Cross-Coalition Collaboration in U.S. Environmental Risk Policy

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Abstract

Within policy networks, stakeholders share information, coordinate advocacy efforts, and exchange resources. Stakeholders work to pursue their individual policy goals and to find collaborators when their goals align. The Advocacy Coalition Framework (ACF) provides theories and hypotheses for studying the policy making process with a particular focus on the structure and function of policy coalitions. We use survey data from professionals working on issues of environmental risk to evaluate the relationship between collaborative networks and policy coalitions in the ACF. We study the patterns of collaboration internal and external to the advocacy coalition structure and find that collaborative ties outside of the coalition provide substantial opportunity for coordination and resource sharing outside of coalitions.
Introduction

In the policy making process, policy stakeholders undertake many activities to promote their ideas and to find and coordinate with like-minded stakeholders to amplify their message. Some of these activities are directly related to policy creation (e.g. lobbying, mobilizing voters, or writing legislation), while other activities increase stakeholder knowledge or help them coordinate with other groups (e.g. networking at events or publishing research findings).

Literature on the policy making process often focuses on the activities that are directly related to policy creation and tacitly assumes that policy creation is the driving motivation of stakeholders. This paper compares collaboration with policy advocacy and offers a proof of concept that research focused on policy directed activity risks overlooking a rich landscape of indirect policy collaboration.

The Advocacy Coalition Framework (ACF) is a widely used approach to studying the policy making process. Embedded in the ACF is a focus on relationships between policy stakeholders. Stakeholders coordinate with each other on matters of shared policy interest, they learn from each other with varying levels of ease, and they maintain relationships over the span of many policy debates. These relationships and interactions take place within a policy subsystem defined by a policy topic and geographic scope. Within the subsystem, stakeholders self-organize into coalitions which the ACF conceptualizes as groups of actors held together by shared beliefs making a coordinated effort to transform their beliefs into policy. These coalitions bring together policy stakeholders to amplify their impacts on the policy debate.

Our research examines a professional network of policy stakeholders who work in the area of environmental risk. Some of the stakeholders in the sample demonstrate the types of connections that are indicative of advocacy coalition co-membership, others collaborate in ways
that are not directly related to their policy advocacy. We use social network analysis (SNA) to compare coalition co-membership with the types of collaboration reported between stakeholders.

This paper extends the ACF in a direction that makes it more applicable to the complexity of real world policy systems. We challenge the implicit assumption that coalition boundaries define the important interactions between policy actors in the ACF. By including stakeholders from multiple policy areas we more accurately reflect the networked character of the real world where policy stakeholders frequently reach outside of their coalition for information and resources. This paper pushes the boundaries of advocacy coalitions and shows that focusing on the ACF definition of coalitions misses important activity in policy making networks.

**Advocacy Coalition Framework**

The Advocacy Coalition Framework (ACF) was developed as a response to competing top-down and bottom-up approaches to policy making (Sabatier, 1986). Sabatier drew from the bottom-up approach to include stakeholders from multiple sectors and focus on the policy subsystem as the unit of analysis and drew from the top-down approach to include socio-economic conditions and legal factors as scaffolding within which the policy process plays out (Sabatier, 1986). Sabatier (1986) also introduces an extended time frame of 10-15 years to allow policy analysts to capture processes of learning. While Sabatier expanded the context of analysis by including a longer time horizon, we argue that the context should again be expanded to include collaboration outside of the coalition structure.

**Beliefs in the ACF**

Stakeholders in the ACF are guided by their beliefs and work to build policy that reflects
their beliefs. The ACF differentiates between beliefs held with three different levels of conviction. The most closely held beliefs – *deep core beliefs* – are beliefs that can be applied to multiple policy areas and inform the stakeholder’s worldview. Changing deep core beliefs is very difficult. The middle tier of beliefs – *policy core beliefs* – inform the stakeholder’s view on a particular policy topic. These beliefs drive significant action in the ACF. Stakeholders will seek out others with similar policy core beliefs and together form advocacy coalitions to transform those beliefs into policy. The most changeable beliefs – *secondary beliefs* – reflect the stakeholder wishes to see policy carried out. These beliefs are negotiable and will be traded or sacrificed in exchange for fulfilling policy beliefs.

*Coalitions in the ACF*

The coalitions formed by stakeholders to promote their policy core beliefs are usually stable for long periods of time. Members of these coalitions coordinate and share information and resources to promote their beliefs. The psychological profiles assigned to actors in the ACF shape our expectations for interactions within and across coalitions. The ACF assumes that actors are subject to bounded rationality, prospect theory, and biased assimilation. Bounded rationality, a theory developed by Herbert Simon, states that actors cannot evaluate every piece of information and often make decisions based on heuristics rather than optimizing outcomes. People do not have the cognitive capacity to evaluate all options before making a decision (Simon, 1985). According to prospect theory, people remember losses more clearly than gains (Quattrone and Tversky, 1988). Lastly, when actors receive new information, they process it in light of their currently held beliefs through a psychological phenomenon called biased assimilation (Munro and Ditto, 1997). Actors are more likely to believe information that agrees
with their previous beliefs and discount contradictory information. The combination of these phenomena leads to the “devil shift” where actors think that their opponents are harsher than they are in reality.

The profile assigned to actors in the ACF has a profound impact on their expected behavior. Ideas and resources exchanged within coalitions can flow freely since stakeholders are working towards the same ideal and are more likely to accept information from each other due to biased assimilation. Stakeholders will be predisposed to listen to others and accept new information from within the coalition. Across coalitions, participants are less disposed to accept information and advice and may struggle with resource exchange. The devil shift will make stakeholders less likely to coordinate with stakeholders from opposing coalitions.

Subsystems in the ACF

Each policy debate takes place in a policy subsystem, defined by topic and geographic scope. Inside the policy subsystem, coalitions use their resources to develop their beliefs into strategies and influence decisions by government authorities. Policy subsystems can be nested and overlapping and stakeholders can participate in debates in multiple subsystems simultaneously.

Collaboration Within and Beyond Coalition Boundaries

Stakeholders collaborate within and across policy subsystems as they pursue their goals on multiple fronts. The process of collaboration is studied across disciplines and encompasses many different types of activities. Thomson, Perry, and Miller (2009) provide the following definition of collaboration:
Collaboration is a process in which autonomous or semi-autonomous actors interact through formal and informal negotiation, jointly creating rules and structures governing their relationships and ways to act or decide on the issues that brought them together; it is a process involving shared norms and mutually beneficial interactions.

This definition is strongly influenced by previous work by Wood and Gray (1991) but reflects Thomson et al.’s efforts to incorporate a broader review of the literature and multiple theoretical perspectives. Thomson et al. (2009) offer a model of collaboration built on five dimensions: governance, administration, organizational autonomy, and mutuality. Within the context of the ACF, collaboration presents challenges of coordination both within and beyond coalition boundaries.

Within coalitions, stakeholders are primarily bound together by shared policy core beliefs, but must also coordinate to work together towards policy goals. Early in the development of the ACF, Schlager (1995) highlighted the issue of collective actions problems among members of the same coalition. The difficulty of overcoming collective action problems is also in Thomson et al.’s (2009) model of collaboration. Thomson et al.’s (2009) organizational autonomy dimension brings forward the tension between self-interest and collective interest and the administration dimension focuses on the difficulties of coordination in the absence of hierarchy, standardization, and routinization – traditional aspects frequently missing from advocacy coalitions. Within coalitions, the shared goals and beliefs lead to collaboration, overcoming the collective action problems. In a review paper of the state of ACF literature, Weible, Sabatier, and McQueen (2009) echo Schlager’s (1995) concern over coordination saying that the issue was underrepresented in
the literature with only Weible and Sabatier (2005) and Weible (2005) – both discussed below – addressing the role of coordination in holding together advocacy coalitions directly. Since 2009, additional work has been undertaken addressing coordination in the ACF. Taken all together, studies examining coalition formation and measurement and have greatly expanded our understanding of the coordination within coalitions in the ACF. Some of these studies introduce alternatives to the ACF, like Resource Dependency Theory (RDT), to evaluate the role of beliefs in holding coalitions together. Some studies address the measurement of coalition ties and the nuances of ACF concepts.

Scholars have introduced Resource Dependency Theory (RDT) into studies on coalitions to supplement the ACF’s positions that beliefs hold coalitions together. Under RDT, coalition ties will be driven by a desire to connect with other stakeholders who control resources, rather than stakeholders who share beliefs. Notably, Weible (2005), Henry (2011), and Matti and Sandstrom (2011; 2013) all incorporated RDT into ACF studies of environmentally related policy subsystems. Weible (2005) found that beliefs were more important than perceived influence when explaining coordination between stakeholders and their choices of advice and information networks in a study of the California marine protected area policy subsystem. In a study of regional planning networks in California, Henry (2011) found that RDT did not shape system-wide networks but may have influenced networks within coalitions. In two papers covering three case studies of the Swedish carnivore management policy subsystem, Matti and Sandstrom (2011; 2013) found that perceived belief correspondence was associated with coordination while perceived influence was not, favoring the ACF explanation over RDT. Across all the studies, the ACF proposition that stakeholders come together around common beliefs when forming coalition ties prevailed when compared to RDT.
Matti and Sandstrom (2011; 2013) also found that, in alignment with the ACF, similarity in policy core beliefs rather than deep core beliefs correspond to coalition membership. In their later two case studies, Matti and Sandstrom (2013) found that secondary aspects could also play a role in coalition formation. In a study of the Swedish nuclear energy policy subsystem, Nohrstedt (2009) found that clustering stakeholders on policy core beliefs was more stable than clustering them on secondary aspects, suggesting that policy core beliefs were the glue holding coalitions together over time.

In the area of coalition measurement, Weible and Sabatier (2005) and Ingold (2011) have explored alternatives to directly measuring belief agreement and coordination. In their study of the California marine protected area policy subsystem, Weible and Sabatier (2005) suggest that networks where stakeholders identify their allies can be used as a proxy for coordination. Ingold (2011) studied the Swiss CO₂ policy subsystem and used multicriteria analysis to validate the results from social network analysis. She found that ally and enemy networks were a close proxy for identifying coalitions, relieving some of the need to measure belief systems. Ingold (2011) also found that between centrality – a concept frequently used in social network analysis – was useful for identifying brokers in the policy subsystem. This work highlights the structural aspects of coalitions that can help researchers collect and use data more effectively.

Beyond coalition boundaries, we still expect to see stakeholder collaboration. Coalitions exist in policy subsystems, which themselves are nested and overlapping. Stakeholders can work in multiple subsystems as they may have interests in multiple policy domains. Whenever we view a coalition or even a subsystem in isolation, we exclude stakeholder collaborations outside of that realm. In her measurement of advocacy coalitions, Ingold (2011) points out that collaboration is not sufficient criteria for identifying coalitions for this very
reason. In his study of the trade union disclosure policy debate in Canada, Stritch (2015) found that linkages between advocacy communities (ideological groupings of advocates who do not necessarily coordinate on policy issues) were more common when the network focused on lower levels of coordination. In his survey of stakeholders, Stritch (2015) included three forms of “lower level coordination” (providing information, receiving information, and encouraging other organizations to participate) and six forms of “higher level coordination” (cooperating on joint policy research or analysis, jointly funding some advocacy costs, participation in task forces or workshops, joint presentations to government agencies, holding joint strategy meetings, and creating a formally structured coalition). Whether the subsystem was measured with dichotomized or multiple coalitions, Stritch (2015) found that lower level coordination was more likely to take place between coalitions than higher level coordination.

We add to this conversation by empirically testing the relationship between coalition membership and collaboration on a broader scale. Previous work by Stritch (2015) was performed on a nascent, highly specific policy subsystem with coalitions in direct competition with each other. Our study uses data on the US environmental risk policy subsystem which encompasses a broad range of topics and stakeholders who may not be in direct competition on policy issues at the time of the study. From the ACF, we expect communication and coordination to be easier to achieve within coalitions when stakeholders are working towards common goals. Thus, we hypothesize that collaboration will be more likely within coalitions than beyond coalitions.

Data

This research uses survey-based network data, gathered in 2015 from 281 professionals
working in U.S. environmental risk policy. The risk professionals targeted in the survey are defined using three criteria:

1. The individual engages in one or more professional activities focused on policy making surrounding risk issues.

2. The individual is engaged in one of more issues of environmental risk, meaning risks to human well-being as a result of environmental changes or risks to ecological systems as a result of human activities or technology.

3. The individual’s professional activities have an influence on US federal policy or decision making.

The third criteria is applied less strictly than the first two; some respondents focus more heavily on state or local environmental risk with the US.

The sample seed was drawn from three sources:

1. Published records of Congressional hearings focused on issues of environmental risk

2. Published reports from National Research Council (NRC) committees focused on issues of environmental risk

3. Affiliation with events sponsored by the major, Washington D.C. based professional societies focused on issues of environmental risk

Participants discovered through the above criteria were included in the seed with the exception of high ranking officials (Presidential appointments and elected officials). The sample was expanded using a snowball method to include individuals nominated by survey respondents.

The combined seed and snowball sample contained 1528 individuals. After screening out elected officials and presidential appointments, the sample contained 1000 individuals. 281 respondents completed or partially completed the survey. The remainder were either not
contactable, did not respond, opted out of the survey before, or were screened from the sample because they did not match the US environmental risk policy subsystem.

The data include respondents from multiple sectors including congressional staff, research institutions, and professional organizations. In addition to representing a variety of organizational types, the respondents work across a variety of substantive topics including natural resource management, air quality, and energy use.

Survey respondents were asked to nominate up to ten organizations they have contact with in the development of science and/or policy surrounding issues of environmental risk. These contacts are treated as the respondent’s network in the US environmental policy subsystem. Once these contacts are established, respondents provide information on their relationship with each contact and on the types of activities where they are co-participants.

In this study, we wish to compare the patterns of collaborative ties with coalition ties. Multiple types of collaboration are measured in the survey and the coalition ties are constructed using a combination of survey responses.

Collaboration is measured on multiple dimensions using the choices shown below.

- Attend same meetings
- Share information or data
- Seek/provide advice
- Seek/provide consulting services
- Engage in joint research
- Write joint publications
- Seek/provide funding or physical resources

These options create a broad view of collaboration encompassing activities with low transaction
costs (e.g. attending the same meetings) and activities with high transaction costs (e.g. engage in joint research) while still providing a level of specificity needed for reliable data collection.

Coalition ties are forms by combining three types of ties collected in the survey. Advocacy coalitions are defined on two dimensions. First, policy stakeholders share policy core beliefs; they have the same goals within the policy subsystem. Second, they demonstrate a non-trivial level of coordination in pursuit of their common goals. The first component of coalition ties, shared beliefs, is fulfilled if a respondent indicates that their contact shares their policy goals. The second component of coalitions ties, coordination, is fulfilled if a respondent indicates that they jointly implements programs or policies with a contact or that they jointly advocate for policy with a contact. The intersection of policy agreement ties and coordination ties are coalition ties. Coalition ties represent a relationship between two actors corresponding to coalition co-membership in the ACF.

Methods

When considered through network methodologies, the data are a sample of egocentric networks. In egocentric networks, the central node, called the ego, is the focus of the network. Information is collected on the ego’s connections, called alters, and sometimes, information is collected on the alters’ ties to each other. In our data, each respondent is an ego and the ten organizations that they can nominate as contacts are the alters. Each respondent in our dataset has a different egocentric network for each kind of collaboration that addressed in the survey. For instance, the following two graphs are egocentric networks for the same respondent for different tie types. In this case, the ego is a respondent that is affiliated with the EPA. In the first graph, we see ties to the alters with which the ego reported attending meetings and in the second graph we
see ties to the alters with which the ego reported engaging in joint research.

Egocentric data is useful is situations like this where the population (risk professionals in the US environmental policy sphere) is too large to conduct a census. The egocentric networks that we have collected allow us to see a sample of network pieces without requiring access to the full network. Analyzing data in this form also offers a unique advantage. A full network or a sample from a full network would result in a single network statistic. We would measure the relationship between coalition and collaboration ties across the entire dataset. However, by using egocentric networks, we can collect many instances of the same research question and preserve the variation in the results. A method for capturing this variation in egocentric networks was developed and first used by Henry (2011) in a study of regional planning subsystems in California.

Following the methodology put forth by Henry (2011), we find a distribution of QAP correlations and their levels of significance across our sample of egocentric networks. In each egocentric network, the coalition ties are correlated with each type of the collaboration ties. The significance of the correlation is found using quadratic assignment produce (QAP) methods. QAP methods control for the structure of network ties which benefits us as we have artificially limited the sample of organizations for which a respondent can choose for each type of tie. Egocentric networks with either a full complement of ties (all alters received a tie) or no ties were dropped from the correlation set due to the impossibility of significance testing.

**Results**

Before discussing the central results of this paper, it is useful to provide some general description of the egocentric networks. Of the 281 respondents to take the survey, 52 did not provide any alters and were dropped from the analysis. Of the 229 respondents that provided
alters, 81 provided the full compliment of 10 alters and a little over half of all respondents provided 8, 9, or 10 alters.

Each respondent has eight egocentric networks of interest: one for coalition ties and 7 for the different types of collaboration. Figure 1 shows the distribution of ties across each type of network tie.
Working with these egocentric networks, we follow the methodology developed by Henry (2011) to compare the egocentric networks of coalition ties with the egocentric networks of each type of collaboration. For instance, the comparison between coalition ties and attending the same meeting will necessitate correlating the coalition and meeting networks for each respondent. The significance of each correlation will also be computed. Once the significance is collected for
each pair of coalition and meeting networks, we can form a distribution of significance scores focusing on those that have significantly positive and significantly negative correlation (significance measured at the 0.05 level). Figure 2 describes the distributions of significance of correlations between coalition ties and other tie types.

![Distribution of Correlation Significance](image)

**Figure 2: Distribution of Correlation Significance**
The egos that display significantly positive correlations between coalition ties and lower levels of collaboration show that these types of collaboration can happen within the boundaries of advocacy coalitions. This behavior is in line with our hypothesis that collaboration will be more likely within coalitions than outside of them. In all except “providing and seeking consulting services”, we see a majority of egos with significantly positive correlations between the collaboration ties and coalition ties. However, none of their majorities are above 68% and most are below 65%. What is more revealing are the sizable percentage of egos with significantly negative or non-significant correlations between coalition ties and lower levels of collaboration. In these situations, coalition structure is not driving collaboration. Indeed, these egos are collaborating in meaningful ways outside of their coalitions.

**Discussion**

In the empirical results presented above, we see that many interactions between actors are present outside of the coalition ties specified by the ACF. This gives us reason to question our hypothesis that collaboration would take place generally in conjunction with coalition ties. Although many respondents shape their collaboration and coalition ties in similar ways, a sizable proportion of the respondents show collaboration outside of coalition boundaries. Moving forward from these findings, we can ask what factors influence the collaboration/coalition correlations. The connections between collaboration and coalition ties could vary across respondents for many reasons. Respondents work across a variety of sectors, like government, academia, and industry. Membership in different sectors may change the way respondents
structure their networks, causing them to reach out to diverse organizations or only communicate with those with which they agree. Additionally, some respondents work primarily to provide data and advice to policy makers while others are more involved in the policy process. These different functional roles can change the way respondents form ties.

This paper contributes to two areas of the ACF literature. First, it pushes the boundaries of the ACF expectations of collaboration. Under the ACF, we expect collaboration to take place within coalitions. Within a subsystem, this means that actors are either interacting with those with similar views and goals. The ACF incorporates biased assimilation into the assumptions about individuals, which makes accepting resources from and collaborating with an opposing group difficult. In the risk professionals data, we see respondents reporting many kinds of collaboration with alters who are not highly correlated with their coalition ties. This use of the professional network gives respondents more opportunities to collaborate with alters with whom they may not share policy goals, but who they are also not directly working against. This kind of collaboration is underdeveloped in the ACF. Second, the results presented here have implications for future data collection. Focused attention on coalition ties would miss important interactions between policy actors. Information and resources are frequently exchanged between organizations and individuals that do not share a coalition identity. We see this strongly represented in Figure 2 where some respondents have no significant correlation or negative correlation between coalition ties and collaboration ties. Although the ACF provides a useful structure for understanding the policy making process and developing research questions, we should reach beyond its definition of coalition interactions when collecting data in order to represent important interactions in the policy making process.
Works Cited


