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Exploring collaboration dynamics and representation in environmental justice councils

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Abstract

A collaboration's ability to convene diverse stakeholders and knowledge is often associated with success. However, a more nuanced evaluation of representation is needed to understand if meeting-level factors (e.g., who attends as well as including facilitators or external technical experts) influence representation. This article examines representation via two-way communication in meetings to explore: (1) patterns of discussion across sectors (i.e., appointed citizens, agency delegates, and external stakeholders), (2) how patterns of discussion change given attendance differences across sectors, and (3) how meeting-level factors associate with observed discussion patterns. Using meeting-level data, across three US, state-level, legislatively-mandated environmental justice councils, results suggest: (1) sectors have different patterns of how much and with whom they discuss, (2) retreat meetings increase discussion for all, and (3) other meeting-level factors and discussion patterns are narrowly focused to specific sectors. The discussion applies the findings of this study to the broader field of collaborative governance.

1 | INTRODUCTION

Collaborative governance is defined as the engagement of relevant stakeholders across public, private, and civic spheres in a sustained process focused on public policy decision-making (Bryson et al., 2006; Emerson & Nabatchi, 2015; Wondolleck & Yaffee, 2000). By extension, a collaboration's ability to garner diverse representation

across stakeholders and perspectives is emphasized as both normatively important (Nabatchi, 2012; Quick & Feldman, 2011; Roberts, 2004), and procedurally important (Lubell, 2004; Ostrom, 1990). Collaborative governance literature has begun to explore diverse stakeholder representation investigating: (1) stakeholder descriptive representation (i.e., representation on paper) and (2) stakeholder substantive representation (i.e., representation in practice) (Calanni et al., 2015; Koski et al., 2018). Yet, scholars argue assessments of diverse stakeholder representation must go beyond the assessment of who attends meetings (Nabatchi, 2012; Quick & Feldman, 2011) to assess how stakeholders act within meetings (Calanni et al., 2015; Carboni et al., 2017; Hui et al., 2020; Koski et al., 2018).

Thus, I explore representation through the lens of two-way communication, offering a novel approach for measuring representation in collaborative governance arrangements. Since collaborative governance is seen as a mechanism to engage diverse knowledge and perspectives, a better understanding of who is represented in communication is fundamental to understanding whose voice is being represented in these fora. Furthermore, little work has been conducted to explore the meeting-level factors associated with communication patterns, which offers a tangible insight into how choices in meeting structure might increase or decrease representation across sectors.

To better understand *how* stakeholders are engaging in the collaborative process, I leverage Nabatchi's (2012) link between types of communication and the engagement of diverse ideas, knowledge, and viewpoints in collaborative fora. She argues that one-way communication, while need in collaboration, represents information exchanges between stakeholders, whereas two-way communication offers a means for stakeholders to share, engage, and reconcile diverse ideas and viewpoints. A change from one-way to two-way communication, in part, is indicative of a change toward a more collaborative process engaging and negotiating diverse views (IAP2, 2007; Nabatchi, 2012). Because two-way communication is identified as offering a clearer means for identifying and understanding policy issues and conflicts among diverse actors (IAP2, 2007), this paper focuses on substantive representation across two-way communication.

Collaborative governance scholars have long identified the importance of cross sector collaboration, as different sectors have strengths when creating public values, which can also overcome the weakness of other sectors (Bryson & Crosby, 2014; Moore, 2000). The failure of one sector to create the desired public values often drives the initiation of cross-sector collaborations leveraging these cross-sector strengths. More specifically, the failure of governments to engage complex issues, such as environmental justice, often spur governments to engage in cross-sector collaborations (Bryson & Crosby, 2014; Grafton et al., 2015; Ross et al., 2021). Bryson and Crosby (2014) argue the hierarchies, rules, and regulations often seen as the strength of bureaucracy are also responsible for resisting change in the face of new and complex public problems. Many cases have been identified and studied where the failure of government has necessitated the inclusion of citizens, nonprofits, and businesses, among others, in the policy process (Bryson & Crosby, 2014; Salamon, 2000; Smith & Lipsky, 2009).

Furthermore, the focus on sectoral differences in actors is in line with policy process literature focused on representation (Calanni et al., 2015; Carboni et al., 2017; Hui et al., 2020; Koski et al., 2018). Understanding descriptive and substantive representation is important at the cross-sector level, as actors from different sectors often leverage different forms of information (i.e., technical knowledge vs. lived experiences), have a different number of interests they bring to the fora (i.e., single policy interests vs. broad policy interests), and frame policy issues with differing degrees of interdependence (i.e., issues are framed as single items vs. complex with multiple interacting items) (Carboni et al., 2017; Ferreyra & Beard, 2007; Innes & Gruber, 2005; Koski et al., 2018; Weible, 2008). With a better understanding of how different actors are represented by two-way communication in collaborative fora across different sectors, collaborative fora could be better designed to engage diverse information, diverse interests, and diverse policy framings, and, as such, better advance the goals of collaborative governance.

Finally, while diverse representation is an important concept in collaborative governance broadly, these topics are particularly salient for environmental justice collaborations. Because environmental justice councils particularly emphasize the engagement of previously marginalized, citizen voices (Grafton et al., 2015; Ross et al., 2021), the difference between descriptive representation and substantive representation must be better understood, as the latter

not the former represent inclusive decision-making (Nabatchi, 2012; Quick & Feldman, 2011). This paper uses meeting-level data from environmental justice councils to explore: (1) patterns of discussion across sectors (i.e., appointed citizens, agency delegates, and external stakeholders), (2) how patterns of discussion change given attendance differences across sectors, and (3) how meeting-level factors associate with observed discussion patterns.

2 | THEORY

Collaborative Governance is defined as the engagement of diverse stakeholders, such as government actors (e.g., policymakers, administrators) and non-governmental actors (e.g., nonprofit groups, policy experts, members of the general public) in policy learning, discussion, and decision-making with the goal of influencing policy design or implementation (Bryson et al., 2006; Emerson & Nabatchi, 2015; Wondolleck & Yaffee, 2000). Normatively, representation of various stakeholders is said to give voice to diverse actors consistent with the democratic value of public participation (Bryson et al., 2006; Emerson & Nabatchi, 2015). Practically, diverse representation in collaborative governance is said to increase accountability, increase the number of policy alternatives considered, produce policies with a greater likelihood of adoption, improve the consistency of policy implementation, and achieve higher rates of success as perceived by participants (Fung & Wright, 2001; Hicks et al., 2008; Lasker & Weiss, 2003; Leach, 2006; Lubell, 2004). Succinctly, diverse representation is posited to enable a more complete understanding of the problem resulting in decisions tailored to the collaboration's specific context (Lubell et al., 2009; Ostrom, 1990).

Across studies in policy process and collaborative governance, representation is often used as a means to measure participation across sectors and is often delineated across: (1) *descriptive representation* and (2) *substantive representation* (Keiser et al., 2002; Koski et al., 2018). *Descriptive representation* is defined by Koski et al. (2018) as the representation of stakeholders given standing in formalized documentation, or who "*should* be at the table." *Substantive representation* is defined as the representation of the stakeholders' interests in the process, goals, and outputs of the collaboration. Substantive representation is delineated into: (1) *substantive representation in process*, observed through actions of attendance or participating in the meeting, and (2) *substantive representation in outputs or outcomes of collaboration*, observed through the presence of interests reflected in the formal agenda, documentation, etc. This study focuses on procedural substantive representation conceptualized as who attends the meeting (i.e., who is *at* the table) and who communicates in the meeting (i.e., who is *actively participating* at the table).

This study extends the notion of substantive representation in process to communication to better understand *how* stakeholders are acting in the collaborative process. Thus, two forms of substantive representation in process are identified in this study: (1) substantive representation through attendance, and (2) substantive representation through communication. Quick and Feldman (2011) show there is substantial differences in how stakeholders are included in public participation and argue fora should focus on communication and deliberation between stakeholders rather than solely using participation as a way to increase information input. Nabatchi (2012) makes similar arguments but focuses more clearly on the type of communication observed in these fora. She defines *one-way communication* as unidirectional flows of information—often from government administrators to citizens and less frequently from citizens to administrators. While one-way communication is associated with information-sharing and is often needed in collaboration, it lacks the opportunity for feedback and negotiation for including diverse views in decision-making. *Two-way communication* is defined as bidirectional flows of information making actors both senders and receivers of information. Two-way communication is said to signal a shift toward a more collaborative process engaging and negotiating diverse views, as well as building connections across policy issues (IAP2, 2007; Nabatchi, 2012; Quick & Feldman, 2011). By examining the patterns of stakeholder attendance and a meeting's two-way communication, one can better understand how patterns of who attends a meeting (i.e., who is *at* the table) informs who communicates in the meeting (i.e., who is *actively participating* at the table). Additionally, by examining

meeting level factors, better insight into how patterns of meeting structure overlap with patterns of two-way communication can be offered to practitioners.

2.1 | Attendance factors and representation

To understand patterns in substantive representation through two-way communication, scholars point to several dynamics associated with stakeholder attendance. First, scholars identify differential participation across sectoral groups, as each group approaches collaboration from different perspectives (Innes & Gruber, 2005). Wondolleck and Yaffee (2000) explain government actors often see their role in collaborations narrowly often only offering their technical and regulatory expertise to citizens (Leach, 2006; Weible et al., 2004). Thus, even when government actors move from one-way to two-way communication, as discussed by Nabatchi (2012), they are expected to do so through narrow information exchanges with non-government actors. Furthermore, prior research has shown government actors tend to be over-represented when observing two-way communication across multiple meetings in collaborations (Carboni et al., 2017; Koski et al., 2018).

Proposition 1. *Due to government actors' focus on technical and regulatory expertise, government actors are expected to participate more frequently in two-way communication with citizen stakeholders and external participants rather than each other.*

Proposition 2. *Given the expected over-representation of government actors in collaborative fora, two-way communication is expected to increase as more government actors are in attendance.*

Second, collaborative governance arrangements often result in a council-in-a-council effect, where some members of the collaboration become core to its activities (Carboni et al., 2017; Koski et al., 2018). While core members engage consistently, literature suggests peripheral members selectively choose to engage based on the issue at hand (Weible, 2008; Zafonte & Sabatier, 2004). In this way, when sectoral groups are over-represented in attendance at a meeting, additional members might be peripheral to the core group selectively choosing when to engage in discussion based on their specific interests (Hula, 1999; Weible, 2008). The selective engagement of peripheral actors would result in decreases in two-way communication when attendance is high. Conversely, when sectoral groups are under-represented in attendance at a meeting, core members or topic-specific peripheral members are more likely to be missing from the discussion, also resulting in decreases in two-way communication.

Proposition 3. *As groups of actors are over- or under-represented in attendance, the two-way communication is expected to be lowest.*

2.2 | Meeting-level factors and representation

In addition to who is attending council meetings, collaborative governance literature suggests that meeting-level factors—such as presence of a facilitator, presentations by a technical expert or subcommittee, and retreat meetings—influence the communication of stakeholders. Furthermore meeting-level factors are of particular interest as they represent tangible means for practitioners to influence the collaborative process (Newig et al., 2018). First, scholars and practitioners often advocate for facilitation or mediation as a mechanism to foster substantive representation through communication (Emerson & Nabatchi, 2015; Newig et al., 2018; O'Leary et al., 2012). The presence of a facilitator at collaborative meetings is expected to increased communication (Newig et al., 2018), especially

when there is a power imbalance between stakeholders within or across meetings (Ansell & Gash, 2008; Dobbin & Lubell, 2021; Emerson & Nabatchi, 2015).

Proposition 4. *Greater two-way communication is expected when a facilitator is present at an EJ council meeting.*

Second, literature suggests the presentation of information from technical experts is expected to influence communication in collaborative arrangements. Expert-based information is distinguished from community-based information, as it is derived from scientific or technical methods (Adams, 2004; Weible, 2008). Across theories, expert-based information is used in different ways: (1) identifying problems and legitimizing political actions (Kingdon & Stano, 1984); (2) driving political change as conflicts are expanded and political interests are mobilized (Jones & Baumgartner, 2005); (3) spurring coalition learning while supporting arguments against opponents (Sabatier, 1987; Weible, 2008). Irrespective of specific means, a presentation of information from technical experts is expected to increase two-way communication as stakeholders at the meeting work to engage with, clarify, or even rebuke the information (Weible, 2008).

Proposition 5. *Greater two-way communication is expected when a technical expert presents at an EJ council meeting.*

Third, practitioners often use retreat meetings as a strategic means to engage members in more representative two-way communication (Kenty et al., 2010; Sirianni, 2010). Retreat meetings are often longer than a collaboration's normal meeting, which offers actors greater time and opportunity to engage. Furthermore, because retreat meetings are often linked to strategic planning for the group, the meetings are often associated with the principled engagement of actors focusing on issue discovery and deliberation across diverse actors (Emerson & Nabatchi, 2015).

Proposition 6. *Greater two-way communication is expected when the EJ council meeting is identified as a "retreat" meeting.*

Finally, the use of subcommittees is seen as a mechanism to shift two-way communication from the council as a whole to a subset of actors, as multiple rounds of iterative deliberation might occur before returning to the full council with recommendations (Bell & Scott, 2020). In this way, a brief conversation is held within the council when the recommendations are presented since a majority of the negotiation between relevant stakeholders has occurred outside of the main council meeting.

Proposition 7. *Less two-way communication is expected when a subcommittee of the council presents at an EJ council meeting.*

3 | STATE-LEVEL ENVIRONMENTAL JUSTICE COUNCILS

This research seeks to understand representation patterns among stakeholder groups in collaborative governance arrangements in the context of state mandated environmental justice councils in the United States (i.e., US). Environmental Justice (i.e., EJ) is defined by the US Environmental Protection Agency as "the fair treatment and meaningful involvement of all people regardless of race, color, faith, national origin, or income, in the development, implementation, and enforcement of environmental laws, regulations, and policies" (US EPA, 2021). Environmental justice councils (hereafter also called "EJ councils" or "councils") are venues in which citizens, government actors, non-governmental organizations, and other parties are convened to collectively advise on the design and implementation of EJ policies. These diverse actors are said to advise on social, scientific, policy, and other issues related to environmental justice.

Given the specific characteristics of EJ councils, they prove to be an appropriate case in which to evaluate the specific questions motivating this research. First, they are ideal for studying multiple dimensions of representation given EJ's orientation toward diverse inclusion in knowledge sharing, discussion, and decision-making. While these concepts are important to all collaborative governance arrangements, the orientation of diverse representation is particularly prevalent in the descriptive representation across council policies, yet it is unclear if diverse representation extends to substantive representation in these groups. Second, because EJ councils are mandated through a governing document, the permissions, constraints, and required frequency of meetings are formally identified. From a research design perspective, this allows for the assessment of the research questions across a set of generally comparable cases. Furthermore, despite these commonalities across composition, function, and design, the councils still vary along the focal concepts of this study, that is, across: substantive representation through attendance and substantive representation through two-way communication.

4 | DATA

4.1 | Sample selection and data collection

This study focuses on EJ councils publicly mandated at the state-level by the state's legislature—a focused sampling reflective of the comparative case study design of this study. EJ councils were identified through a keyword search through Google's incognito search in the fall of 2021. Each state was searched with the terms "environmental justice" as well as one of the following: "council," "commission," "advisory board," "task force," or "coalition"—all of which will be referred to as "EJ councils" or "councils" in this paper. The researcher identified four EJ councils established by state-level legislation. Of the four councils identified, California's council was excluded, as the data required for the analysis was not available to the researcher. The remaining three EJ councils are: (1) the Illinois Commission on Environmental Justice, (2) the Maryland Commission on Environmental Justice and Sustainable Communities, and (3) Oregon's Environmental Justice Task Force. Table 1 identifies the characteristics of each case.

First, each council is mandated by the state legislature to advise state government and its agencies regarding environmental justice and related community issues. Oregon's mandate additionally calls for public participation. The mandates identify a similar frequency of meetings per year and descriptive representation. Slight variation is identified in how the mandates orient engagement between the appointed citizens and the agency delegates. While the Maryland and Illinois councils are similar, calling for the coordination of all members to achieve the mandated goals of the councils, Oregon's council is structured so the government delegates report to appointed citizen members. Largely, these three cases are similar across key policy design attributes, thus, they offer an ideal sample to explore differences in council representation.

Three types of data were collected for each of the three EJ councils:

1. The *governing documents* mandating each of the councils were collected from state websites or third-party sources (Table A1 in Appendix A). The mandates were used to identify the number of members in the council and the descriptive representation of each position by sector (i.e., appointed citizen members and government delegates).
2. *Meeting minutes* from each council meeting since the council was established were collected from the council websites. Each set of meeting minutes was coded for the substantive representation in terms of a member's attendance and active participation. The process for coding these documents is described systematically below.
3. *Annual reports* for each year since the councils were established were collected from council websites. Because the annual reports identify the name of the individual and their position in the respective year, they serve as a link between the position the individual holds and the name reported in the meeting minutes.

When collected, the meeting minute documents were either in PDF or word processor format. The raw meeting minutes were converted to a tabular format using text mining and natural language processing software and through

TABLE 1 Comparisons of cases across key attributes.

	Illinois	Maryland	Oregon
Variables			
Year enacted	2013	2011	2008
Mandated charge	State Legislature	State Legislature	State Legislature
Oversight authority	Advise State government agencies	Advise State government agencies	Advise the Governor and natural resource agencies
Orientation	Environmental justice and related community issues	Environmental justice and related community issues	Environmental justice issues, including community concerns and public participation
Mandated structure			
Mandated frequency of meetings	At least four per year	At least six per year	At least four per year
Size of membership	20 members (24 after 2016)	20 members	26 members
Mandated dynamics	All members coordinate to achieve mandated goals	All members coordinate to achieve mandated goals	Agency delegates shall report to appointed citizen members
Descriptive representation	Similar: appointed citizen members and government delegates with engagement of external stakeholders		

manual processing and checking. This conversion transformed the data from a prose format to a tabular format where each row represented a single statement. A statement, in this study, is defined as an individual's comment as captured in the meeting minutes. There were two ways in which new statements were identified: (1) a single comment made by a person denoted by a new speaker in the minutes, and (2) when a single participant represented a substantial section of the meeting minutes, a new statement was identified by the return of a new paragraph. For each statement the following was identified: (1) who made the statement, (2) if the statement is identified as two-way communication (i.e., discussion, ask, or answer statements), and (3) who was the recipient of the statement. When the speaker of the statement was not clear, assignment was left blank (assigned statements: 98.8% Illinois council, 96.6% Maryland council, 96.9% Oregon council). An example of the tabular formatting of statements drawn from the Maryland council meeting minutes is included in Table 2. Furthermore, the councils' state, number of years in the study sample, number of meetings coded, and number of statements for all three cases are identified in Table 3.

Finally, for each meeting, a list of both council members and non-members attending the meeting was used to establish substantive representation through attendance. While multiple individual participants served as agency delegates across the study period, these individuals were aggregated into a single actor for each agency. Finally, all remaining actors unidentified as appointed citizen members or agency delegates were identified as external actors. Furthermore, for the Illinois and Maryland councils, state government representatives were coded as agency delegates throughout analysis to maintain consistency across all cases.

4.2 | Concept measurement and conceptual model

4.2.1 | Dependent variables

The level of engagement in communication was operationalized as the *proportion engaging in two-way communication* for each of the EJ meetings. Proportion engaging in two-way communication offers a relative measure of

TABLE 2 Example of the tabular formatting from the Maryland EJ council.

Participant	Statements	Type of statement				
		Discussion	Ask	Answer	Identified as two-way communication	Other participant referenced
Part. #1	Mentioned SB 234, the Health Enterprise Zones bill. This bill creates local health indicators, because of health disparities, to identify health enterprise zones, the goal and mechanism is to identify areas with disproportionately high health impacts that impact disadvantaged populations.	0	0	0	0	
Part. #2	Asked if the part of the purpose of this bill was to place green spaces and walking zones in areas that are developing.	0	1	0	1	Part. #1
Part. #1	Replied that the department was specifically looking at areas that had less access to health care	0	0	1	1	Part. #2
Part. #3	Added that the bill was structured in a way that would provide incentives to doctors to practice in shortage areas.	1	0	0	1	Part. #1
Part. #4	Concluded by saying that this topic and the topic of GIS would be great topics for discussion at the retreat	1	0	0	1	Part. #3

TABLE 3 EJ councils in study sample.

Council	State	Number of years	Meetings coded	Number of statements
1	Illinois	6	21	1218
2	Maryland	11	69	3811
3	Oregon	9	27	1830

communication given the number attending the meeting. For example, if 15 people attend a council meeting in total (i.e., across appointed citizens, agency delegates, and external stakeholders) and 10 people have at least one 2-way communication statement, then the proportion engaging in two-way communication is calculated as 0.67.

4.2.2 | Independent variables

Attendance factors

Attendance for appointed citizens, agency delegates, and external actors, measured at the meeting-level, are key independent variables in this study. Because each council is mandated to have a different mixture of appointed citizens and agency delegates, *normalized proportion of attendance by group*—which is conceptualized to capture the proportional mixture of appointed citizens, agency delegates, and external stakeholders attending a meeting relative to the descriptive representation of the council—must be used to compare attendance across the three councils. As such, the measure captures the difference between the substantive representation in attendance in a specific meeting compared to the descriptive representation identified in the mandates of each council.

To operationalize this attendance measure, the descriptive representation of the councils was identified through the governing document. As an example, the Illinois council is originally mandated to have 10 appointed citizens and 10 agency delegates. Because external non-members are not identified in the mandates but are represented at the meeting-level, the mean number of external actors across all meetings for each council is imputed to the nearest integer (i.e., 5.19–5 for Illinois, 5.21–5 for Maryland, and 4.04–4 for Oregon).

To construct *a normalized proportion of attendance*, the proportion for each actor group is calculated for each council given the imputed descriptive representation. For example, the Illinois council is calculated as 10/25 or 0.4 for appointed citizens, 10/25 or 0.4 government/agency delegates, and 5/25 or 0.2 for external stakeholders. Each meeting-level proportion is then normalized to the council's imputed descriptive representation. For instance, if 2 agency delegates, 10 appointed citizens, and 3 external stakeholders attend an Illinois council meeting, their normalized proportion of attendance by group is 0.33, 1.6, and 1 (see Table A2 in Appendix A). By normalizing to the council's imputed descriptive representation, the operationalization better captures the differences between who is attending relative to who is expected to attend.

Meeting level factors

The following *attributes of the meeting* variables were identified within the meeting minutes and coded in binary terms at the meeting-level: (1) presence of a *facilitator*, (2) *presentation by a technical expert*, (3) whether the meeting is a *council retreat meeting*, and (4) a *presentation by a subcommittee* during the meeting.

Context and control factors

Finally, additional documentation was consulted to identify context variables. First, state legislative calendars were consulted to identify when meetings occurred during the state's legislative session. Second, state archives were consulted to determine if the meeting was held in a *year following the election of a new governor*. In this study, all changes in governor, not only changes in political party, were identified as a change. These context factors are added to the model as controls, as active state legislative sessions and the changing of governors can be seen as opportunities or policy windows in which the collaborations can capitalize (Kingdon & Stano, 1984; Weible & Heikkila, 2017). In this way, one might expect communication in these fora to change respective to the absence or presence of policy windows.

Additionally, variables are added to the model to control for different participant dynamics within meetings. Literature suggests that larger groups offer less opportunity for individual actors to engage in substantive participation (Leach, 2006; Nabatchi, 2012; Nabatchi et al., 2015), thus the *share of mandated members attending* is included to control for group size at the meeting. To calculate *share of mandated members attending*, the number of mandated members (i.e., appointed citizens and agency delegates) in attendance at a given meeting is divided by the number of mandated members identified in the council's governing document, thus it is operationalized in relation to the expected number of members unique to each council.

Literature also suggests that repeated interactions in collaborative fora results in better intergroup relationships improving communication (Bryson et al., 2006; Emerson & Nabatchi, 2015; Ostrom, 1990). Thus, *average tenure of*

participants is conceptualized as a control variable that captures the familiarity of the group given prior experience with the council and its members. It is operationalized as the average number of prior council meetings those in attendance have attended. One might expect the measure to be collinear with time. Since the mixture of individuals attending meetings is not consistent and positions turnover, the average measure across the group does not suffer from time-collinearity problems.

The operationalization of variables is outlined in Table 4 and a conceptual figure is presented in Figure 1.

5 | ANALYSIS

OLS models are estimated to assess the patterns between attendance factors, meeting level factors, and two-way communication. Furthermore, a sectoral group's *normalized proportion of attendance* (i.e., across appointed citizens, agency delegates, and external stakeholders) is modeled individually in separate models as well as collectively in a robust model. The robust model includes the *normalized proportion of attendance* variable for appointed citizens and agency delegates while dropping external actors to address issues of multi-collinearity. For each sectoral group a linear model and a curvilinear model are estimated for the *normalized proportion of attendance by group* variable. The linear model suggests that any increase in *normalized proportion of attendance* by a group in a meeting would result in a constant increase or decrease in two-way communication. This is consistent with Proposition 2. In contrast, the curvilinear model (i.e., a model resulting in an up-side-down U-shaped curve) suggests a group that is over- or under-represented in attendance at a meeting will result in decreases in two-way communication—this is consistent with Proposition 3. By statistically comparing the fit of the linear and curvilinear models, the underlying communication dynamics can be examined.

In this analysis, the unit of analysis is at the meeting-level and the main variable of interest leverages the variation in the proportion of attendance across sectors at each meeting. A detailed discussion of the robust curvilinear model and its link to the stated propositions is outlined below.

$$pPart_i = \beta_1 + \gamma_1 npAtt_{iAPP} + \gamma_2 npAtt_{iAPP}{}^2 + \gamma_3 npAtt_{iDEL} + \gamma_4 npAtt_{iDEL}{}^2 + \theta_1 facil_i + \theta_2 tech_i + \theta_3 ret_i + \theta_4 sub_i + \delta_1 sMan_i + \delta_2 aTen_i + \alpha_1 legs_i + \alpha_2 gov_i + \varepsilon$$

where $pPart_i$ is the proportion of all participants engaging in two-way communication in meeting i and is the dependent variable used across all models, $npAtt_{iAPP}$ is the normalized proportion of attendance for appointed citizen members and $npAtt_{iDEL}$ is the normalized proportion of attendance for agency delegate members. $npAtt_{iAPP}$ and $npAtt_{iDEL}$ are evaluated as both linear and squared terms to examine the underlying communication dynamics identified in the previous paragraph. Second, the four meeting-level factors are included in the model representing: (1) the presence of a facilitator at the meeting (i.e., $facil_i$; Proposition 4), (2) a presentation by technical experts at the meeting (i.e., $tech_i$; Proposition 5), (3) the identification of the meetings as a retreat meeting (i.e., ret_i; Proposition 6), and (4) a presentation by subcommittees of the council (i.e., sub_i; Proposition 7). Finally, four controls are added to capture other dynamics influencing changes in two-way communication: (1) share of mandated members attending (i.e., $sMan_i$), (2) average tenure of participants (i.e., $aTen_i$), (3) the meeting occurred during the legislative session of the respective state (i.e., $legs_i$), and (4) the meeting occurred in a year following a new governor (i.e., gov_i).

6 | RESULTS

6.1 | Stakeholder participation in two-way communication

Table 5 offers a depiction of the average share of two-way communication by sector for each council. The share of two-way communication is more strongly concentrated to citizen members across all councils—Maryland: 0.541;

TABLE 4 Concept measures, definitions, and calculations.

Concept measures	Definitions	Calculations
Dependent variables		
Proportion engaging in two-way communication	The proportional difference between engaging in communication and the number stakeholders attending the meeting	$pPart_i = \frac{\#\text{of actors with} \geq 1 \text{ statement}}{\#\text{of actors attending}}$ given meeting *i*
Independent variables		
Attendance factors		
Normalized proportion of attendance by group	The proportional mixture of appointed citizens, agency delegates, and external stakeholders attending a meeting relative to the imputed descriptive representation of the council	$npAtt_{si} = \frac{\text{meeting proportion}_s}{\text{imputed descriptive rep.proportion}_s}$ given sector *s* given meeting *i*
Meeting level factors		
Facilitator present	A facilitator was identified in the meeting minutes	$facil = binary\ 1/0$ 1 facilitator present 0 facilitator absent
Presentation by technical expert	A technical expert reports to the council in the meeting minutes	$tech = binary\ 1/0$ 1 technical expert presentation 0 no technical expert presentation
Council retreat meeting	The meeting is identified as a retreat meeting in the meeting minutes	$ret = binary\ 1/0$ 1 retreat meeting 0 not retreat meeting
Presentation by subcommittees	A Subcommittees reports to the council in the meeting minutes	$sub = binary\ 1/0$ 1 subcommittee presentation 0 no subcommittee presentation
Context and controls		
Meeting during legislative session	Meeting occurred when state legislature was in session	$leg = binary\ 1/0$ 1 during state legislature's session 0 not during state legislature's session
Meeting in year following a new governor	Meeting occurred in a year following the election of a new governor	$gov = binary\ 1/0$ 1 a year after governor change 0 not a year after governor change
Share of mandated members attending	The proportion of mandated members attending a meeting relative to the number of positions mandated to the council	$sMan_i = \frac{\#\text{of mandated actors attending}}{\text{total\#of members in descriptive rep.}}$ given meeting *i*
Average tenure of participants	The average number of prior meetings attended by participants in attendance at a meeting	$aTen_i = \frac{\sum_1^n \text{prior meetings attended}}{\#\text{of actors attending}}$ given *n* actors attending given meeting *i*

Illinois: 0.665, and Oregon: 0.557. In the Maryland and Oregon councils, agency delegates represent a substantial share of two-way communication (MD: 0.359; OR: 0.338) with external stakeholders representing a minimal share (MD: 0.086; OR: 0.068). In the Illinois council, the share for both agency delegates (i.e., 0.096) and external stakeholders (i.e., 0.191) are substantially smaller than appointed citizens.

Because two-way communication is coded sequentially in the meeting minutes, this order of communication can be leveraged allowing for a better understanding of how individuals are engaging within and across sectors. Figure 2 represents the sequence of discussion, that is, what is the next sector to make a statement in a discussion sequence.

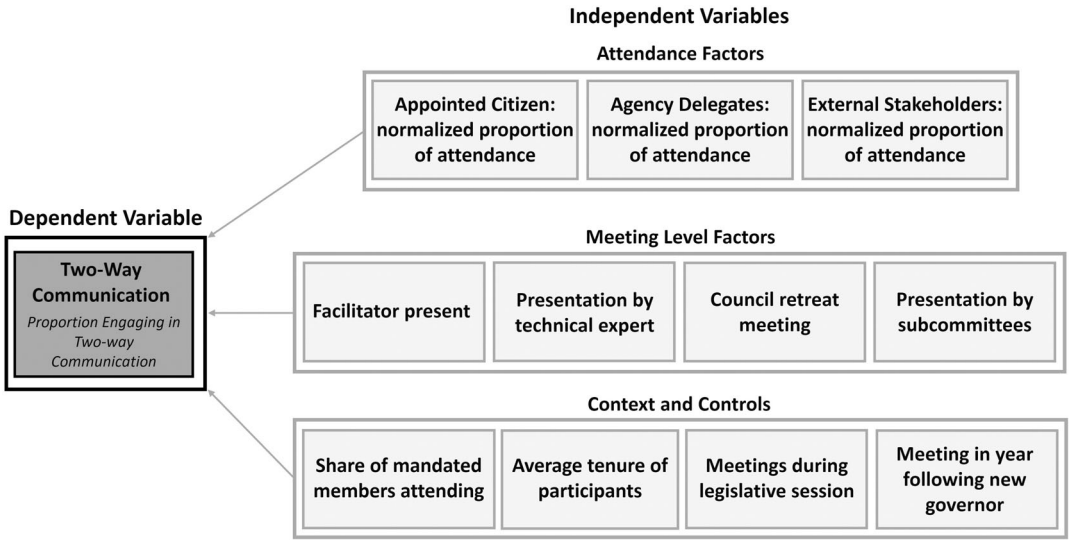

FIGURE 1 Conceptual model.

TABLE 5 Average share of two-way communication by sector.

	Two-way communication		
	Maryland	Illinois	Oregon
Appointed citizen	0.541	0.665	0.557
	(0.197)	(0.209)	(0.201)
Agency delegates	0.359	0.096	0.338
	(0.159)	(0.116)	(0.169)
External stakeholders	0.086	0.191	0.068
	(0.141)	(0.117)	(0.062)

Note: Parentheses represent standard deviation.

For example, the appointed citizen-agency delegate intersection for the Maryland council can be read as: given all two-way communication statements in the Maryland council, appointed citizens make 17.0% of their statements followed by a statement by an agency delegate. Figure 2 shows 80.6% of Illinois's discussion statements, 77.3% of Maryland's discussion statements, and 88.1% of Oregon's discussion statements involve an appointed citizen. Furthermore, there is consolidation toward the appointed citizen-appointed citizen intersection for the Illinois council (i.e., 47.6%). Outside of the appointed citizen-appointed citizen intersection, for the Maryland and Oregon councils, one can see a clear secondary overlap between appointed citizens and agency delegates with a decreased overlap at the agency delegates-agency delegates intersection.

6.2 | Patterns of communication

Table 6 depicts the proportion of stakeholders engaging in two-way communication. Furthermore, Table 6 only depicts the preferred model (i.e., the linear or curvilinear model) for each sector. The preferred model was identified

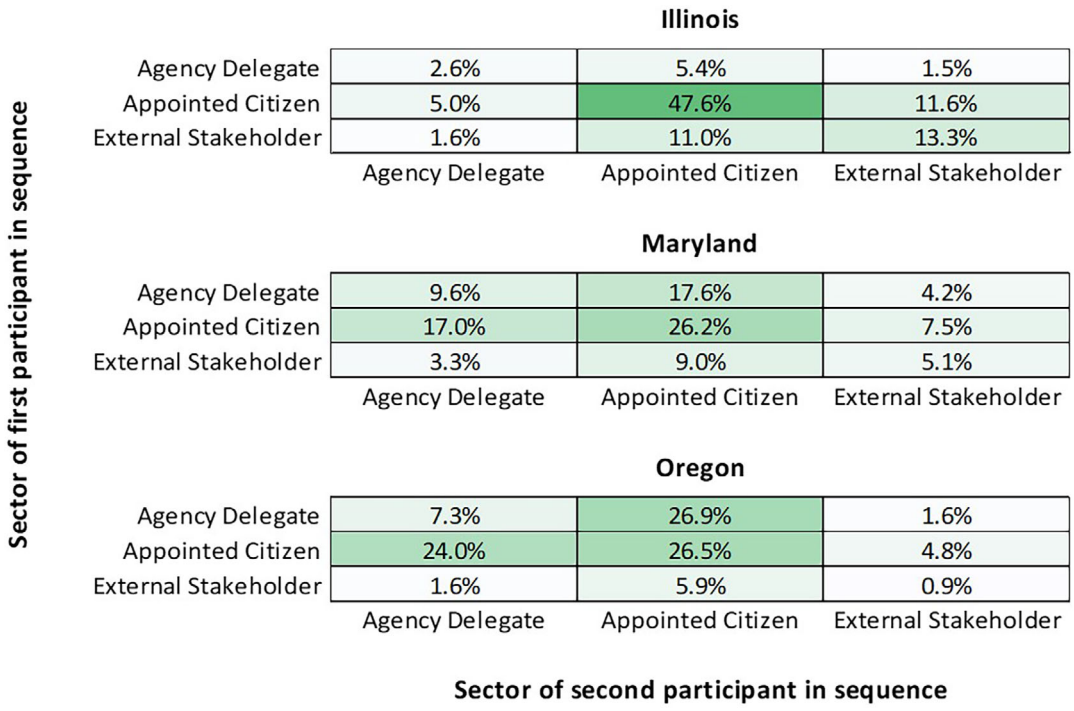

FIGURE 2 The sequences of two-way conversation by sector. The percentages within each council's heatmap add up to 100% representing all questions asked across the relevant meeting minutes. Deviations from 100% are due to rounding when truncating percentages for the figure. [Color figure can be viewed at wileyonlinelibrary.com]

using an *F*-test. If the *F*-test is statistically significant, the curvilinear model better explains the variation in the data than the linear model. In this way, the *F*-test allows for statistical evaluation of the communication dynamics represented by each model specification. For the full model results, please see Table A3 in Appendix A. Additionally given the complexity of modeling social interaction, each model is tested at a *p*-value of 0.10 in addition to the more traditional levels of 0.05, 0.01, and 0.001.

The appointed citizen model is the only one where the linear and squared terms of *normalized proportion of attendance* are statistically significant. The *F*-test shows the curvilinear model offers a statistically significant increase in explanatory power. For both the agency delegates and the external stakeholders, the statistical significance associated with the estimates of *normalized proportion of attendance* identify the linear models as more appropriate, thus different communication dynamic are suggested when comparing appointed citizens to the agency delegate and external stakeholder models. As depicted in Figure 3, the estimated relationship for appointed citizens is concave with a peak in the overall *normalized proportion of attendance* around 1.4, all else held equal, suggesting greater engagement in two-way communication in the meeting is observed when appointed citizens are slightly over-represented in attendance. Yet, decreased two-way communication in the meetings is observed when appointed citizens are both under- and further-over-represented in meeting attendance. Furthermore, agency delegates are associated with a 17.3% increase and external actors are associated with a 12.3% decrease in the proportion engaging in two-way communication in the meeting when their *normalized proportion of attendance* changes from 0 to 1.

In the robust model depicted in Table 6, the *F*-test suggests the curvilinear model for appointed citizens again offers a statistically significant amount of additional explanation. The robust model only includes a linear term for agency delegates' *normalized proportion of attendance* given the results of the agency delegate only model. For both

TABLE 6 Proportion engaging in two-way communication.

	APP Model 2	DEL Model 1	EXT Model 1	ROBUST Model 2
Intercept	0.180	0.525***	0.949***	0.112
Attendance factors				
Normalized proportion of attendance by group				
Appointed citizen members				
Linear	1.070***			0.939***
Square	−0.402**			−0.323**
Agency delegates				
Linear		0.173**		0.164**
Square				
External stakeholders				
Linear			−0.126***	
Square				
Meeting level factors				
Retreat	0.192**	0.191*	0.173*	0.190**
Facilitator	0.059	0.023	0.050	0.057
Technical expert	0.065	0.050	0.076φ	0.073φ
Subcommittees	−0.049	−0.091φ	−0.071	−0.063φ
Context characteristics	X	X	X	X
Council dummies	X	X	X	X
Fit statistics				
R^2	0.361	0.214	0.357	0.402
Adj-R^2	0.287	0.131	0.289	0.339
F-test	**			**

Note: The models presented here represent the linear or curvilinear model that best represents the data as determined by an *F*-test evaluation between the respective linear or curvilinear models. The significance of the *F*-test is reported in the Fit Statistics, and the full models are included in Table A3 in Appendix A. ROBUST Model 2 only includes a linear term for agency delegates given the results of DEL Model 1.

φ*p*-value < 0.1;

**p*-value < 0.05; ***p*-value < 0.01; ****p*-value < 0.001.

sectors, the statistical significance, magnitude, and sign of the attendance factors of the robust model are consistent with those of the single sector models.

In addition to attendance factors, meeting level factors can also be evaluated across each model. *Retreat meeting* is estimated to be both consistently positive and statistically significant across each of the models in Table 6. In the robust model, *retreat meeting* is estimated to have a 19.0% increase in the proportion engaging in two-way communication. In contrast, the presence of a facilitator is estimated to be statistically insignificant across all models. Finally, *presentation by technical expert* and *presentation by subcommittees* are statistically significant, but not across all models. While in the robust model, a *presentation by technical expert* is estimated to have a 7.3% increase in the proportion engaging in two-way communication, it is only statistically significant in one sectoral model—external stakeholders. Similarly, *presentation by subcommittees*, is statistically significant in the robust model—estimated to result in a 6.3% decrease in the proportion of participation, and in one sector model—agency delegates. This suggests

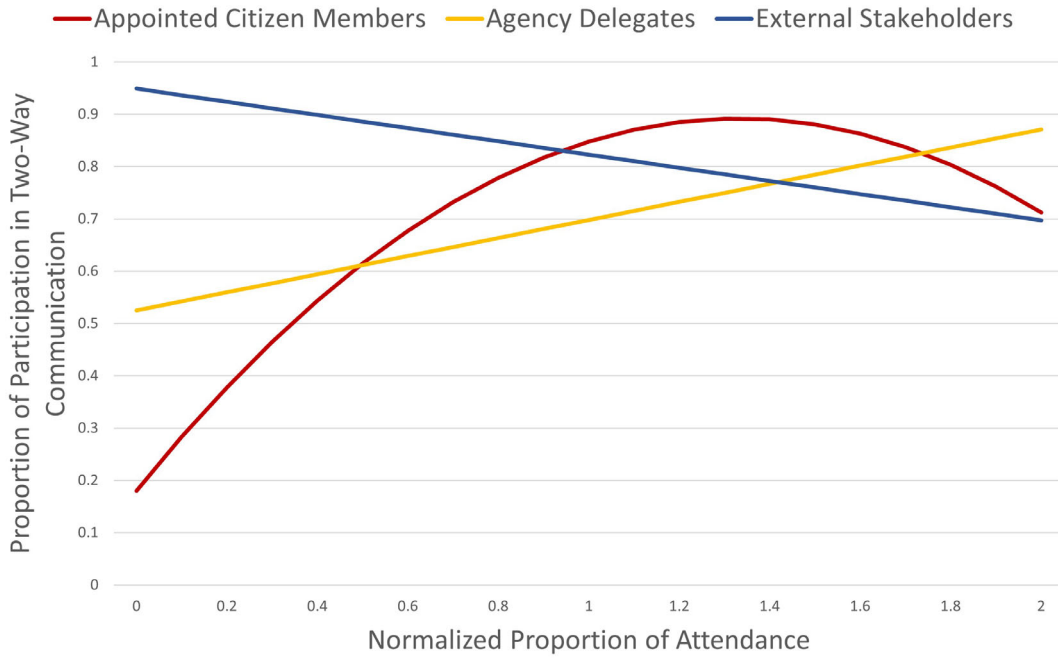

FIGURE 3 The proportion of participation in two-way communication given the normalized proportion of attendance by sector, all else held equal. [Color figure can be viewed at wileyonlinelibrary.com]

presentation by technical expert and *presentation by subcommittees* do associate with the proportion of actors engaging in two-way communication in a meeting, but these associations are sector specific and not universal as in *retreat meetings*.

7 | DISCUSSION

Through the discussion, three key findings will be offered. Within these key findings each of the seven propositions identified in the introduction will be discussed.

7.1 | Key Finding #1: Appointed citizens engage all actors, but agency delegates focus on appointed citizens

Table 5 shows agency delegates are engaging in two-way communication in Maryland (0.359) and Oregon (0.338), given the average share of statements, but to a lesser extent than appointed citizens (MD: 0.541; OR: 0.557), and to a far lesser extent in the Illinois council (Del: 0.096; App: 0.665). Furthermore, Table 5 shows a majority of the discussion pairs for agency delegates are with appointed citizens and rarely with other delegates or external stakeholders. This suggests that agency delegates are participating in a very specific way, as suggested by Proposition 1, where agency delegates are most frequently engaging with appointed citizens. This sector specific pattern is only seen in agency delegates. In contrast, appointed citizens are communicating broadly within and across other sectors. This result suggests different communication dynamics between agency delegates and appointed citizens and is

indicative of the expected exchange of technical and regulatory expertise from agency delegates to appointed citizens (Leach, 2006; Weible et al., 2004; Wondolleck & Yaffee, 2000).

7.2 | Key Finding #2: Differential communication patterns across groups

As outlined in Figure 3, each sector's change in *normalized proportion of attendance* is associated with different changes in two-way communication. The differing estimates of the linear and curvilinear models suggest different communication dynamics across sectors. As shown in Table 6, appointed citizens were the only sector whose curvilinear model had greater explanatory power over the linear model.

With respect to the paper's propositions, the statistically significant, linear, and positive trend associated with agency delegates supports Proposition 2—government actors will be proportionally over-represented in two-way communication (Carboni et al., 2017; Koski et al., 2016). Furthermore, the model suggests that irrespective of over- or under-representation in attendance, as the number of agency delegates increases, there is a constant increase in two-way communication. This, in conjunction with the results of Proposition 1, suggests that information is being exchanged between appointed citizens and agency delegates, and as more agency delegates attend the meeting, they are consistently being engaged in two-way communication. The results suggest that the technical and regulatory expertise of agency delegates, outlined by Wondolleck and Yaffee (2000) and others (Leach, 2006; Weible et al., 2004), is engaged through consistent rates of two-way communication when agency delegates attend the fora. Potentially, this is driven by the exchange of information from agency delegates to the core group of appointed citizens in the council, as outlined in Key Result #1. Stated differently, irrespective of low or high attendance of agency delegates in a meeting, an agency delegate is equally likely to engage in two-way communication, as they exchange their technical and regulatory expertise with this core group of appointed citizens.

In contrast to the results observed for agency delegates, only appointed citizens are represented by the curvilinear trend proposed by Proposition 3. While greater participation in a group is normatively desirable in collaborative arrangements, literature suggests two-way communication does not scale as a core group of stakeholders are responsible for a majority of council activity (Carboni et al., 2017; Koski et al., 2018). Given the concave curvilinear model, the results suggest that only appointed citizens are subject to this core-peripheral dynamic in these EJ councils. Thus, when appointed citizens are over-represented, peripheral members in attendance may not engage, given a dissociated interest in the current topic or since core members have already stated a similar viewpoint (Koski et al., 2018; Weible, 2008). This results in decreases in two-way communication given greater attendance by appointed citizens. Conversely, when appointed citizens are under-represented, one might expect core members or topic-specific peripheral members to be missing from the conversation, also resulting in decreases in two-way communication. Given this framing, the decrease in communication is not seen as the exclusion of willing participants but, rather, a outcome of a participant's opinion already being supported or the discussion not align with their policy interests (Carboni et al., 2017; Koski et al., 2018). More work is needed to examine if the curvilinear dynamic observed here are the result of the core-peripheral dynamics identified above or are the result of power dynamics that exclude actors from engaging in two-way communication (Agranoff & McGuire, 2001).

7.3 | Key Finding #3: Meeting-level factors are important for two-way communication—For specific groups

Across all regression models, the estimates for *retreat meeting* have both an economically and statistically significant estimate for the proportion of participants engaging in two-way communication. More specifically, in the robust model, retreat meetings were estimated to have a 19.0% increase in the proportion of stakeholders engaging in two-way communication. This result is in line with Proposition 6 and suggests longer meetings structured around the

engagement of members and non-members should be seen as a structural lever to increase relative communication across all sectors attending the EJ council meetings and more broadly in collaborative governance arrangements (Kenty et al., 2010; Sirianni, 2010).

Other meeting-level factors, such as presentations by technical experts (i.e., Proposition 5) and presentations by subcommittees (i.e., Proposition 7), have more nuanced associations with changes in the proportion of stakeholders engaging in two-way communication. Meetings with presentations by technical experts are estimated to have a statistically significant, 7.3% increase in the proportion of two-way communication in the robust model, but this estimate is only additionally significant in the external stakeholder model. Similarly, presentations by subcommittees are estimated to have a 6.3% decrease in the robust model and 9.1% decrease in the agency delegate model.

While the literature suggests expert-based information is expected to increase two-way communication as stakeholders use technical presentations to: (1) identify problems and legitimize political actions (Kingdon & Stano, 1984); (2) drive political change by mobilizing political interests (Jones & Baumgartner, 2005); and (3) learn while supporting arguments against opponents (Sabatier, 1987; Weible, 2008), these mechanisms are not fully supported. The increase in two-way communication is not associated with appointed citizens or agency delegates, who have a major share of total two-way communication across all councils. Furthermore, the proportional increase in external stakeholder model is greater than the increase represented by the technical experts themselves, suggesting presentations by technical experts also increase participation of other external stakeholders. This suggests presentations by technical experts can be used to influence the proportion of external stakeholders engaging in two-way communication.

Furthermore, Bell and Scott (2020) suggest presentations by a subcommittee might decrease the level of participation. Given the smaller group of actors, subcommittees might go through multiple rounds of iterative deliberation before returning to the full council with recommendations (Bell & Scott, 2020). In this way, a brief conversation is held within the council when the recommendations are presented, since most of the negotiation between relevant stakeholders has occurred outside of the main meeting. While one might expect this decrease to be observed across all stakeholders, the regression results suggest this decrease is consolidated to agency delegates. This further suggests agency delegates are mainly engaged as technical and regulatory experts. As technical and regulatory discussions occur outside of the main meeting, a decrease in agency delegate participation might be expected in the meeting itself. In contrast, irrespective of the external discussions, appointed citizens are observed to maintain the same level of discussion in the meeting.

Finally, the presence of a facilitator is not statistically significant in any model (i.e., Proposition 4). While a facilitator at collaborative meetings is expected to increase information exchange (Newig et al., 2018), especially when there is a power imbalance between stakeholders within or across meetings (Ansell & Gash, 2008; Dobbin & Lubell, 2021; Emerson & Nabatchi, 2015), this result is not observed in this study. These results support similar results from Dobbin and Lubell (2021), who suggest facilitation might be endogenous, as facilitators are brought in when power imbalances are understood to be worse, thus negating any measurable effects. Furthermore, while the presence of a facilitator is observed in this data, the study is unable to examine how they facilitated the meeting or how successful they were in addressing power imbalances. Therefore, more work is needed to better understand how the action of facilitation, rather than the presence of a facilitator, can influence representative communication.

8 | CONCLUSION

The results of this paper add nuance to the current discussions of representation in collaborative governance—particularly the procedural importance of representation, inasmuch as the results both identify the cross-sectoral dynamics of communication and information exchange (Ostrom, 1990; Sabatier & Weible, 2014), as well as meeting-level mechanisms for engaging stakeholders (Dobbin & Lubell, 2021; Leach, 2006; Lubell et al., 2009). While the results of this study add nuance to our understanding of representative communication across sectors, there are

three main limitations to this work. First, despite offering a comparison of 117 meetings across three different EJ councils, the sample is relatively small. Thus, the results identified above may not be generalizable to different fora. More work is needed to test the generalizability of these results given different policy issue areas and different contexts (e.g., mandated vs. non-mandated, local vs. state). Second, the author acknowledges a framing of representation, oriented on sectoral affiliation, does not engage a larger breadth of representation literature focused on race, gender, and intersectionality. While the importance of these factors is acknowledged, this information was not included in the meeting minute data from which this study is oriented, thus it could not be engaged in this analysis. Finally, when leveraging OLS models, the patterns of communication can be observed, but the perception and motives of the actors can be lost. While the work here highlights a more nuanced approach to examining the pattern of communication, future work leveraging qualitative methods is needed to examine the perceived influences and impact of two-way communication and the influence of sector as well as race, gender, and intersectionality.

The results of this study work to pull apart the patterns of two-way communication in public participation. Scholars advocate for the emphasis of discussion and deliberation through two-way communication where the public is involved in each aspect of decision-making (IAP2, 2007; Nabatchi, 2012). Therefore, not only is communication important for representation, but identifying the patterns associated with two-way communication is particularly important.

This study suggests there are different dynamics associated with two-way communication across appointed citizens, agency delegates, and external stakeholders. Particularly, the results depict agency delegates mainly engaging with appointed citizen members, which suggest government actors are communicating narrowly by advising on technical and regulatory matters (Leach, 2006; Weible et al., 2004; Wondolleck & Yaffee, 2000). Furthermore, the results suggest appointed citizens are the core members of these councils—representing a majority of total two-way communication and representing communication dynamics expected when core members emerge. While this appointed-citizen-centric dynamic might seem ideal, as these councils are promoted to include previously marginalized voices, it calls into question the representation and inclusive decision-making called for by EJ regulation in the US (Grafton et al., 2015; Ross et al., 2021). As governments and citizens increasingly face complex, environmental problems, inter-departmental knowledge alongside community knowledge will be increasingly needed. The differential dynamics of representation observed in this study should be further studied in relation to council output and outcomes to better understand the influences of more representative two-way communication over time (Young & Tanner, 2023).

Finally, the results of this study also shed light on the nuanced meeting-level mechanisms for engaging stakeholders. While other studies have suggested meeting structure as a means to address differential power between stakeholders (Ansell & Gash, 2008; Dobbin & Lubell, 2021; O'Leary et al., 2012), these mechanisms are nuanced in their influence. While these mechanisms should be further tested in other study samples and collaborative governance situations, the results suggest retreat meetings are broadly and positively influential on communication, whereas presentations by technical experts narrowly increases communication for external stakeholders and presentations by subcommittees narrowly reduces communication for agency delegates.

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CONFLICT OF INTEREST STATEMENT

I report no potential conflict of interest.

PEER REVIEW

The peer review history for this article is available at https://www.webofscience.com/api/gateway/wos/peer-review/10.1111/padm.12969.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available at the websites of each of the identified councils. These data were derived from the following resources available in the public domain: Illinois: https://www2.illinois.gov/epa/topics/environmental-justice/commission/Pages/meetings.aspx; Maryland: https://mde.maryland.gov/programs/crossmedia/EnvironmentalJustice/Pages/cejsc_pastmeetings.aspx; Oregon: https://www.oregon.gov/gov/policies/Pages/environmental-justice-council.aspx.

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APPENDIX A

TABLE A1 States included in the study sample, their EJ councils, and mandating documents.

State	Name of food policy council	Mandate type	Mandate citation
Illinois	Illinois Commission on Environmental Justice	State Legislation	415 ILCS 155/1
Maryland	Maryland Commission on Environmental Justice and Sustainable Communities	State Legislation	MD Env Code § 1–701
Oregon	Oregon's Environmental Justice Task Force	State Legislation	ORS 182.542

TABLE A2 Calculating normalized proportion of attendance by group.

	Imputed descriptive representation	Proportion of attendance by group (meeting-level)	Normalized proportion of attendance by group
Appointed citizen	10/25 = **0.40**	10/15 = **0.13**	0.13/0.4 = **0.33**
Agency delegate	10/25 = **0.40**	2/15 = **0.67**	0.67/0.4 = **1.68**
External stakeholder	5/25 = **0.20**	3/15 = **0.20**	0.2/0.2 = **1.00**

Note: The bold values represent the calculated values used in the analysis.

TABLE A3 Proportion participating in two-way communication.

	APP		DEL		EXT		ROBUST	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Intercept	0.428***	0.180	0.525***	0.460**	0.949***	0.906***	0.288**	0.112
Attendance factors								
Normalized proportion of attendance by group								
Appointed citizen members								
Linear	0.293***	1.070***					0.315***	0.939***
Square		−0.402**						−0.323**
Agency delegates								
Linear			0.173**	0.331			0.194***	0.164**
Square				−0.078				
External stakeholders								
Linear					−0.126***	0.005		
Square						−0.043φ		
Meeting level factors								
Retreat	0.200**	0.192**	0.191*	0.184*	0.173*	0.161*	0.196**	0.190**
Facilitator	0.082	0.059	0.023	0.027	0.050	0.055	0.076	0.057
Technical expert	0.066	0.065	0.050	0.054	0.076φ	0.071φ	0.075φ	0.073φ
Subcommittees	−0.061	−0.049	−0.091φ	−0.095	−0.071	−0.073φ	−0.074φ	−0.063φ
Context and controls								
During state legislative session	0.002	0.005	−0.031	−0.028	−0.027	−0.024		
Year following new Governor	−0.081	−0.079	−0.062	−0.060	−0.037	−0.021		
Share of mandated members attending	−0.467**	−0.622***	−0.436*	−0.455**	−0.573**	−0.602**	−0.534**	−0.646***
Average tenure	−0.003	−0.006	−0.005	−0.005	−0.008	−0.009φ	−0.008	−0.010φ
Council dummies								
Maryland (dropped)								
Illinois	−0.149*	−0.171**	−0.012	−0.011	−0.091	−0.104φ	−0.124*	−0.146*
Oregon	0.053	0.061	0.095	0.094	0.053	0.041	0.051	0.058
Fit statistics								
R^2	0.294	0.361	0.214	0.216	0.357	0.376	0.360	0.402
Adj-R^2	0.219	0.287	0.131	0.125	0.289	0.303	0.299	0.339
F-test		**						**

Note: Model 8 only includes a linear term for agency delegates given the results of EXT Model 1.
φ*p*-value < 0.1;
**p*-value < 0.05; ***p*-value < 0.01; ****p*-value < 0.001.