addition to them — Pelosi also commands a substantial degree of informal power in the legislature, particularly in her *influence*, or ability to shape the decisions made by other members of the House, simply by expressing a position herself. Put directly, Pelosi's claim to the most important formal legislative responsibilities incentivizes cooperation and support from other legislators, particularly those with upwardly mobile political ambitions. In stark contrast to Pelosi is Representative Steve King, who was recently removed from all House committees, including his position as the ranking Republican on the Judiciary Committee, in a decision aimed to constrain his authority in the legislature. As a result of this censure, King has retained fewer formal powers than even the most junior members of Congress, with few formal legislative duties beyond floor voting. It is unclear, however, to what extent this lack of formal power will ultimately constrain King's informal influence in the legislature, or whether he might somehow preserve his ability to affect other legislators' decisions — particularly given the stark distinction between influence and ideology. This tension motivates three questions for the study of legislative behavior: (1) How does influence travel across legislative networks? (2) How do state and intra-legislative institutions affect the structure of influence networks and which legislators ultimately serve as influential? (3) To what extent do constituents care about the institutional status of their representative?

Although scholars of legislative behavior have written extensively about influence as a form of cue-taking (e.g. Kingdon 1973) or as a trait of legislators with disproportionate impact on the policymaking process (e.g. Anderson, Butler and Harbridge 2016), this work inadequately accounts for the practical contexts in which influence is used. Scholars generally address legislative influence as helping legislators achieve two dominant goals: first, it provides a solution to the legislative information problem in the form of behavioral cues (e.g. Ringe, Victor and Gross 2012; Box-Steffensmeier, Ryan and Sokhey 2015; Zelizer 2019) and second, it functions as an efficient means of realizing tangible political ends, such as enacting policy (e.g. Kirkland 2011). Together, these activities form the basis for the vast majority of Congressional activities, namely credit claiming and position taking, that members use to retain office (Mayhew 1974).

Intellectual Merit

Taking behavioral cues from other actors is an established means of legislative information acquisition. As Kingdon (1973) and others¹ show, the behavior of a legislator's colleagues is among the most important sources of information that he or she uses to make political decisions. Given that information flows are so consequential to political decision making, it is important to understand how they occur, the contexts in which they are most often used, and their implications for constituent representation. This project will account for cue-taking in a way that more accurately models its interpersonal nature, its differential utility to actors across a range of political contexts, and its consequences for representative government.

Furthermore, work on legislative behavior generally assumes that the effects of influence are uniform across legislative contexts; that is, that the structure of political networks and the qualities of cue-givers within them are the same across states, legislative bodies, and their chambers. This assumption is problematic because variable state-level institutions, particularly electoral institutions, have the capacity to affect elected legislators' behavior once in office.² This dissertation will more fully conceptualize the topic of in-

¹ For examples, see Matthews and Stimson (1975), Ray (1982), Sullivan et al. (1993), Box-Steffensmeier et al. (2015), Anderson et al. (2016), and Zelizer (2019).

² See, for example, Gay (2007), Bailey and Sinclair (2008), Kirkland (2012), and Titiunik (2016).

fluence by answering questions of whether and how cue-taking behavior is affected by institutional factors, as well as what implications the confluence of these factors ultimately holds for constituents.

Broader Impacts

This project will produce two sets of original data — one pertaining to political institutions and the other to mass behavior — both of which will be made publicly available along with the programming code used to conduct the analyses. The first dataset will include inferred legislator networks describing the patterns of influence in state and federal legislative contexts, and the second will document constituents' opinions about the value of influence attributed to their representatives. The influence networks, in particular, will be useful to legislative research beyond the current project *and* to members of the broader public interested in understanding how informal power is distributed in state and federal legislative chambers. Indeed, I anticipate that the data on legislative influence networks will generate interest beyond scholarly circles just as Boehmke et al.'s (2019) inferred state policy diffusion networks have caught the attention of journalists and others outside of academia (e.g. Horowitz 2018). Finally, this research will illuminate the health of American democracy by describing the value of influence — a zero-sum good — to voters and inform the extent to which legislators are biased in their responses to informational cues.

Existing Literature on Legislative Influence

Scholars typically address interpersonal influence as a form of cue-taking, which moderates the legislative information problem by providing consistent behavioral cues to lawmakers. Kingdon (1973) and others³ show that legislators tend to rely most heavily on the behavior of their colleagues for cues relative to other potential sources of information, such as constituent opinion, interest groups, or the executive.⁴ The persistence of intra-legislative cue-taking is largely due to the convenience and reliability of interpersonal signals (Ringe, Victor and Gross 2012), particularly given the iterated structure of most Congressional activities (e.g. Box-Steffensmeier, Ryan and Sokhey 2015). Indeed, cue-giving actors tend to announce their positions on bills earlier than other actors as a means of signaling both their cue-giving intent and the position they endorse (Box-Steffensmeier, Arnold and Zorn 1997). However, there is variation in the source of this information, or cue-giver, among individual legislators (Kingdon 1973), which may be conditioned by differences in context for legislators (Meyer 1980; Ray 1982) as is the case for other types of legislative behavior (Shepsle 1979).⁵ Taken together, this literature demonstrates the utility of influence to legislators and its pervasiveness among them, but leaves in question the structural pattern of information flows, the conditional effects of legislative institutions, and its potential value to the constituents who elect them.

An adjacent literature confronts influence in terms of legislative effectiveness, in which influence is a dominant means by which actors achieve their own political ends (Raven 1990). If not the same quality, influence and effectiveness are mutually reinforcing: the greater institutional standing a legislator has and the broader their involvement on issues, the more effective they are at achieving political goals (Sinclair 1989; Padro i Miquel and Snyder 2006), such as passing legislation, shaping the agenda, securing funding from interest groups, or seeking re-election.⁶ The utility of these concepts in affecting legislative outcomes is significant. Bills with a greater number of cosponsors have a substantially improved chance of advancing out of committee (Thomas and Grofman 1992) and passing floor votes thereafter (Browne 1985; Krutz 2005). The roles at the top of the legislative hierarchy, however, are contingent on institutional arrangements. For example, the relative decision making power of committee chairs in the U.S. Congress has decreased

³ See, for example, Clausen (1973), Matthews and Stimson (1975), Ray (1982), and Ringe et al. (2012).

⁴ See, for example, Canes-Wrone et al. (2002) and Box-Steffensmeier et al. (2019).

⁵ See Kousser (2005), Carey et al. (2006), Alvarez and Sinclair (2012), Kirkland (2012), and Titunik (2016).

⁶ For examples, see Sinclair (1989), Hibbing (1991), Hall (1992), Schiller (1995), Box-Steffensmeier et al. (1997), Koger (2003), Padro i Miquel and Snyder (2006), Harvard and Moffett (2010), Rocca and Gordon (2010), Volden and Wiseman (2014, 2018), and Ringe et al. (2015).

dramatically over time as a result of changes to the rules to favor party leaders (Sinclair 1989; Aldrich and Rhode 2000). Similarly, the greater degree of hierarchy in the House vis-à-vis the Senate is attributed to institutional differences between the two chambers (Volden and Wiseman 2018). This hierarchical disparity between the House and Senate ultimately renders certain members of the former more effective than those in the latter (Volden and Wiseman 2018). Overall, this scholarship demonstrates the role of institutional hierarchy in affecting political outcomes, but seldom addresses the informal hierarchy of influence, nor the role of institutions in shaping the underlying hierarchical structure itself.

A final line of scholarship discusses the relevance of influence in structuring political networks. Fowler (2006a, 2006b) confronts the concept of influence in legislative networks most directly, operationalizing a measure of influence as a function of “connectedness,” or the number of direct cosponsorship ties a given legislator has to any other. Ringe and Wilson (2016) build on this, measuring influence in co-voting networks as members’ relative ability to affect their colleagues’ voting decisions. While these indicators achieve sufficient measures of individual centrality within a legislative network, they fail to fully capture the interpersonal dimension of influence by operationalizing it in terms of a single actor or dyad, respectively. Kirkland (2011) argues that influential relationships between legislators are those with the capacity to successfully pass legislation. This dyadic conceptualization of influence is an improvement on individual-level analogues, but still neglects the relational context in which influence is exercised. Recent work finds experimental evidence of diffusion and interdependence in cosponsorship decisions (e.g. Zelizer 2019). However, scholars have yet to approach cue-taking from the perspective of political networks. This literature demonstrates the importance of influence and related behaviors to scholars of legislative behavior and political networks, but largely models it as an individual or dyadic trait. A method of studying iterative cue-taking decisions that legislators make over time would more effectively capture the concept of influence (e.g. Desmarais, Harden and Boehmke 2015; Denny 2016).

Theoretical Framework

The literature on American legislative behavior establishes the relevance of influence to political decision making and its pervasive use among Congressional actors, but overlooks at least three critical aspects of the process. First, by modeling influence — the ability to shape the decisions made by others — as an individual or dyadic trait, scholars overlook the dynamic process in which influence is used. Second, it assumes that the effects of influence on cue-taking are uniform across political contexts and such networks are therefore unconstrained by institutional variation. Finally, it disregards the implications of influence for policy responsiveness and leaves open the question of whether it is a valuable aspect of representation. This project alters the trajectory of this scholarship by modeling influence as a relational activity among legislators, in which decisions “diffuse” across political networks as influence occurs. In addition, I plan to test the ways political institutions affect the structure of influence networks. Finally, I will examine the extent to which constituents perceive influence as important in the candidates they elect. Overall, this project will define the role of influence in legislative decision making by more accurately modeling the network context in which it occurs, demonstrating the ways in which its use is affected by institutional context, and exploring its value to political representation.

Part I: Explaining Legislators’ Ties in Influence Networks

The existing literatures on legislative influence and cue-taking make clear that legislators’ social and political relationships have a substantial impact on both policy outcomes and the legislative agenda (e.g. Carpenter, Esterling and Lazer 2004). While this work convincingly shows which actors are the most “connected” in these networks, operationalized as those who cosponsor with the largest group of legislators, it fails to adequately show which are the most *influential*; that is, whose actions best predict the behavior of others. In the first part of this project, I aim to elucidate this dimension of legislative behavior by modeling it as a diffusion event, demonstrating the broad patterns of influence in cosponsorship networks.

I define influence as the means by which the behavior of one legislator — in this case, cosponsorship — predicts the same behavior at a later time by someone else. This means that influential behavior occurs when one legislator’s cosponsorship leads others to do the same. In contrast to traditional conceptualizations of “connectedness,” the most influential actors in this context are those whose behavior best predicts that of others not just in volume, but also in accuracy. Put differently, legislators with the greatest degree of influence are those whose decisions strongly and consistently lead to others’ adoption of the same decisions over time, operationalized by the temporal ordering of both actors’ behaviors. In this case, I take early cosponsorship to indicate cue-giving, or influence, and subsequent behavior to indicate cue-taking. Importantly, influence is not determined using simply the raw count of cosponsorship instances or those who consistently cosponsor first, which would bias estimates toward legislators who cosponsor the greatest number of bills and/or who tend to cosponsor early in the process. Instead, influence is measured according to the most highly predictive (i.e., low false positive) relationships between and among legislators over time. Those whose behavior strongly and consistently predicts others’ are considered influential — even on a small number of bills — relative to those whose behavior does not. This distinction also allows for the possibility of a legislator serving as both a cue-giver and cue-taker; for example, by taking a cue from one member of the legislature and simultaneously providing a cue to another. As a whole, this definition of influence allows for the concept to be modeled as comprehensively relational — as an activity occurring among all members of the legislature — rather than as an individual or dyadic trait.

What qualities make a legislator influential? In other words, why do legislators take cues from some actors and not others? Following previous work, this project explores the potential determinants of influence, or cue-taking, from three different perspectives: as a function of individual-level traits, as well as district- and state-level variables. Given that influence occurs primarily in the context of legislators’ social networks, I expect that the traits of individual legislators are particularly consequential for explaining the likelihood of cue-giving. This means that the qualities of individuals themselves — for example, gender, race, party affiliation, and leadership status — are likely to affect whether and to whom legislators serve as influential. Given the academic interest in asymmetric polarization and legislators’ over-responsiveness to ideological extremism,⁷ this research is also able to inform the extent to which legislators and partisans are over-responsive to extreme ideologies in cue-taking relationships. Other relevant characteristics at the legislator level include traits such as committee membership and seniority, which prior research shows can impact the likelihood of cue-giving in other legislative contexts (e.g. Box-Steffensmeier, Arnold and Zorn 1997). I operationalize a brief selection of these expectations in more detail below (H1-H3).

H1: *Ideologically extreme legislators → more influential.* Ideologically extreme legislators are more likely to cosponsor early as a means of affecting the legislative agenda (Kessler and Krehbiel 1996; Harward and Moffett 2010).

H2: *Among Republican legislators, ideologically extreme → more influential.* Republican legislators tend to be more responsive to ideologically extreme constituents, relative to moderates. As a result, these representatives may be more likely to be influenced by the most ideologically extreme members of their party, rather than by their more moderate colleagues (Krimmel, Lax and Phillips 2016; Broockman and Skovron 2018).

H3: *Among Democratic legislators, ideologically moderate → more influential.* While Republican legislators respond to more extreme constituent cues, Democrats privilege more moderate constituent opinion. As a result, I expect that these representatives will be more responsive to moderate colleagues, rather than those who are ideologically extreme. (Broockman and Skovron 2018).

In addition to legislators’ individual characteristics, district- and state-level factors — for state and fed-

⁷ See, for example, Krimmel et al. (2016), Butler and Dynes (2016), and Broockman and Skovron (2018).

eral legislators, respectively — may also condition the dynamics of influence in state legislatures. Broadly, I expect these variables to affect legislators’ relative influence as a result of differences in the incentive structures facing legislators in diverse political contexts. For example, districts with high levels of party competition may incentivize cue-taking from party leaders in order to secure electoral benefits from consequential party interests. As a result of these incentives, party leaders in electorally safe districts may have greater levels of influence than those in more competitive contexts. Relatedly, a group of legislators from similar states may be more likely to take cues from one another, as a result of representing similar constituencies. When considering cosponsorship as a form of position taking (e.g. Zelizer 2019), as a behavior intended to attract support for re-election, the similarity of legislators’ constituencies may be particularly important. Below, I operationalize an example of these expectations (H4-H5).

H4: *Electoral safety* → *more influential*. Incumbents in heavily contested districts may rely more heavily on cosponsorship as a low-cost position taking activity, and as a result, be more likely to take cues (be influenced) by legislators in safe districts (Griffin 2006).

H5: *Wealthy state* → *more influential*. Legislators who represent wealthier states may be more policy focused than those representing lower income areas, and may be more likely to act as cue-givers as a result. (Harden 2013; Desmarais, Harden and Boehmke 2015).

Part II: Institutions and Influence Network Structure

Scholars of legislative behavior have documented variation in cue-taking across legislators embedded in different political contexts (e.g. Meyer 1980; Matthews and Stimson 1975; Ray 1982), but neglect to account for the institutional underpinnings of those contexts that ultimately condition representatives’ behavior. In this research, I will examine the effects of institutions on the aggregate structure of influence networks. I expect that three different kinds of institutions are relevant to affecting the influence networks in state legislatures: electoral, non-electoral, and intra-legislative institutions. Each of these institutional arrangements has the ability to affect the structure of influence differently by manipulating the incentives associated with certain electorally relevant activities, altering the costs and benefits of cue-taking, or changing the hierarchy of legislative offices to whom members are ultimately accountable. Following previous work, I assume that legislators are primarily motivated by a desire for re-election, and their behavior is therefore most strongly conditioned by institutional arrangements that manipulate those incentives. The most obvious of these arrangements are electoral institutions, which explicitly change the behavioral calculus of re-election minded legislators by making electoral activities — such as position taking — more important and by affecting the rate of member turnover within the legislature. However, I also expect non-electoral and intra-legislative considerations to be relevant to the structure of influence networks, insofar as they also manipulate legislators’ goals and explicitly change the leadership hierarchy. Below, I operationalize a selection of these expectations in greater detail (H6-H8).

H6: *Term limits* → *diffuse average centrality*. Term limits promote frequent turnover of representatives, making it difficult for influence to concentrate in specific people (Sinclair 1989; Aldrich and Rhode 2000; Box-Steffensmeier, Ryan and Sokhey 2015).

H7: *Legislative professionalism* → *diffuse average centrality*. Legislators with more resources have the capacity to become influential, for example by remaining in office for longer periods of time and over longer legislative sessions (Harden 2016).

H8: *Majoritarian rules* → *greater average network density*. Because majoritarian rules empower party leaders and reduce the costs of cue-taking from them, I expect that influence in legislative chambers with these rules to have greater average density (Cox and McCubbins 2005; Anzia and Jackman 2013; Anderson, Butler and Harbridge 2016).

In the second part of this project, I also plan to examine the implications of influence networks for policymaking and representation. Doing so will provide insight into the potential benefits and consequences of institutions for constituents, as well as provide a more nuanced view of legislative networks more generally. Further, it will allow me to comprehensively test the effects of institutions on influence networks as well as the implications of those institutional effects for constituents. Following the previous section, I expect that networks characterized by different aggregate structures will have different implications for representation; for example, that some networks may be better able to represent constituent preferences and therefore show greater policy responsiveness. Below, I provide an example of this expectation (H9).

H9: *Diffuse influence network* → *greater policy responsiveness*. Because cue-taking is a more expensive means of information acquisition in diffuse networks, representatives in those networks instead derive more consistent behavioral cues from constituent preferences (Ray 1982).

Part III: Influence and Representation

The first two parts of this project examine the role of influence from the perspective of the legislator. However, as Harden (2016) shows, the scope of elite-centered approaches is necessarily limited. This research must account for constituent demand, which ultimately also conditions legislators' behavior. In addition, constituent preferences are important from a normative perspective, given the significance of representation to democratic government. In short, it may be problematic for democracy if constituents demonstrate a strong preference for influential representation, given that the distribution of influence in the legislature is necessarily zero-sum. To those ends, this portion of the dissertation addresses constituents' response to influence, and allows this project to more fully examine why legislators undertake the behaviors that they do and their implications for representative democracy.

Voters, like legislators, often have limited political knowledge, which constrains their ability to make consistent and informed decisions (Delli Carpini and Keeter 1996). Most voters therefore rely on cognitive heuristics in order to increase their probability of voting "correctly" (Lau and Redlawsk 2001). But while legislators frequently use their colleagues' relative degrees of influence to inform their decisions, how heavily do voters weight influence in their evaluation of candidates? How valuable is influence to constituents? Prior work establishes that voters demonstrate clear preferences for certain traits and characteristics in the politicians who represent them.⁸ This research extends past work by examining the extent to which the degree of a candidate's influence in the legislature shapes citizens' preferences for or against her. Given both the empirical value of influence as a means of affecting legislative outcomes as well as its normative role in American politics, I anticipate that constituents will demonstrate a strong preference for influential candidates relative to those with lower institutional standing.

Voters' opinions about particular traits can be positive or negative, and these preferences are often conditioned by stereotypes or other social beliefs related to the attributes in question. For example, literature on American political behavior shows that voters overwhelmingly prefer male candidates to females as a result of stereotypes against women (Sanbonmatsu 2002; Dolan 2010). Like gender, influence has social connotations that likely affect how voters perceive candidates with more or less of that quality. Past research demonstrates that voters tend to prefer incumbents and candidates with prior political experience to those with less, which favors seasoned lawmakers (Horiuchi, Smith and Yamamoto 2018; Kirkland and Coppock 2018). However, perhaps experience is only a readily available heuristic for influence in this context, and

⁸ See, for example, Hainmueller et al. (2014), Campbell and Cowley (2014), and Carnes and Lupu (2016).

what voters really want is a representative who has power to advocate for them, with or without many years in the legislature. Thus, I expect that the effect of influence will be positive.

Nonetheless, it could also be the case that influence has little practical value to voters, who are seldom apprised of legislative politics at the state or national levels (Delli Carpini and Keeter 1996). Influence may exert only a negligible impact on the quality of representation these constituents perceive. Citizens who consider descriptive representation more important than policy responsiveness, for example, may be indifferent to a candidate’s relative level of influence in legislative politics, so long as they resemble them. I operationalize both of these scenarios below as competing hypotheses (H10-H11).

H10: *Influence* → *higher candidate evaluation*. Overall ratings of influential candidates will be higher than for those with less influence (Fowler, Douglass and Clark 1980; Grimmer and Powell 2013; Kirkland and Coppock 2018).

H11: *Influence* → *lower candidate evaluation*. Constituents have diverse representational preferences, some of which may not be satisfied by influence. In addition, influence may detract from legislators’ ability to provide some representational goods — for example, by being away from the district for long periods of time — which could make that quality less attractive to constituents (Griffin and Flavin 2011; Harden 2013).

Research Design

The proposed project aims to answer three primary questions: first, how does influence travel across legislative networks? Second, what institutional factors strengthen or constrain legislators’ ability to both exercise and use influence to achieve legislative ends? Finally, to what extent is influential representation valuable to constituents? In order to evaluate these questions, I plan to use data on both legislative activity and public opinion. For the first two questions, I have already collected temporal data on the patterns of cosponsorship in a variety of different state and federal legislative contexts to infer latent influence networks. I plan to use my analyses of these data to investigate the second question by applying different network modeling tools to the resulting output. Finally, the third part of this project requires survey experimental data on citizens’ preferences. Below, I describe my plans for using these data more specifically.

Empirical Strategy: Part I

Bill cosponsorship is a good substantive test of legislative influence because it exemplifies the context in which influence is used by both cue-givers and cue-takers. Cosponsorship is both a common and useful activity, which legislators use as a low-cost form of position taking (e.g. Zelizer 2019) or as a means of affecting the legislative agenda (Kessler and Krehbiel 1996). Importantly, it is also a consequential act, providing a credible signal of commitment (Bernhard and Sulkin 2013). Despite the utility of cosponsorship to legislators, barriers to full information on bills often prevent them from knowing which pieces of legislation would be most advantageous to cosponsor. Legislative influence, in this case, provides representatives with a clear source of information on bills while also allowing them to act more effectively to maximize their own interests. In addition, cosponsorship is also practically useful for the purpose of studying influence because it is an iterated behavior and often occurs over the span of several weeks or months. This structure permits the empirical inference of cue-taking over a sufficiently long time horizon, yielding reliable measures of the latent influence hierarchy underlying them.

I plan to analyze temporal cosponsorship data using `NetInf`, the network inference algorithm developed by Gomez-Rodriguez et al. (2012) and `NetworkInference` — its implementation in R — to infer the latent influence networks underlying legislators’ cosponsorship decisions. This method will produce a network of influence ties that can be used to explain distinct cosponsorship “cascades,” or individual events in which legislators sequentially choose to cosponsor legislation, in part as a result of others’ decisions (see also Desmarais, Harden and Boehmke 2015). This process produces separate networks for each state-

chamber-year; for example, the pilot study below describes the influence networks in the lower house of the Illinois General Assembly during its 96th (2009-2010) and 99th sessions (2015-2016).

This methodology requires temporally sequenced data describing the time at which a legislator cosponsored a given bill. The legislatures of seven states — Alaska, Illinois, Indiana, Iowa, Minnesota, Nebraska and South Carolina — provide this information publicly for a ten-year period between 2009 and 2019, corresponding with 5 to 9 legislative sessions in each. In addition, because this information is not widely available at the state level, I also plan to analyze the same type of data for the U.S. Congress. This will improve the conceptual clarity of the topic and broaden the generalizability of the results. Temporal cosponsorship information is widely available at the federal level, so I plan to analyze data at this level over a longer time period (1997-2019). These data have already been coded and prepared for use in the `NetworkInference` package. Together, they will produce 101 state and 20 federal-level influence networks to be further analyzed in the subsequent portion of this dissertation. However, given the high computational expense of the `NetworkInference` software used to produce them, I am currently unable to estimate the proposed networks at the necessary scale. For that reason, I am requesting funding from the NSF to purchase a laptop with additional computing power to make this and the following portion of the project — which relies on these results — feasible.

Empirical Strategy: Part II

The second part of this project will focus on explaining how state and chamber-level institutions affect the structure of influence networks. To do this, I will analyze the latent networks inferred in the previous section using a different network methodology to assess the structural differences among them. As depicted by the results of the pilot study (see below), the networks produced by the first part of this project are well suited to standard methods of network analysis, such as exponential random graph models (ERGMs) or latent space models (LSMs) where appropriate. In this portion of the project, however, influence will be conceptualized monadically, as a continuous individual trait, where influence relationships between legislators will be represented as dyads. This will allow me to more comprehensively test the aggregate structure of these networks, for example by calculating their average centrality, in addition to assessing differences in which members serve as influential across states.

In order to test these structural differences, I first plan to formulate the influence networks as directed networks with dyadic relationships between the influential legislator (or cue-giver) and the one who is influenced (cue-taker). Next, I will summarize the networks using aggregate statistics, such as average centrality, density, and degree. These tests will allow for comparisons of networks along several different dimensions, showing both how institutions affect influence relationships and ultimately, constituent representation. I also plan to compare relationships across legislators using statistics that predict dyadic ties. These analyses will allow me to test whether and how influence relationships vary across states. The absolute difference between two legislators' ideologies, for example, can show whether influence relationships among more ideologically extreme legislators tend to occur more often under certain institutional arrangements than others.

Finally, this portion of the project will also assess the representational implications of the differences in influence; for example, by looking at whether networks with diffuse centrality are more responsive to constituent preferences. To accomplish this task, I will use multilevel modeling and poststratification (MRP) to compare public opinion data at the legislative district and state levels with legislative output in order to assess levels of policy responsiveness (e.g. Lax and Phillips 2009).

Empirical Strategy: Part III

For the third part of this project, I plan to use data from a conjoint survey experiment administered to a random sample of American adult respondents to assess the relative benefit of influence to hypothetical political candidates running for legislative office. Conjoint analysis is particularly useful in this case because it allows respondents to express multidimensional preferences, which ultimately contextualizes the effect of

one quality relative to other salient considerations (Hainmueller, Hopkins and Yamamoto 2014). Here, I plan to use a choice-based conjoint design to compare how voters perceive the importance of a candidate’s level of influence alongside other electorally relevant qualities, just as they would in a real election. This permits inferences of both the discrete value of influence to constituents broadly, as well as its relative impact on their evaluations of candidates vis-à-vis other conventionally relevant candidate traits, such as age, race, party, and level of education.

In the experiment, respondents will be presented with two hypothetical candidate profiles and asked to select the one they would most prefer as a representative. A randomly ordered battery of eight characteristics will accompany each candidate profile: their age, race/ethnicity, gender, level of education, profession, party affiliation, and level of influence.⁹ This design closely follows that of prior conjoint experiments, in which respondents compare two hypothetical legislators and select the one they most prefer (Hainmueller, Hopkins and Yamamoto 2014; Harden and Kirkland 2018). Influence will be trichotomized into “low,” “medium,” and “high” categories. The values for each of these characteristics will also be varied at random to ensure that every candidate is equally likely. Each respondent will be asked to complete this task for five sets of profiles. An example of the candidate profiles is shown below in Figure 1.

Figure 1: Example of Candidate Profiles

	Legislator A	Legislator B
Age	40	29
Race	Asian-American	Black
Gender	Male	Female
Level of Education	4-year college degree	Graduate degree
Profession	Teacher	Accountant
Party	Democrat	Democrat
Ability to influence the decisions of other legislators	High	Moderate

I plan to analyze the results of the survey experiment described above using candidate choice as the dependent variable and candidate influence as the primary independent variable. In order to identify the effect of influence on candidate choice, I will estimate the average marginal component effect (AMCE), which gives the average effect of influence on the probability that the candidate is chosen, where the average effect is defined over the joint distribution of the other candidate traits excluding influence. This estimand will allow me to test the importance of influence to constituents by estimating its contribution to positive or negative candidate evaluations (Hainmueller, Hopkins and Yamamoto 2014). In addition, this test will also permit comparison between the discrete value of influence with other, well-established predictors of constituent preferences. Together, these tests jointly in-

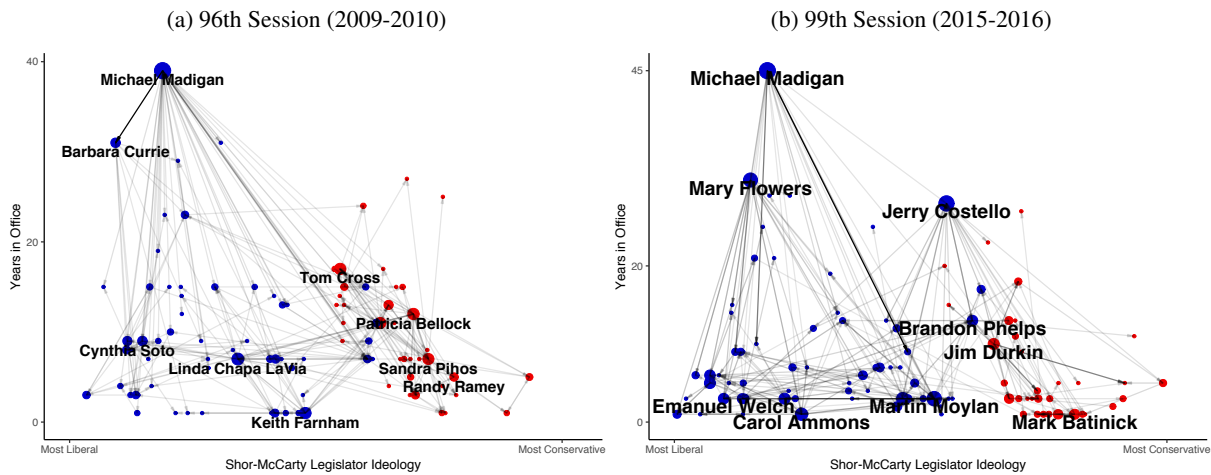
form the competing hypotheses to be adjudicated in this part of the project by first showing the independent contribution of influence to candidate preferences, whether positive or negative, and also how that effect compares with those of other traits.

Pilot Study and Research Schedule

So far, I have conducted a pilot analysis of Part 1, where I inferred the structure of an influence network for state representatives in the 96th (2009-2010) and 99th Illinois General Assembly (2015-2016). These networks, which are displayed in Figure 2, depict the networks according to members’ ideal points (on the x-axis) and tenure in office (on the y-axis). The weight of the line between each node denotes the strength of the connection between them, operationalized according to how much that connection improves the predictive capacity of the algorithm. The size of each node corresponds to the legislator’s out-degree, or the number of influence ties sent. This serves as a rough proxy for influence by showing which representatives are more

⁹ With the exception of influence, these characteristics have a demonstrated impact on vote choice, e.g. Glass (1985), Terkildsen (1993), McDermott (1998), Dolan (2004), McDermott (2005), and Campbell and Cowley (2014).

Figure 2: Influence Networks in the Illinois General Assembly (Lower Chamber)



prolific with regard to their colleagues' decisions. In the dissertation itself, influence will be operationalized with a more nuanced measure to better account for the theoretical conditions in which it operates. The names of legislators are displayed for those with an out-degree greater than 5.¹⁰

The results of this pilot study show that influence follows a few distinct patterns in both networks. First, it appears that a fair number of junior legislators appear to be relatively influential, although more so in the later session than in the earlier. In both cases, however, the most senior legislator with strong formal powers — Speaker Michael Madigan — is the most influential, a finding that is consistent with substantive accounts of Illinois politics (e.g. Nowlan, Gove and Winkel 2010). Stronger and more reliable influence ties, however, appear to be slightly more common when originating at senior members in both sessions. Using Shor and McCarty's (2011, 2018) measure of legislators' ideal points, Republican legislators — both moderate and extreme — were more influential in the earlier legislative session relative to the present, while more Democrats have gained influence. This may be due to the Democratic majority in the Illinois House. In addition, influence ties among Republican representatives appear to be weaker than those among Democrats, which makes clear the weakness of the Republican Party in this legislature.

Research Schedule

- **August-December 2019:** I will complete the Institutional Review Board (IRB) process for the constituent survey, and continue ongoing analysis of cosponsorship data for influence networks. Funding from a doctoral dissertation research improvement grant would assist the project at this time by greatly increasing the efficiency at which the network data can be analyzed.
- **January-June 2020:** I will field the constituent survey, finish analyzing influence networks, and begin analyses of legislative contexts. Funding from a doctoral dissertation research improvement grant would assist the project at this time by providing funding to support the constituent survey.
- **July-October 2020:** I will finish analyses of influence networks across contexts and conduct analysis of the constituent survey.
- **November-May 2021:** I will document results in three papers to be presented at conferences and submitted for publication: (1) "Influence in State Legislatures," (2), "Influence Networks and Political Institutions," and (3) "Do Voter Care about Candidates' Influence? Evidence from a Survey Experiment."

¹⁰ I am currently unable to construct a more adequate measure of influence given my computing constraints, which prevent me from estimating the parameters necessary to do so.

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