Lobbying Coalitions as Networks:
An Investigation of Influence over Federal Policymaking in the United States

Michael T. Heaney and Jesse M. Crosson

January 22, 2020

Interest groups are organizations that represent a wide range of constituencies before government, injecting extensive information and expertise into the policy process. While these groups have the potential to help make better policy, they also have the potential to serve special interests at the expense of the public interest. For this reason, political scientists are concerned about the efforts of interest groups to influence federal policymaking in the United States (Gilens and Page 2014; Truman 1951). Fueling these concerns, the interest group presence in Washington, DC has expanded tremendously in the past 50 years, evidenced by the growth of registered lobbyists, associations, think tanks, and other advocacy organizations (Drutman 2015; Holyoke 2015; Leech, Baumgarner, LaPira, and Semanko 2005; Walker 1991).

Political scientists note that interest groups often work together in lobbying coalitions (Browne 1990; Hall 1969; Hojnacki 1997, 1998; Holyoke 2009; Hula 1999; Mahoney 2007; Truman 1951). Indeed, Mahoney and Baumgartner (2015) articulated what is now the emerging consensus in the field: interest group influence should be understood primarily in the context of groups allied in coalitions, rather than by groups largely operating in isolation. In line with this view, a new generation of research has focused on the relationship between lobbying coalitions and policy influence (Fischer 2014; Hanegraaff and Pritoni 2019; Heaney 2006, 2014; Heaney and Lorenz 2013; Junk 2019a,b; Klüver 2013; Lorenz 2019; Mahoney and Baumgartner 2015; Nelson and Yackee 2012; Phinney 2017; Smith 2000). Yet it has yielded contradictory findings regarding the conditions under which coalitions are influential. For example, prior research disagrees on how coalition diversity affects influence (Hanegraaff and Pritoni 2019; Junk 2019b), how resource levels moderate influence (Klüver 2013; Junk 2019a), and how organizational structures shape influence (Fischer 2014; Smith 2000).

We argue that the disparate findings about the influence of lobbying coalitions can be adjudicated by examining influence within a common framework of *lobbying coalitions as networks*. This perspective holds that different coalitions are not analytically separate from one another because they are linked in a small world of common organizations and lobbyists. For example, recent studies by Junk (2019b) and Lorenz (2019) examine how the membership diversity of coalitions affects their degree of policy influence. However, they neglect to consider how coalition networks could affect the way that membership diversity matters to a coalition. To address this shortcoming, our proposed analysis of coalitions as networks would allow us to investigate simultaneously the effects that networks, membership diversity, resources, and organizational structures have on how coalitions exert influence over federal policymaking. This approach would enable us to better appreciate how organized interests leave their imprint on public policy. This improved understanding could be readily applied by advocacy organizations, think tanks, Congress, and government agencies to hold institutions more accountable regarding their interactions with interest groups.

We propose a multi-stage, mixed-method project to investigate to what extent the influence of lobbying coalitions over federal policymaking depends on their network connections, which may moderate the effects of diversity, resources, and organizational structures. To do so, we propose to observe a random sample of lobbying coalitions advocating on federal policy issues, carefully measure their influence, networks, and other coalitional characteristics, and then estimate a statistical model of the relationships among these factors.

The design of the study is as follows. The first stage of the project is to select a random sample of lobbying coalitions attempting to influence federal policy in the United States by using data obtained from interviews with a random sample of lobbyists registered under the

requirements of the Lobbying Disclosure Act. The second stage is to conduct interviews with representatives of the coalitions selected in stage one. These interviews generate information about coalition networks, diversity, resources, and organizational structures. The third stage is to collect relevant policy documents pertaining to each coalition and conduct Quantitative Text Analysis (QTA) of the documents to assess the level of influence by each coalition (Klüver 2013). The fourth stage is to undertake process-tracing (King, Keohane, and Verba 1994) analyses for a substantial subset of the coalitions to validate the influence estimates obtained in stage three. The fifth stage is to obtain updated membership rosters from the selected coalitions to determine how the nature of the coalitions changed between the initiation of the project and the final assessment of influence. The sixth stage is to estimate a statistical model of which coalitions exert more or less policy influence (our dependent variable) as a function of networks, diversity, resources, and organizational structures (our key independent variables). A fundamental feature of this approach is that we treat the lobbying coalition as the unit of analysis because we aspire to explain differences between coalitions, not between groups.

We have already completed stages one and two of this study. In the first stage, we conducted telephone interviews with 376 lobbyists selected as part of a random sample of 1,250 registered federal lobbyists. From the information obtained in these interviews, we selected 339 coalitions for analysis. In the second stage, we were able to personally interview representatives of 226 of these lobbying coalitions to obtain needed data on our independent variables.

We request funding from the National Science Foundation to carry out stages three to six of this project. In stage three, we would collect and analyze documents on all 226 lobbying coalitions in the study using QTA to obtain estimates of influence. In stage four, we would carry out process-tracing analyses for 50 of the 226 coalitions. This stage would require us to spend time in Washington, DC to interview multiple observers (e.g., legislative staff, bureaucrats, lobbyists) for each coalition about where it was and was not influential. Finally, in stages five and six, we would procure updated coalition membership lists and analyze the data.

Our study would make at least four significant contributions to what is known about how lobbying coalitions influence federal policy. First, it would allow us to systematically integrate previously disparate analyses within a common framework, illuminating the potential interactions among networks, diversity, resources, and organizational structures tied to coalitions. Second, we introduce a new method for sampling coalitions that allows us to detect both public and hidden coalitions – producing a sample that extends beyond only well-known coalitions – that could be used in future studies. Third, we sample across all areas of federal policy. Thus, we produce the broadest and most representative sample of coalitions ever examined in this area of research, departing substantially from prior studies that consider only a handful of policy areas (e.g., Nelson and Yackee 2012). Fourth, our mixed-methods approach to measuring influence improves over prior studies in the American context that have relied on either quantitative (e.g., Lorenz 2019) or qualitative (e.g., Phinney 2017) approaches, but not both.

This grant proposal proceeds, first, by sketching the theoretical perspective behind lobbying coalitions as networks. Second, it explains how the hypotheses of interest follow from this perspective. Third, it outlines the research design. Fourth, it reports preliminary findings from our research conducted to date. Finally, it discusses the feasibility, timeline, intellectual merits, and broader impacts of the research.

A Network Perspective on Lobbying Coalitions

A *lobbying coalition* is a union of two or more autonomous organizations that is formed to advocate before government on a common policy position. Beyond this basic requirement, there is a tremendous amount of flexibility in how coalitions can be structured and used in the advocacy process. Coalitions can be formed on a short-term or a long-term basis; they can be large or small; they may operate formally or informally; they may make themselves publicly known or do their best to operate covertly; et cetera. Because of the variety of forms taken by

coalitions, it is a mistake to assume – as is done in the majority of the empirical research on this topic – that all coalitions are directly comparable. Instead, it is necessary to think carefully about how that heterogeneity corresponds with the ways coalitions intersect with the policy process.

A network analysis is well-suited to accommodating variations in the organization of coalitions. Coalitions can be imagined as two-mode networks; that is, networks with two different types of actors (Breiger 1974). One type is the autonomous organizations that make up the members of a coalition. The second type is the coalition that has organizations as members.

Numerous studies have examined lobbying coalitions as networks (e.g., Beyers and Braun 2013; Box-Steffensmeier and Christenson 2014; Box-Steffensmeier, Campbell, Christenson, and Navabi 2018; Box-Steffensmeier, Christenson, and Hitt 2013; Bunea 2015; Heaney 2004, 2014; Heaney and Leifeld 2018; Heaney and Lorenz 2013; Henry 2011; Ingold 2011; Ingold, Fischer, and Cairney 2017). These studies differ from the proposed study in a number of ways. First, many prior studies used interest groups rather than coalitions as the unit of analysis (Beyers and Braun 2013; Heaney 2014; Heaney and Lorenz 2013). Second, it is common for studies in this area to treat some outcome other than influence as the dependent variable, such as whether actors form an alliance or what role they play in a coalition (Box-Steffensmeier, Campbell, Christenson, and Navabi 2018; Bunea 2015; Box-Steffensmeier and Christenson 2014; Heaney 2004; Heaney and Leifeld 2018; Ingold 2011; Ingold, Fischer, and Cairney 2017). Third, some studies examined an arena other than federal policymaking, such as judicial decision making or state policymaking (Box-Steffensmeier, Christenson, and Hitt 2013; Henry 2011). Thus, in treating lobbying coalitions as the unit of analysis and investigating how their networks moderate their effects on federal policymaking, our study traverses the boundaries of the extant scholarship on lobbying coalitions.

The benefits of viewing coalitions through a network perspective can be seen with a comparison of Figure 1 and Figure 2. In both figures, circles represent autonomous organizations. Rectangles represent coalitions. Circles are colored black or gray, denoting some variance in an organizational characteristic (such as trade associations versus professional societies). Rectangles could also be colored to denote some coalitional characteristic (such as formal or informal status). For the purpose of illustration, we assume that all coalitions have the same characteristics and are all colored white. Coalitions are labeled *A*, *B*, and *C*. The principal difference between the figures is that the non-network model in Figure 1 visualizes the circles inside the rectangles to denote coalition membership, while the network model in Figure 2 uses lines to represent membership of an organization in a coalition.

Figure 1. Coalitions without Network Figure 2. Coalitions with Network
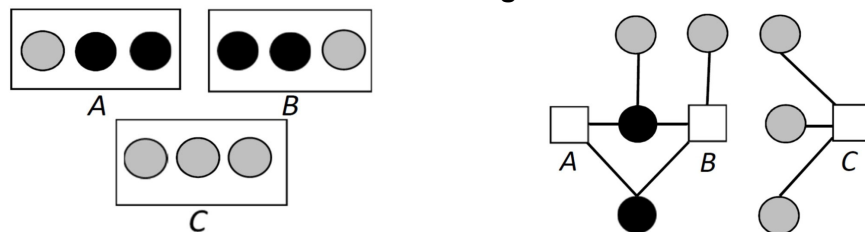
Both Figure 1 and Figure 2 contain certain common information. Both figures show three coalitions (*A*, *B*, and *C*) that each have three organizations as members. In both figures, we readily observe that coalitions *A* and *B* are heterogeneous (each having two black circles and one gray circle), while coalition *C* is homogeneous (with three gray circles). Importantly, Figure 2 contains all the information that is contained in Figure 1.

By viewing the coalitions as networks in Figure 2, we gain important new insights. First, we observe that coalitions *A* and *B* are connected with one another because they have two members in common, while coalition *C* has no common members with *A* or *B*. Based on this observation, we might conjecture that *A* and *B* behave more similarly to each other than to *C*.

Second, we notice that *A* and *B* each have one relatively isolated member because their coalition partners have important relationships outside the coalition. These isolated organizations might be inhibited from being full participants in their respective coalitions. If this was the case, it might be a reason that *C* would be harmonious in comparison to *A* and *B*. Third, the heterogeneity in *A* and *B* corresponds with the common memberships shared by two of their organizations. It may be that this common type is causing the organizations to share coalition memberships. Alternatively, it may be that the common membership is causing them to share types. Conjunctive causation or random chance may also be an explanation. No matter which of these scenarios holds true, it is important for our analysis to investigate the potential connection between the network structure and heterogeneity in coalition organizational membership.

We argue that similar concerns also apply to other coalitional characteristics, especially resources and organizational structure. Only a network model is suitable for comprehensively analyzing this type of problem because it is necessary to account for interdependence among observations (Frank and Strauss 1986), as illustrated in Figure 2.

More generally, the network perspective highlights several features of coalitions that matter to their internal politics and how they influence public policy. First, some coalitions are closely interconnected with one another and some are not. We expect that the coalitions that are more connected with one another have opportunities for sharing information, expertise, and experiences that may not be present between less connected coalitions – perhaps affecting the level of trust and willingness of coalition members to work together (Heaney and Leifeld 2018). Second, interconnected coalitions may be able to interfere with one another's internal operations in ways that disconnected coalitions cannot. Third, coalitions vary in their overall connectedness in the universe of coalitions (Heaney and Lorenz 2013). That means that some coalitions are highly central, some are modestly central, and others are peripheral. These differences may create advantages for some coalitions over others in terms of their abilities to access information and exert power over their coalition partners. Fourth, coalitions with a higher overall level of connectedness may face higher risks than less connected coalitions with respect to information leaking about their internal activities, as their members tend to have more opportunities to spread information than do the members of less connected coalitions.

How coalitions are networked is intimately related to who their members are. More homogenous coalitions are less likely to be connected with other coalitions because their similar members are likely to join the same coalitions, due to the principle of homophily (McPherson, Smith-Lovin, and Cook 2001). Conversely, heterogenous coalitions are more likely to connect with other coalitions because their diverse members are more likely to join different kinds of coalitions. Similar patterns are likely to appear with respect to other coalitional characteristics, such as resources and organizational structures. Poorer organizations may unite as a way of overcoming their resource disadvantages (Strolovitch 2007), while richer organization may form exclusive coalitions to perpetuate their resource advantages (Podolny 2005). Organizations may sort into coalitions based on their preferences for hierarchical or decentralized structures, thus creating connections between organizations based on the suitability of coalitional forms.

Network Hypotheses about the Influence of Lobbying Coalitions
We investigate the possibility that coalition networks have direct effects on how lobbying coalitions exert influence over federal policy, as well as the possibility that coalition networks interact with the diversity, resources, and organizational structure of coalitions. To explain our hypotheses related to this argument, we begin by discussing three core network concepts: structural holes, embeddedness, and homophily. We then apply these concepts to state a series of direct and interactive hypotheses about how lobbying coalitions influence public policy.

A *structural hole* is a gap in a network where there is an absence of connections between actors. Burt (1992) hypothesized that actors in social networks benefit when they bridge structural holes; that is, when they are able to create connections where they would

otherwise be absent. The benefits of these connections are greater when structural holes are deeper – when there are otherwise few connections in the vicinity of the hole. An impressive array of evidence supports this hypothesis, mostly in the context of business organizations (Labun and Wittek 2014). It has not yet been tested for networks of lobbying coalitions.

Embeddedness is the idea that actors are situated in multiple, overlapping social networks. Granovetter (1985) hypothesized that when actors are more deeply embedded in social networks they are able to experience benefits from access to sensitive information, resources, and trust from their network connections. An impressive array of evidence has been compiled in support this hypothesis across the sciences and social sciences (Christakis and Fowler 2009). Heaney and Leifeld (2018) tested this hypothesis in the context of lobbying coalitions. They found that interest groups that were deeply embedded in lobbying coalitions were more likely than those not so embedded to serve as coalition leaders (under certain conditions), though they did not test the hypothesis with respect to policy influence.

Homophily is the tendency for actors to form network ties with others that are like them in some respect (McPherson, Smith-Lovin, and Cook 2001). Prior research has found evidence supporting the hypothesis that homophily explains network tie formation across the social sciences, including in political science (Fowler, Heaney, Nickerson, Padgett, and Sinclair 2011). Political scientists have been particularly attentive to the possibility the homophilic pressure obscures the ability to make inferences about the effects of social networks (Sinclair 2012).

Drawing upon the concepts of structural holes, embeddedness, and homophily, it is possible to state hypotheses about how the networks of lobbying coalitions enable them to influence public policy. First, it is likely that some coalitions benefit from spanning (i.e., creating new connections across) structural holes more than other coalitions. If a coalition shares members with coalitions in relatively distant policy areas, it may gain access to sensitive information and new ideas for lobbying tactics than it otherwise would have missed if it had been more isolated. These coalitions are likely to have advantages that help them to be more influential. Thus, we state:

H_1.   The more than a coalition's network spans structural holes, the more it exerts influence over public policy, other things equal.

Second, some coalitions likely benefit more from being embedded in coalition networks than do other coalitions. When coalition members are closely embedded with one another, they are more likely to expect to work with one another in the future. This expectation makes it more likely that coalition members work to honor their commitments, are discrete with private information, and generally trust one another. These factors are likely to give a coalition advantages in working together and in pursuing its policy goals. Thus, we state:

H_2:   The more that a coalition's members are closely embedded with one another, the more influence that the coalition exerts over public policy, other things equal.

The effects of structural holes and embeddedness likely matter not only directly for coalitions, but also through their interactions with other feature of coalitions that have been investigated in the extant literature. As mentioned above, numerous studies have been attentive to the membership diversity of coalitions (Junk 2018b; Lorenz 2019; Phinney 2017) but have ignored the relevance of coalition networks. Yet the concept of diversity is closely related to homophily. When coalitions are diverse, they have a low tendency toward homophily. When they are low in diversity, they tend to have a high tendency toward homophily. Diverse coalitions may also be likely to have coalition networks that are high in structural holes because the diverse members the coalition tend to join diverse other coalitions. However, this tendency is not necessarily present, as it is conceivable that the members of a diverse coalition all tend to join the same kinds of other coalitions; it may depend on the type of membership diversity in question (e.g., partisan diversity, industrial diversity, geographic diversity).

5

We expect that the effects of diversity on the ability of a coalition to influence policy depend on the extent to which the coalition's network spans structural holes. If a coalition's diversity is high and it spans structural holes, then influence is likely to be high because diversity and structural holes are likely to reinforce one another. That is, different coalition members have the opportunity to reach out to different kinds of coalitions. If a coalition's diversity is high but it does not span structural holes, then influence is likely to be attenuated because different coalition members have limited opportunities to reach out to different kinds of coalitions. If a coalition lacks diversity but spans structural holes, then influence is likely to be attenuated because the same type of members reach out to a variety of coalitions, making the contacts less beneficial than they might have been. If a coalition lacks diversity and fails to span structural holes, then it is unlikely to enhance its influence capacity through its network contacts. Thus, we state:

H_3:   A coalition's diversity and the degree to which it spans structural holes interact positively in affecting a coalition's ability to influence public policy, other things equal.

Previous research has been attentive to how the resource levels of coalitions affect their influence capacity (Hanegraaff and Pritoni 2019; Junk 2019a; Strolovitch 2007) but has neglected to investigate potential interactions with coalition networks. However, such interactions could be predicted by embeddedness theory. If a coalition has low resources but is deeply embedded in its networks, then it is likely to be able to extract resources from its network to enhance its influence. If a coalition is low in resources and lacks embeddedness, it is unlikely to extract the resources that it needs to amplify its influence. If a coalition has high resources, it is unlikely to depend on its relational embeddedness to extract resources from its environment, making this consideration irrelevant in determining its influence level. Thus, we state:

H_4.   A coalition's resource level and relational embeddedness interact positively when resource levels are high but not when resource levels are low in affecting a coalition's ability to influence public policy, other things equal.

Previous research has examined the organizational structures of lobbying coalitions (Fischer 2014; Heaney and Leifeld 2018; Ingold 2011; Phinney 2017) but has neglected the potential for interactions with coalition networks. Centralized organizations are generally more effective than decentralized organizations at demanding that their members serve the interests of the organization (Martin 2009). If this expectation holds, then it is also reasonable to expect that more centralized coalitions make better use of networks that span structural holes than do less centralized coalitions. Thus, we state:

H_5.   A coalition's degree of centralization and the degree to which it spans structural holes interact positively in affecting a coalition's degree of policy influence, other things equal.

Research Design

Stage One
Ideally, a fully representative sample of coalitions should include all types of coalitions, in proportion to their appearance in the population. A major difficulty in selecting such a sample, however, comes from the fact that the population of coalitions is unknown. That is, there does not exist anywhere a list of all lobbying coalitions – or even a list of many lobbying coalitions. Moreover, because many coalitions exist on an informal or temporary basis, they typically do not generate the kinds of records that may make them amenable to systematic investigation. For example, coalitions are less likely than most types of advocacy organizations to make campaign contributions, register to lobby, establish a permanent office, or maintain a web page. The absence of records related to such activities complicates the process of identifying and sampling coalitions for statistical analysis.

Prior studies usually have addressed this issue in one of two ways. One way is to rely on a small number of coalitions that are publicly known (Phinney 2017). A second way is to avoid identifying specific coalitions but to examine only "sides" of an issue (Lorenz 2019), which may in fact involve zero, one, or many actual coalitions. In contrast, we proceed in a way that allows us to identify a random sample of actual coalitions active in federal policy debates.

To do so, we follow four steps. First, a random sample of interest groups was selected using records filed in compliance with the Lobbying Disclosure Act. While not all groups register under this law, an extension of the law through The Honest Leadership and Open Government Act of 2007 ensures that the most active groups are registered. Second, telephone interviews were conducted with randomly selected lobbyists from the identified interest groups. Selecting lobbyists randomly from within the groups ensures that there is no bias toward any particular type of coalition, especially since different lobbyists from the same interest group may vary in the issues and coalitions for which they act as representatives of the group. Third, the telephone interviews included questions about which coalitions the lobbyist had worked with in the past twelve months (as well as to name potential representatives of that coalition, if possible), in order to generate a list of coalitions for each respondent. Invitations were emailed to 1250 lobbyists to participate in the study, with 376 completing the interview, for a response rate of 30 percent. Fourth, one coalition was randomly selected from each telephone interview to create a sample of coalitions. Once a sample of coalitions was identified, the representatives of these coalitions were invited to participate in in-person interviews in the Washington, DC metro area.

Some readers may be concerned that this method of selecting coalitions may lead to a bias of selecting cases of successful coalitions. In order to address this issue, the phone interview protocol required the interviewer to continue to press the respondent for the names of more coalitions, even after initial coalitions were named. If it is the case, for example, that respondents name the most successful coalitions off the top of their head initially, the additional pressing would prompt them to name other coalitions, which were perhaps less successful and not at the top of the respondent's head. Interviewers were instructed to continue until the respondent said that they had named all coalitions that they had worked on within the past year. Respondents named as few as 0 and as many as 22 coalitions. Since one coalition was randomly selected from each from each respondent, successful and unsuccessful coalitions on the list had equal probabilities of selection. While it may be possible that there are other coalitions that respondents worked on that were never mentioned, this method sets a reasonable threshold for including a coalition in the sampling frame: it requires, at a minimum, that a randomly-selected lobbyist can remember having worked with it in the past year.

Care was taken to ensure that the sample was as representative as possible of the population of coalitions, though the design does carry the possibility of some bias. One concern of importance for the research design is *length bias*. Length bias is a sampling problem that occurs when subgroups of a population are oversampled because of their size (Stein and Dattero 1985). In our study, length bias may be manifest through the oversampling of large coalitions. Since there is no list of coalitions in the population, the list of coalitions was derived from phone interviews. Large coalitions have more members, so they were more likely to be mentioned by phone interview respondents. As a result, they were more likely to be selected. This issue can be addressed by calculating sample weights that gives more weight to coalitions that are smaller than average and less weight to coalitions that are larger than average.

As a final precaution, the sample was checked for response bias. No significant bias was detected, which is discussed below in the preliminary results section. Selection bias would exist if certain types of lobbyists were more likely to participate in the study than were other types.

Stage Two

After coalitions were identified, in-person interviews were conducted with each consenting coalition representative. Invitations were sent to 339 coalition representatives to participate in

the study, with 226 of them completing interviews, yielding a response rate of 67 percent. The research design put a premium on conducting in-person interviews with coalition leaders, because in-person interviews are especially amenable to building respondent-interviewer trust when gathering sensitive information from political elites (Berry 2002). However, telephone interviews were conducted in a few cases where a respondent was willing to participate in the research but an in-person interview was impractical. The typical interview lasted 45 minutes to an hour. The interviews inquired about the identities of members of the coalition, how members were selected by the coalition, who their leaders were, the extent of their cooperativeness, access to resources, their formal and informal organizational structures, issue contexts, and other information required by the study. The interviews included a mix of closed- and open-ended questions in order to enable both quantitative and qualitative analysis of the responses.

As was the case with the lobbyist interviews, we conducted an analysis to determine if selection bias was present in the coalition interviews. No significant bias was detected, as is discussed below in the preliminary results section.

After completing the interviews, each coalition's membership list was entered into a database containing 11,390 unique organizations that were members of at least one coalition. These membership lists were used to derive estimates of coalition network measures (e.g., structural holes, embeddedness), following the procedures described in Burt (1992) and Heaney and Leifeld (2018). Coalition diversity was calculated by determining by drawing upon organizational web pages, lobbying reports, and campaign finance records. We created variables on organizational type, level of organization (i.e., local, state, national, and international), mission, lobbying involvement by issue area, and interest group ideology.

Stage Three

Having identified a set of lobbying coalitions and gathered data on their characteristics, the next step of analysis is to determine whether or not these coalitions make a difference in the policymaking process. To do so, it is important to conceptualize *influence* in the context of lobbying coalitions, as well as to distinguish this concept from that of a *policy outcome*.

Understanding how interest groups make a difference in policy debates has long raised challenging conceptual and empirical questions for political scientists (Bauer, Pool, and Dexter 1963; Baumgartner and Leech 1998; Hall 2015; Smith 1995). First, the analyst must determine if the coalition obtained the policy outcomes that it sought. Note that it is possible to obtain (or fail to obtain) a desirable outcome at multiple stages of a policy process, such as during agenda-setting or policy formulation (Lorenz 2019). If the coalition's outcomes have not been achieved, then it is reasonable to conclude that the coalition has not exerted influence. However, even if the coalition's policy outcomes are achieved, that alone is not necessarily grounds for concluding that the coalition was responsible for these outcomes. It may be the case, for example, that the coalition was able to pick a winner and chose to lobby on behalf a cause that was likely to prevail without its involvement.

If a desirable policy outcome was achieved, then the second task is to ascertain how much the coalition contributed to that outcome. This assessment must consider other factors that influence policy outcomes, such as party politics or economic growth. The difficulty of making a decision is compounded by the fact that the group may win or lose on numerous sub-issues of the major issues that it is concerned with. Influence occurs when the coalition reached the outcome that it sought *and* the coalition itself contributed in an observable way to the victory.

Evaluating when coalitions influence policy requires an exhaustive analysis of information available about the policies advocated by the coalition and how they were resolved (or not) at various stages of the policy process. It requires examining congressional and/or administrative documents concerning the issue, specialized news media that cover federal policymaking, and mass media coverage (if any) of the issues in question. We plan to collect these documents from media outlets that are closely attentive to policymaking, such as *Roll*

Call, *The Hill*, and *CQ Roll Call Daily Briefing*, as well as media coverage in the *New York Times*, *Washington Post*, and other major publications. Government documents may include committee hearing records, Congressional Research Service reports, and the *Federal Register.*

      We plan to collect and then analyze relevant documents to assess the policy influence of the coalition using QTA. We would follow the approach of Klüver (2013; see also Grimmer and Stewart 2013; Laver, Benoit, and Garry 2003). Using the results of this analysis, we would rate each coalition with a level of influence. The following rating scale would be used:

    1 – No observable influence.
    2 – Some minor influence.
    3 – Numerous minor instances of influence.
    4 – Some major instances of influence.
    5 – Numerous major instances of influence.

Stage Four

While QTA is an appropriate method for assessing influence, it is also good practice to validate the results of QTA using in-depth process-tracing for a subsample of the cases (Klüver 2013). To do so, we plan to randomly select 50 coalitions for more thorough study. We will conduct in-person, semi-structured interviews with a variety of types of observers who have knowledge of the coalition's activities. Potential interview respondents may include coalition representatives, representatives of individual members of the coalition, legislative or agency staff, scholars at think tanks, specialized policy journalists, or others who might reasonably be expected to inform on the effectiveness or ineffectiveness of the coalition.

      We expect to conduct four to six interviews per coalition, with interviews typically lasting 45 minutes to an hour. We would divide the interviews between the two principal investigators so that each conducts at least some for each coalition. In total, we expect to conduct approximately 250 interviews, which is roughly the number that we conducted in stage two.

      For each coalition, we would write a report of one-to-two pages assessing the degree to which the process-tracing analysis agreed with the results of QTA. These reports would be available to future scholars as part of data made available upon the project's completion.

Stage Five

Upon completing the work in stages four and five, we would seek to obtain updated lists of coalition members for each coalition in the study. In many cases, we expect these lists to be available online as part of coalition web pages or public coalition sign-on letters. In many cases, we expect to obtain these lists from coalition representatives that we previously interviewed. In a few cases, we may need to turn to another member of the coalition besides the coalition representative that we previously interviewed in order to obtain a current list. We expect that we will be able to obtain updated lists in all but a handful of cases. For example, some coalitions may have become inactive over the timeframe of the study or the coalition leadership may have reevaluated its willingness to participate in the research.

      We expect that a large percentage of the coalitions will have undergone little or no change in their membership composition over the course of the research. However, some of the coalitions may have experienced substantial growth or decline, or even disbandment. This updated information would allow us to distinguish fixed from changing coalitions in assessing the relationship between influence and coalition networks.

Stage Six

We would estimate a statistical model with *Influence* as the dependent variable. The focal independent variables would be *Structural Holes*, *Embeddedness*, *Diversity*, *Resources*, and *Centralization*. We would estimate interaction effects between *Structural Holes* and *Diversity*, *Embeddedness* and *Resources*, and *Structural Holes* and *Centralization*. Control variables would include *Coalition Size*, *Formality*, *Age*, *Ideology*, and dummy variables for *Policy Area*. A

network autocorrelation estimator would be applied to account for interdependence in the coalition network (Leenders 2002). Models would be estimated with and without adjustments for length bias. Finally, models would be estimated with and without adjustments for network dynamics stemming from changing coalition membership.

Preliminary Findings

Stage One

      The first wave proceeded by selecting a random sample of 1,250 lobbyists from lobbying records. A random-number generator was used to select them from thousands of registered lobbyists. Thus, there is reason to have strong confidence in the randomness of this sample.

      The potential for bias emerged when lobbyists decided to accept or reject the invitation to participate. It is possible, for example, that highly prominent or very busy lobbyists might not have time to participate in the phone interview. Or, it is possible that members of certain social groups would be more or less inclined to participate in the interview. The existence of such tendencies could create biases in the sample. Are the 376 lobbyists who agreed to participate in the phone interview systematically different from the 874 lobbyists who declined to participate?

      To investigate the possibility of bias, we estimated a Probit regression model on whether or not an invited lobbyist accepted the invitation to participate. We considered six factors that might affect the likelihood a lobbyist would agree to participate: (1) The number of years since their first lobbying registration (capped at 16, due to the first availability of online lobbying records in 1999); (2) The total number of lobbying reports they filed in their years as a registered lobbyist (which serves as an indicator of their busyness); (3) Whether they had held a high position in government (such as having been a member of Congress or served in a presidential cabinet); (4) Whether they were an in-house or contract lobbyist; (5) Whether they were female or male; (6) Whether they were identified with a racial / ethnic minority (coded as taking the value if 1 of they were nonwhite or Latino / Hispanic, 0 otherwise). These data were obtained from lobbying records and from online searches of lobbyists' professional profiles (e.g., interest group or lobbying firm web pages, newsletters, LinkedIn profiles).

      The results presented in Table 1 demonstrate that none of the variables in the Probit model are significant at the $p \leq 0.05$ level. This is good news. It means that none of these six observable factors create biases in the likelihood that lobbyists participated in the interview. For example, we expected that lobbyists who had held a high position in government would be less likely to participate than individuals who had not. Yet that turned out not to be the case. About 3.5 percent of those in the sample had previously held high positions. Their 29.5 percent response rate was not statistically different from the overall 30.1 percent response. As a result, the sample contains interviews with 44 people who have held high positions, such as prominent

Table 1. Determinants of Lobbyist Participation in Phone Interviews

Variable	Coefficient	Standard Error	Mean	Standard Deviation	Percent Imputed
Number of Years since First Lobbying Report	-0.009	0.008	11	5	0.72%
Number of Lobbying Reports	-0.000	0.000	326	467	0.80%
Previously Held High Position = 1	0.029	0.206	0.035	0.184	0.00%
In-House Lobbyist = 1	0.172	0.089	0.360	0.480	0.00%
Female = 1	-0.031	0.081	0.331	0.471	0.00%
Nonwhite or Latino / Hispanic = 1	-0.116	0.152	0.071	0.258	4.80%
Constant	-0.459	0.104			

N = 1,250
Log likelihood = -761.341
Likelihood Ratio $\chi^2(6)$ = 6.17

Note: *$p \leq 0.05$.

former members of Congress who had chaired powerful committees. As a result, there is good reason to believe that selection bias was not introduced at this stage of the research.

<u>Stage Two</u>

The question now turns to whether the participation of coalition representatives was influenced by selection bias. As was the case in examining lobbyist participation, we estimated a Probit equation of the likelihood that a coalition representative agreed to participate in an interview. The equation included six factors that might affect the likelihood that a coalition representative would agree to participate: (1) Whether or not a coalition had an online membership list (which may indicate a coalition's preference for remaining informal); (2) Whether or not the coalition's representative had a registered lobbyist (which may indicate the degree of the representative's involvement in lobbying); (3) Whether or not the coalition was registered with Congress (which is another indicator of the coalition's level of formality); (4) Whether or not the coalition had an associated Political Action Committee (which may be an indicator of the coalition's prominence); (5) Whether or not the coalition's representative was female; and (6) Whether or not the coalition's representative was nonwhite or Latino / Hispanic.

Given space considerations, we have not reported the results from the Probit regression on coalition selection. Nevertheless, none of the variables in the model are significant at the $p \leq 0.05$ level. This is the desired result. It means that none of these six observable factors created significant biases in the likelihood that coalition representatives participated in the personal interview. For example, we expected that it would be more difficult to convince representatives of unregistered coalitions to participate in the interview than representatives of registered coalitions. However, both groups participated at roughly equal rates. As a result, there is reason to believe that selection bias was not introduced at this stage of the research.

An additional step in examining the sample-selection process is to consider what kind of coalitions were selected. Were the coalitions concentrated largely within one policy area? Or were they distributed across the policy space? While there are no clear-cut criteria for judging this distribution, it is important that the procedures yield a broad sample of the policy space. A wide distribution of coalitions is necessary in order to generalize from the results of the study.

To investigate the distribution of coalitions, each coalition was coded into one or more of 21 policy areas. These codes reflect the major emphases of each coalition, not tangential issues addressed by the coalition. While lobbying disclosure is reported into a category system that has 79 policy areas, we used a shorter list of broader categories to make the grouping more informative. The results of this analysis are reported in Table 2, with policy areas ranked according to the percentage of coalitions in the area.

Table 2. Distribution of Coalitions by Policy Area

Policy Area	Percentage of Coalitions	Policy Area	Percentage of Coalitions
Health	33.63%	Government Services	3.98%
Business Regulation	17.70%	Social Welfare	3.10%
Environment and Energy	15.49%	Science	2.65%
Education	7.08%	Immigration	2.21%
Taxation	6.64%	Trade	1.77%
Transportation	6.19%	Criminal Justice	0.88%
Foreign Policy	5.75%	Defense	0.88%
Social Justice	5.31%	Veterans Affairs	0.44%
Labor	4.87%	Religion	0.44%
Financial Services	4.52%	Homeland Security	0.44%
Agriculture	3.98%		

As is indicated in Table 2, one-third of coalitions dealt with health policy issues. Business regulation, as well as environment and energy, were topics for about one-sixth of the coalitions. All the remaining policy areas were the focus of less than 10 percent of the coalitions. These results indicate that while a few topics (notably, health) received the lion's share of attention, the sampling procedure did yield a variety of types of coalitions. Thus, this study consists of a broader set of observations than any previous study on lobbying coalitions.

Space constraints prevent summarizing all the information obtained from the coalition interviews here. However, we have selected nine variables for description and summary that will be important in the statistical models. They are reported in Table 3. In some cases, the variables included here are only part of what would be used in the final study. For example, diversity is reported here only using ideological heterogeneity. However, the final study would also include other measures of heterogeneity, such as heterogeneity in the level of the constituency represented (i.e., local, state, national, international). The primary statistics here are unweighted in the sense that every coalition is given equal weight in the statistical analysis. We have also provided the weighted means (in parentheses in the mean column), which reflects differences among coalitions in the probability of being selected into the sample (because of length bias).

The results reported in Table 3 provide the first generalizable data on lobbying coalitions ever reported at the coalition level (as opposed to at the interest-group level) for coalitions working on federal policy issues in the United States.

Structural Holes is the extent to which a coalition is able to cross structural holes in the coalition network. The adjustment for length bias modestly changes the mean, lowering it by about a half a standard deviation.

Table 3. Political Characteristics of Lobbying Coalitions

Variable Name	Variable Description	Mean	Standard Deviation	Min.	Max.	N
Structural Holes	A measure of the degree to which a coalition traverses the structural holes in the coalition network.	0.649 (0.555)	0.194	0	0.869	210
Embeddedness	A measure of the degree to which members of a coalition share multiple coalition memberships.	0.213 (0.185)	0.058	0	0.310	210
Diversity	The standard deviation of the ideologies of the members of the coalition.	0.521 (0.497)	0.256	0.029	1.472	181
Resources	Does the coalition collect dues? 1=Yes, 0=No	0.427 (0.449)	0.496	0	1	225
Centralization	How often decisions are made by a central coalition coordinator? 1=Never, 2=Sometimes, 3=Usually	2.067 (2.131)	0.831	1	3	221
Control Variable						
Coalition Size	Count of the number of coalition members.	88 (48)	253	3	3000	219
Formality	Does the coalition have a web site? 1=Yes, 0=No	0.589 (0.504)	0.493	0	1	226
Age	Number of years since the coalition's founding.	10 (7)	12	0	98	217
Ideology	Average ideology of the coalition members. More positive=more conservative; More negative=more liberal.	-0.060 (0.141)	0.660	-1.322	1.353	192

Embeddedness is the degree to which members of coalition share other coalition memberships with other members of the coalition. The adjustment for length bias modestly changes the mean, lowering it by about a half a standard deviation.

Diversity was calculated using data interest group ideology from a study by Crosson, Furnas, and Lorenz (2018). It is based on the standard deviation of the ideology measure, discussed further below. The adjustment for length bias does not affect the mean of diversity notably.

Centralization was constructed by allowing respondents to place the coalition on a 1 to 3 scale. The data show that responses are distributed well across each of the three options. The adjustment for length bias does not make a large difference in this measure.

Resources were determined based on whether the coalition was able to directly raise revenues through dues. Such dues could be used to pay for a coalition coordinator, additional lobbyists, advertising in Capitol Hill media (e.g., *Roll Call*, *The Hill*, or *Politico*), or to support other lobbying tactics. About 43 percent of coalitions were able to raise some revenues through dues. The adjustment for length bias does not make a large difference in this measure.

Considering the control variables, the average *Coalition Size* observed in the study was 88 interest groups per coalition. Once the mean is adjusted for length bias, the estimated size is 48 groups. Coalitions in study had between 3 and 3000 members at the extremes.

About half of all coalitions had a web page, reflecting variation in *Formality*. This finding indicates that it is possible to learn quite a bit about coalitions by looking at those that are publicly known. Nonetheless, a study that did not probe into to informal and lesser-known coalitions would miss about half of the population.

The mean *Age* of observed coalitions was about 10 years old. However, adjusting for length bias reduces the estimated age to 7 years on average.

As is the case for our measure of diversity, *Ideology* was calculated using data on interest group ideology from a study by Crosson, Furnas, and Lorenz (2018). Linking these studies allowed the observation of coalition ideology as following a normal distribution, with the mean coalition having average ideology at the midpoint between conservative and liberal, with this result unchanged after adjustment for length bias. The data show that coalitions are neither the province of liberals nor conservatives. All sides of the political spectrum use coalitions. The typical coalition has an ideology that averages in the middle of the political spectrum. Lobbying coalitions are not polarized in the ways that many other domains of politics are.

Stage Three

We have not yet collected a full corpus of documents or carried out the QTA necessary to estimate policy influence. However, we were able to conduct a preliminary analysis on a little more than half of our cases (120 of 226 coalitions) to see the kinds of policy outcomes had resulted on the issues addressed by the coalitions. Figure 1 reports the policy outcomes coded at five levels of success for 120 coalitions. Data are presented with a weighting adjustment for length bias, even though there is not a significant difference between the weighted and unweighted results for this item.

The results range from "no measurable success" to "achieved all major objectives". About 31 percent of coalitions achieved all major objectives (not indicating whether the coalition was responsible for that success), suggesting a propensity for forming coalitions on issues that appear to be moving forward anyway in the policy process. Nonetheless, there was still good variation in this measure, with nearly 11 percent not observed to have achieved anything at all and 19 percent having achieved only minimal success. The results in Figure 3 provide further evidence that the procedures for selecting coalitions did not select only successful coalitions, though successful coalitions constitute nearly a third of the sample. The results reported in the final study would also account for the degree to which the coalition was responsible for these outcomes, which is how we understand influence. A measure of influence would not necessarily

Figure 3. Policy Outcomes on Issues Addressed by Lobbying Coalitions
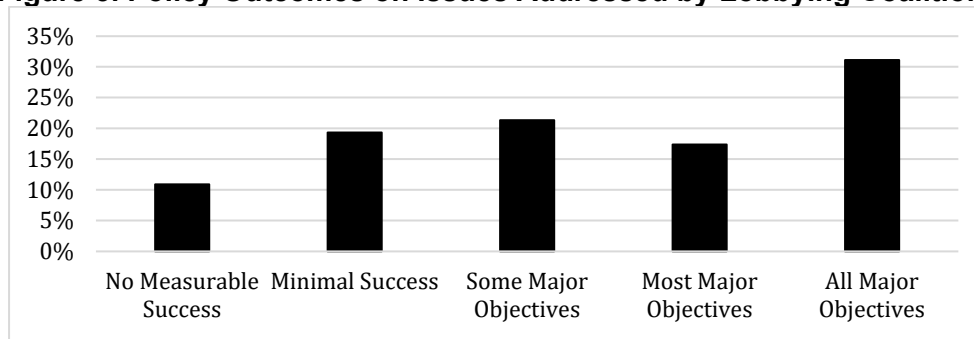

exhibit the same positive tendency because coalitions would not be categorized as influential if success was preordained before the coalition was formed.

Feasibility

The work of stages one and two has already been completed. Stage three involves the compilation of publicly available documents and their analysis using well-established QTA methods. With appropriate support from research assistants to compile the documents and assist in the QTA, this stage is feasible. Stage four involves approximately 250 interviews in Washington, DC over a six-month period. This is roughly the same number interviews completed during stage two, over approximately the same timeframe. Thus, we have direct experience indicating that this task is feasible. Stage five involves collecting additional information about coalitions with which we are already well-acquainted and with which we have previous contacts. Thus, we are confident in completing this stage. Stage six involves applying well-established statistical methods in the field of network analysis. Both PIs are experienced in using these methods.

Timeline

Months 1 to 4:	Initial compilation of documents required for stage three.
Months 5 to 7:	Performing QTA for all cases in stage three.
Months 8 to 13:	Interview congressional, administrative, and advocacy staff (stage four).
Months 14 to 16:	Interview transcription and writing final reports (stage four).
Months 17 to 18:	Compiling updated coalition membership lists (stage five).
Months 19 to 20:	Statistical analysis (stage six).
Months 21 to 24:	Writing final report.

Intellectual Merit

The proposed study is the first research project to systematically examine the way that lobbying coalitions influence a wide range of federal policy areas in the United States. It is the first study to consider a genuinely random sample of lobbying coalitions that is not confined to one, or a small handful, of policies. It is focused on careful analyses of policy influence by 226 lobbying coalitions. In doing so, it expands the theory of how lobbying coalitions operate to include coalition networks and their interactions with diversity, resources, and organizational structures. These factors have been neglected in prior studies. The preliminary results yield important new findings about coalitions, such as how health policy is preeminent in coalition politics and how coalitions are not ideologically polarized in ways that other elements of the American political system are polarized. The final study, if funded, promises to be one of the most thorough analyses ever conducted of how lobbying coalitions matter in the public policy process in the United States.

If the examined hypotheses are supported, they would provide significant insight into how coalitions provide a mechanism for aggregating the preferences of myriad stakeholders in the policy process. If these hypotheses are not supported, it would call into question whether

lobbying coalitions effectively manage their collaborations in an expanding universe of stakeholders, or whether policy success was reserved largely for interests with the capacity to act individually and autonomously in policy debates. Either way, these results promise significant insight into the catalysts of policy outcomes in an increasingly complex political environment.

All the data associated with the project would be released publicly, which would enable future scholars to test hypotheses about coalition networks and influence that are not otherwise examined in this study.

Broader Impacts

The findings of this research would speak directly to policymakers as they consider ways to reduce the gridlock and stalemate that results from high levels of partisan polarization and sectoral fragmentation. The analysis would reveal the extent to which lobbying coalitions are institutions that promote deliberation and create opportunities for the forging of consensus or the extent to which they reflect existing levels of consensus and exacerbate polarization and fragmentation. This information may be especially helpful to policymakers as they attempt to craft new formal and informal institutions to promote greater cooperation in Washington, DC and, potentially, at the state and local levels as well. The results may be notably informative to members of Congress and their staffs as they periodically revisit and revise the provisions of the Lobbying Disclosure Act with the goal of strengthening accountable institutions. For scholars and the general public, the statistical analysis of the project would shed light on the magnitude of loopholes regarding lack of registration by coalition actors and what effects, if any, these have on policy making. These broader impacts would be accomplished by presenting the results of the work at professional conferences, publishing in journal articles and books, discussing these results on social media, and reaching out to traditional mainstream media outlets.

This research would have a major impact on the training of graduate and undergraduate students. We would employ undergraduate students at both the University of Michigan and at Trinity University to assist in the compilation and analysis of documents for the work in stage three. This involvement would enhance their methods training and help to familiarize them with STEM approaches in the social sciences. We would employ graduate students at the University of Michigan to provide technical assistance with QTA, which would strengthen their experience with this emerging method that bridges qualitative and quantitative approaches to social science. In the past, many of the students that we have worked with in similar capacities have been identified with underrepresented minority groups.

Prior NSF Support

Jesse M. Crosson received an NSF Doctoral Dissertation Research Improvement Grant in 2018-2019 in the amount of $23,335. He successfully defended his Ph.D. dissertation in political science at the University of Michigan in 2019. The dissertation is titled *Waiting to Win, Choosing to Lose: Essays on Partisan Agenda-Setting, Competition, and Policy Change*. It is organized into three papers, which explain the consequences of party agenda-control power in American legislatures. The first paper demonstrates how empowering legislative parties with gatekeeping agenda control depresses policy change, beyond what polarization alone might suggest. The second and third papers underscore the vital but understudied role that elections play in encouraging policy change or gridlock. Collectively, these papers illustrate how macro-level electoral competition influences both micro-level proposal behavior and macro-level institutional outputs in Congress.

Michael T. Heaney has not received NSF support in the past five years. His most recent NSF grant was received in 2008-2010.

References

Bauer, Raymond A., Ithiel de Sola Pool, and Lewis Anthony Dexter. 1963. *American Business and Public Policy: The Politics of Foreign Trade*. New York: Atherton.

Baumgartner, Frank R., and Beth L. Leech. 1998. *Basic Interests: The Importance of Groups in Politics and in Political Science*. Princeton: Princeton University Press.

Berry, Jeffrey M. 2002. "Validity and Reliability Issues in Elite Interviewing". *PS: Political Science and Politics* 35(4): 679-682.

Beyers, Jan, and Caelstra Braun. 2013. "Ties that count: explaining interest group access to policymakers". *Journal of Public Policy* 34(1): 93-121.

Box-Steffensmeier, Janet M., and Dino P. Christenson. 2014. "The evolution and formation of amicus curiae networks". *Social Networks* 36(1): 82-96.

Box-Steffensmeier, Janet M., Dino P. Christenson, and Matthew P. Hitt. 2013. "Quality Over Quantity: Amici Influence and Judicial Decision Making". *American Political Science Review* 107(3): 446-460.

Box-Steffensmeier, J.M., B.W. Campbell, D.P. Christenson, and Z. Navabi. 2018. "Role analysis using the ego-ERGM: A look at environmental interest group coalitions". *Social Networks* 52(1): 213-227.

Breiger, Ronald L. 1974. "The duality of persons and groups". *Social Forces* 53(2): 181-190.

Browne, William P. 1990. "Organized Interests and Their Issue Niches: A Search for Pluralism in a Policy Domain". *Journal of Politics* 52(2): 477-509

Bunea, Adriana. 2015. "Sharing ties and preferences: Stakeholders' position alignments in the European Commission's open consultations". *European Union Politics* 16(2): 281-299.

Burt, Ronald S. 1992. *Structural Holes: The Social Structure of Competition*. Cambridge, MA: Harvard University Press.

Christakis, Nicholas A., and James H. Fowler. 2009. *Connected: The Surprising Power of Our Social Networks and How they Shape Our Lives*. New York: Little, Brown.

Crosson, Jesse M., Alexander Furnas, and Geoffrey M. Lorenz. 2018. "Estimating Interest Group Ideal Points with Public Position-Taking on Bills in Congress". Available at: https://www.researchgate.net/publication/324040699_Estimating_Interest_Group_Ideal_Points_with_Public_Position-Taking_on_Bills_in_Congress?_sg=WUHvdZaqpnX15VvAKm3I4yLQGNAxs01dCV-4tRurnVj93fOXdCZChKlqv0Fyhf8oZMEciLkvhnjqrw.t0_6yxDEHBHSBTFjAb-LYEQKwq3EquDgSIUDt99PBut0zmFNlrK-E7QihgKTAbOTXrImetefYSe-LuPhloqswg&_sgd%5Bnc%5D=0&_sgd%5Bncwor%5D=0, accessed January 10, 2019.

Drutman, Lee. 2015. *The Business of America is Lobbying: How Corporations Became Politicized and Politics Became More Corporate*. New York: Oxford University Press.

Fischer, Manuel. 2014. "Coalition Structure and Policy Change in a Consensus Democracy". *Policy Studies Journal* 42(3): 344-366.

Fowler, James H., Michael T. Heaney, David W. Nickerson, John F. Padgett, and Betsy Sinclair. 2011. "Causality in Political Networks". *American Politics Research* 39(2): 437-480.

Frank, Ove, and David Strauss. 1986. "Markov graphs". *Journal of the American Statistical Association* 81(395): 832-842.

Gilens, Martin, and Benjamin I. Page. 2014. "Testing Theories of American Politics: Elites, Interest Groups, and Average Citizens". *Perspectives on Politics* 12(3): 564-581.

Granovetter, Mark S. 1985. "Economic action and social structure: The problem of embeddedness". *American Journal of Sociology* 91(3): 481-510.

Grimmer, Justin, and Brandon M. Stewart. 2013. "Text as Data: The Promise and Pitfalls of Automatic Content Analysis Methods for Political Texts". *Political Analysis* 21(3): 267-297.

Hall, Donald R. 1969. *Cooperative Lobbying – The Power of Pressure*. Tucson: University Arizona Press.

Hall, Richard L. 2015. "Interest Group Influence on Subordinate Policies: A Theoretical Sketch". Paper presented at the Annual Meeting of the American Political Science Association, San Francisco, California, September 3-7.

Hanegraaff, Marcel, and Adrea Pritoni. 2019. "United in Fear: Interest Group Coalition Formation as a Weapon of the Weak?" *European Union Politics* 20(2): 198-218.

Heaney, Michael T. 2004. "Issue Networks, Information, and Interest Group Alliances: The Case of Wisconsin Welfare Politics, 1993-1999". *State Politics & Policy Quarterly* 4(3): 237-270.

Heaney, Michael T. 2006. "Brokering Health Policy: Coalitions, Parties, and Interest Group Influence". *Journal of Health Politics, Policy and Law* 31(5): 887-944.

Heaney, Michael T. 2014. "Multiplex Networks and Interest Group Influence Reputation: An Exponential Random Graph Model". *Social Networks* 36(1): 66-81.

Heaney, Michael T., and Philip Leifeld. 2018. "Contributions by Interest Groups to Lobbying Coalitions". *Journal of Politics* 80(2): 494-509.

Heaney, Michael T., and Geoffrey M. Lorenz. 2013. "Coalition Portfolios and Interest Group Influence over the Policy Process". *Interest Groups & Advocacy* 2(3): 251-277.

Henry, Adam Douglas. 2011. "Ideology, Power, and the Structure of Policy Networks". *Policy Studies Journal* 39(3): 361-383.

Hojnacki, Marie. 1997. "Interest Groups' Decisions to Join Alliances or Work Alone". *American Journal of Political Science* 41(1): 61-87.

Hojnacki, Marie. 1998. "Organized Interests' Advocacy Behavior in Alliances". *Political Research Quarterly* 51(2): 437-459.

Holyoke, Thomas T. 2009. "Interest Group Competition and Coalition Formation". *American Journal of Political Science* 53(2): 360-375.

Holyoke, Thomas T. 2015. *The Ethical Lobbyist: Reforming Washington's Influence Industry*. Washington, DC: Georgetown University Press.
Hula, Kevin W. 1999. *Lobbying Together: Interest Group Coalitions in Legislative Politics*. Washington, DC: Georgetown University Press.

Ingold, Karin. 2011. "Network Structures within Policy Processes: Coalitions, Power, and Brokerage in Swiss Climate Policy". *Policy Studies Journal* 39(3): 435-459.

Ingold, Karin, Manuel Fischer, and Paul Cairney. 2017. "Drivers for Policy Agreement in the Nascent Subsystems: An Application of the Advocacy Coalition Framework to Fracking Policy in Switzerland and the UK". *Policy Studies Journal* 45(3): 442-463.

Junk, Weibke Marie. 2019a. "Co-operation as currency: how active coalitions affect lobbying success." *Journal of European Public Policy*. https://doi.org/10.1080/1350173.2019.1631377

Junk, Wiebke Marie. 2019b. "When Diversity Works: The Effects of Coalition Composition on the Success of Lobbying Coalitions". *American Journal of Political Sciences* 63(3): 660-674.

King, Gary, Robert O. Koehane, and Sidney Verba. 1994. *Designing Social Inquiry: Scientific Inquiry in Qualitative Research*. Princeton: Princeton University Press.

Klüver, Heike. 2013. *Lobbying in the European Union: Interest Groups, Lobbying Coalitions, and Policy Change*. Oxford: Oxford University Press.

Labun, Alona, and Rafael Wittek. 2014. "Structural Holes". Pp. 2075-2083 in *Encyclopedia of Social Network Analysis and Mining*, eds. Reda Alhajj and Jon Rokne. Heidelberg: Springer.

Laver, Michael, Kenneth Benoit, and John Garry. 2003. "Extracting Policy Positions from Political Texts Using Words as Data". *American Political Science Association* 97(2): 311-331.

Leech, Beth L., Frank R. Baumgartner, Timothy M. La Pira, and Nicholas A. Semanko. 2005. "Drawing Lobbyists to Washington: Government Activity and the Demand for Advocacy". *Political Research Quarterly* 58: 19-30.

Leenders, Roger Th.A.J. 2002. "Modeling social influence through network autocorrelation: constructing the weight matrix". *Social Networks* 24(1): 21-47.

Lorenz, Geoffrey Miles. 2019. "Prioritized Interests: Diverse Lobbying Coalitions and Congressional Committee Agenda-Setting". *Journal of Politics* 82(1). https://doi.org/10.1086/705744

Mahoney, Christine. 2007. "Networking vs. allying: The decision of interest groups to join coalition in the US and the EU". *Journal of European Public Policy* 14(3): 366-383.

Mahoney, Christine, and Frank R. Baumgartner. 2015. "Partners in Advocacy: Lobbyists and Government Officials in Washington". *Journal of Politics* 77(1): 202-215.

Martin, John Levi. 2009. *Social Structures*. Princeton: Princeton University Press.

McPherson, Miller, Lynn Smith-Lovin, and James M Cook. 2001. "Birds of a Feather: Homophily in Social Networks". *Annual Review of Sociology* 27: 415-444.

Nelson, David, and Susan Webb Yackee. 2012. "Lobbying Coalitions and Government Policy Change: An Analysis of Federal Agency Rulemaking". *Journal of Politics* 74(2): 339-353.

Phinney, Robin. 2017. *Strange Bedfellows: Interest Group Coalitions, Diverse Partners, and Influence in American Social Policy*. New York: Cambridge University Press.

Podolny, Joel M. 2005. *Status Signals: A Sociological Study of Market Competition*. Princeton: Princeton University Press.

Sinclair, Betsy. 2012. *The Social Citizen: Peer Networks and Political Behavior*. Chicago: University of Chicago Press

Smith, Adrian. 2000. "Policy Networks and Advocacy Coalitions: Explaining Policy Change and Stability in UK Industrial Pollution Policy?" *Environment and Planning C: Government and Policy* 18(1): 95-114.

Smith, Richard A. 1995. "Interest Group Influence in the U.S. Congress." *Legislative Studies Quarterly* 20(1): 89-139.

Stein, William E., and Ronald Dattero. 1985. "Sampling Bias and the Inspection Paradox". *Mathematics Magazine* 58(2): 96-99.

Strolovitch, Dara Z. 2007. *Affirmative Advocacy: Race, Class, and Gender in Interest Group Politics*. Chicago: University of Chicago Press.

Truman, David B. 1951. *The Governmental Process: Political Interests and Public Opinion*. New York: Knopf.

Walker, Jack L., Jr. 1991. *Mobilizing Interest Groups in American: Patrons, Professions, and Social Movements*. Ann Arbor: University of Michigan Press.