Friends You Can Trust: A Signaling Theory of Interest Group Litigation Before the U.S. Supreme Court

Lucia Manzi   Matthew E.K. Hall

How do interest groups influence U.S. Supreme Court justices to vote in favor of their preferred outcomes? Following prior research on the influence of the Solicitor General, we develop and expand on the signaling theory of interest group influence via amicus curie briefs. We argue that an interest group's ideological reputation and the nature of the ideological signal it sends in its brief both function as powerful heuristics that convey information to the justices depending on the justices' own ideological preferences. When an organization files an amicus brief advocating for an outcome seemingly contrary to its traditional preferences (i.e., an unexpected signal), this signal should be more noticeable and credible than a signal in accordance with a group's conventional views (i.e., an expected signal). However, unexpected signals should have greater influence on justices who share the brief filer's preferences. We test our signaling theory on the terms from 1991 through 2002. We find that unexpected signals (but not expected signals) are associated with Supreme Court voting, and the influence of unexpected signals appears to be particularly strong among justices who share the ideological preferences of the brief filer.

The rising number of amicus curiae briefs filed in the U.S. Supreme Court has attracted increased scholarly attention to the effect of interest group advocacy on the Court. The substantial and growing participation by amici suggests that interest groups believe these activities are influential, and empirical evidence suggests they might be right. Earlier research shows that Supreme Court justices rely so heavily on information in amicus briefs, that they often signal their need for these documents to interest groups (Hansford and Johnson 2014). Moreover, previous works have found that amicus briefs do not just influence the justices' final decisions on the merits of a case (Box-Steffensmeier et al.

2013; Collins et al. 2013, 2015), they also affect the justices' decision to hear a case in the first place, namely to "grant certiorari" to a legal case coming from a lower court[1] (Caldeira and Wright 1988; Owens and Black 2011). In addition, other studies suggest that amicus briefs may have a significant effect on the likelihood of dissenting opinions (Collins 2008a). Finally, the influence of amicus briefs appears to extend to all justices across the ideological spectrum (Collins 2008b). Nevertheless, the nature of their influence remains the topic of much disagreement among scholars. Why are amicus curiae briefs so influential? Do all interest groups stand the same chance of influencing all of the justices, or are some groups better positioned to influence certain justices in certain ways?

We address these questions by extending Baily, Kamoie, and Maltzman's (2005) signaling theory beyond the Solicitor General to all interest groups filing amicus curie briefs in the U.S. Supreme Court. Specifically, we argue that amicus participation functions as a heuristic signal: Every amici sends a signal to members of the court, which includes heuristics, or "mental shortcuts," based on the filer's ideological preferences in relation to the justice's preferences and the brief's ideological position on the case. These heuristic signals help the justices deal with the high number of amicus briefs by allowing them to quickly and easily identify credible information.

Consequently, an interest group's ability to influence a justice depends on the group's ideology, the justice's ideology, and the nature of the ideological signal sent by the group. Justices are particularly inclined to trust interest groups that share their ideological preferences and interest groups advocating outcomes contrary to their traditional ideological preferences. Amicus briefs should be especially likely to influence justices when both conditions are present; i.e., a justice and brief filer share ideological preferences and the brief filer sends an unexpected ideological signal. As a result, influential legal advocacy only partially depends on an interest group's inherent features (i.e., its ideology); amicus influence also depends on a specific litigation strategy (sending unexpected signals) and the nature of the signal receivers (the justice's ideology).

The U.S. Supreme Court offers an ideal venue to test our signaling theory of interest group influence for several reasons. First, the highly formalized and routinized process of amicus filing renders lobbying activities easy to observe and measure.

---

[1]   The U.S. Supreme Court chooses the cases it wants to hear. In order for a case to be accepted for review by the Supreme Court, a majority of justices has to vote in favor of accepting the case, or to "grant certiorari," in the legal jargon of the Supreme Court.

Second, brief filers must address all nine justices on the Court. This rule alleviates concerns about endogeneity and strategic targeting. Finally, the unique institutional environment of the Court minimizes the possibility that alternative elements drive the effectiveness of lobbying; life tenure eliminates electoral aspirations, which may be the driving force behind influence in other domains (Mayhew 1974).

Consistent with signaling theory, we find that an interest group's influence on a particular justice depends on the ideological proximity between the interest group and the justice: liberal (conservative) groups tend to have greater influence on liberal (conservative) justices. Additionally, interest groups tend to influence justices when they advocate for ideological outcomes that are counter to the filers' typical ideological leanings. That is, traditionally liberal (conservative) groups tend to exert the most influence when they advocate for conservative (liberal) outcomes. These findings suggest that effective amicus participation depends on the heuristic signals interest groups send in relation to the group's and the justices' ideological predispositions. Moreover, we find that many forms of amicus participation are not associated with the justices' decisions. This finding mitigates concerns related to causal identification and suggests that amicus activity actually influences the justices' voting behavior. Thus, our analyses support the conclusion that signaling theory explains the "pathway of persuasion" (Box-Steffensmeier et al. 2013: 456) from amici to justices on the U.S. Supreme Court.

The Limits of Persuasive Information

How do interest groups influence judicial decisionmaking? One possibility is that organizations provide substantive legal or policy information through their amicus briefs that alter the justices' views of a case. Amicus curiae briefs, or "friends of the court," represent the main means of communication between the U.S. Supreme Court and other government actors or civil society. These documents afford individuals, companies, organizations, government officials, and even foreign actors a chance to express their opinion about the constitutional issues at stake in a case. When a legal case reaches the Supreme Court for consideration, anyone with a manifest interest in its implications can petition the U.S. Supreme Court to file an amicus curiae brief. Oftentimes individuals or organizations file amicus briefs together, and therefore appear as cosigners to the same document. All amicus briefs must include the filer's name and a brief description of its identity, a brief statement of interest regarding the reasons why the

filer holds any stake in the Court's ruling, and a discussion of the constitutional issue under examination. Finally, the filer has an opportunity to argue for either affirming or overruling the lower court's decision. As a result, these documents provide relevant information about a ruling's legal and policy implications, which could significantly affect a justice's decision.

Scholarly research has pursued this perspective, known as the "informational hypothesis" (Collins 2004), since the earliest empirical studies on interest group participation (Galanter 1974; Harper and Etherington 1953). According to this theory, amicus influence depends on useful information: amicus briefs persuade justices by providing valuable information about the legal and policy implications of a case (Kearney and Merrill 2000; Songer and Sheehan 1993). Some scholars even suggest that arguments in amicus briefs can actually overcome a justice's ideological predisposition and persuade her to support an outcome contrary to her preferences (Collins 2008b; Kearney and Merrill 2000). Collins argues that amicus briefs are "persuasive communication in the simplest form," because the information they convey prevents the justices from forming contrary opinions: "[amicus briefs] limit the capacity of the justices to construct judgments supporting their preferences in the face of contrary information" (Collins 2008b: 114).

Early versions of the informational hypothesis assumed that all amicus briefs are equally persuasive forms of communication. However, some actors might enjoy additional advantages and, therefore, some amicus briefs may be more influential than others. For instance, recurrent amicus filers may choose particularly convincing arguments due to their expertise and familiarity with the justices (Kearney and Merrill 2000; McGuire 1998). The Solicitor General is the most emblematic repeat player, given his frequent interventions on Supreme Court cases as an amicus filer and special status as the representative of the federal government. The intervention of the Solicitor heavily influences whether the Court will grant certiorari in a case (Caldeira and Wright 1988; Owens and Black 2011) and how the court will decide the merits (Galanter 1974; Kearney and Merrill 2000; McGuire 1998; Spriggs and Wahlbeck 1997). Therefore, not all amicus filers are equally influential, and not all information is equally useful to the justices.

Moreover, the rising number of amicus briefs hinders persuasive communication. Lobbying attempts by specific interest groups call for counterlobbying by associations advocating opposed policy goals (Collins and Solowiej 2009; Hansford 2011). As a result, on average, the petitioner and respondent often find themselves supported by a similar number of amicus briefs

(Collins 2004). This dynamic implies that amicus participation is not driven by a priori considerations about the likelihood of a favorable decision by the court.[2] However, a further implication is that the court receives a huge amount of information in support of opposing legal arguments. As Hansford notes, "[p]resumably, this dynamic balancing of interest representation ought to result in a better informed, and perhaps more representative, policy making. However, it also implies that organized interests cannot expect to easily 'capture' the Court" (2011: 761).

In addition to the rising number of interest groups intervening in Supreme Court cases, the institutional framework of the court also hinders communication between interest groups and justices. The large number of amicus briefs in every case and the extensive workload that each legal controversy requires may thwart close scrutiny of the information provided by interest groups. Most law clerks working for the court admit to skimming most amicus briefs and only reading with care the most helpful ones. Moreover, some law clerks admit that justices read amicus briefs selectively, focusing their attention only on the those that passed the initial review by law clerks (Lynch 2004: 45). Therefore, despite the justices' lack of information about the policy and legal implications of a case (Bailey et al. 2005; Epstein and Knight 1998; Hansford and Johnson 2014; Maltzman et al. 2000), time constraints and the huge workload may prevent them from carefully examining all information in amicus briefs.

Under these conditions, justices should look for quick ways to select the most reliable sources of information. As the repeat player hypothesis shows, a brief filer's identity may be the first and most persuasive factor in the interaction between justices and interest groups. For this reason, studies on the informational hypothesis have started to take into consideration differences in status among organizations. Collins et al. (2015) find that justices tend to incorporate language in their opinions from amicus briefs by "elite" organizations, such as the American Civil Liberties Union (ACLU), the National Association for the Advancement of Colored People (NAACP), or the Washington Legal Foundation, among others. The "influence hypothesis" fully develops this intuition. Box-Steffensmeier et al. (2013) argue that justices scrutinize amicus briefs by high-status groups more carefully than others. An interest group's status in turn depends on its centrality within a network of several different associations (what the authors call an "amicus network"; Box-Steffensmeier et al. 2013:

---

[2] If this were the case, amicus briefs would mostly support the petitioner, who usually enjoys an advantage in terms of litigation success (Collins 2004: 821).

450). A central interest group holds particular power because of its capacity to link together several associations as cosigners to the same brief. The centrality of a brief filer is, in turn, an indication of the quality of the information in its amicus brief. Thus, regardless of its content, a brief's influence often depends on the identity of the party that filed it. The notion that the identity of the group sending a message may alter the message's influence is the foundation of signaling theory.

Signaling Theory

Signaling theory describes the conditions under which information can be credibly transmitted from a "sender" (e.g., a brief filer) to a "receiver" (e.g., a justice) based on two assumptions (Crawford and Sobel 1982; Li and Suen 2004). First, an asymmetry of information exists between the sender and the receiver, such that the sender has access to privately observed information. Second, the receiver recognizes that the sender may transmit inaccurate or incomplete information because the sender has distinct preferences from that of the receiver. As a result, signaling theory holds that a receiver considers the sender's preferences when evaluating the credibility of a signal.

In other words, a sender's identity functions as a heuristic. Heuristics are quick decision-making mechanisms that usually appear in psychological models based on the "peripheral route to persuasion" (Gigerenzer and Gaissmaier 2011; von Helversen and Rieskamp 2009). Whenever individuals are either unwilling or unable to systematically process information, they tend to rely on heuristics, or "mental shortcuts," to make their decisions. As Gigerenzer and Gaissmaier (2011) explain, "a heuristic is a strategy that ignores part of the information, with the goal of making decisions more quickly, frugally, and/or accurately than more complex methods" (454). Therefore, heuristics explain individual decisionmaking under constraints that render maximizing information very hard to achieve (Gigerenzer and Gaissmaier 2011). In the context of signaling, a sender's identity is a powerful heuristic that helps receivers identify credible information.

Signaling theory identifies two situations that facilitate credible communication; i.e., two heuristic signals that convey credibility to receivers. In the first situation, the sender and receiver are ideologically proximate to each other (Crawford and Sobel 1982). Because both actors share similar ideological preferences, the sender has little incentive to deceive the receiver; therefore, receivers tend to trust the accuracy of the signals from receivers with shared preferences. In the second situation, the sender

transmits a signal that is counter to his or her ideological predisposition (Calvert 1985). As Calvert explains, "a biased advisor recommending the alternative he was supposed to have been biased against is likely thereby to prevent the decision maker from making a relatively large error" (1985: 552).

Signaling theory is particularly well-suited to Supreme Court justices due to their institutional constraints. Given the sheer volume of legal documents submitted to the court in each case, it is very unlikely the justices will take the necessary time to carefully read and process the information in every amicus brief. As a consequence, they must rely on heuristics to decide which amicus filers offer the most reliable information. The same considerations apply to law clerks reading amicus briefs on behalf of the justices. As Lynch (2004) explains, law clerks learn to skim most, if not all, amicus briefs. As one law clerk reported to Lynch, "You could tell from the 'get-go' if [an amicus brief] would be useful" (2004: 44). Therefore, law clerks look for visible signs that might catch their attention immediately. Furthermore, some law clerks admit to paying special attention to who files the amicus brief (Lynch 2004). Thus, the identity of the amicus signer matters to law clerks skimming the huge number of legal documents filed in every case. In addition, some law clerks reported that, although completely independent in their decisions, justices tend to rely on their law clerks' initial review to identify the most useful contributions by amicus filers (Lynch 2004: 45). For this reason, heuristic signals from amici may similarly influence justices' and law clerks' considerations.

Prior research has applied signaling theory to the Solicitor General's participation in Supreme Court cases (Bailey et al. 2005) and to state advocacy at the agenda setting stage (Goelzhauser and Vouvalis 2015). However, each of the assumptions underlying signaling theory can be applied to amicus filers more generally. Members of the court necessarily act in an environment of incomplete information with regard to many aspects of the cases before them (Goelzhauser and Vouvalis 2015; Hansford and Johnson 2014). In contrast, brief filers often possess precious information about the legal and policy implications of potential decisions that the justices need in order to render decisions in line with their preferences (Bailey et al. 2005: 74–75). However, brief filers also have ideological preferences that may conflict with the justices' preferences, and the justices may consider the source of information when they evaluate the credibility of an amicus brief. Therefore, we extend signaling theory beyond its prior applications to interest group amicus activity more generally.

Importantly, our theory holds whether justices and clerks actually read amicus briefs or not. Justices may gain enough information to influence their vote simply by identifying which organizations stand with one party or the other. In particular, intervention by groups with shared policy preferences may establish strong prior beliefs in the justices' minds, especially when those groups advocate decisions that are contrary to their traditional preferences, and it may be difficult for the parties, clerks, or other justices to overcome these priors. Thus, amicus briefs may influence the justices' votes even if no one ever reads them. However, justices and clerks may also use heuristic signals to identify which briefs are worthy of careful consideration, read those briefs that appear credible, and then alter their votes based on the persuasive information in those briefs. In other words, signaling could be an alternative to or a necessary condition for the informational hypothesis, and both causal narratives yield similar empirical expectations and practical implications.

Unfortunately, our extension of signaling theory faces a common challenge to identifying these causal relationships. Amicus signals and justice votes may tend to correlate because both interest groups and justices respond in a similar fashion to unobserved characteristics of a case. If so, the associations between interest groups' heuristic signals and justices' votes may not indicate a causal relationship between amicus activity and judicial behavior. For example, both liberal groups and liberal justices may tend to support a liberal outcome when a set of case facts indicates that one verdict is clearly the liberal choice. Similarly, both liberal groups and liberal justices may support a seemingly conservative outcome when doing so actually advances liberal goals in some way. Despite this limitation, we believe our analysis is still valuable. Indeed, these causal identification problems plague every study of amicus activity on the court. Although we have not developed a solution to this problem, we believe that further exploration of exactly when and how amicus filings are associated with justice voting may help inform future studies and, ultimately, aid in addressing this causal identification problem.

Amicus Participation as a Heuristic Signal

Drawing on signaling theory, we expect the identity of a brief filer to shape the brief's influence on the justices' decisions because the filer's identity conveys a heuristic signal to the justices. A justice should be more likely to trust the credibility of an amicus brief under two conditions: (1) when the justice and the brief filer share similar ideological preferences and (2) when the

brief filer advocates an outcome seemingly contrary to its traditional ideological preferences (i.e., an unexpected signal). The first condition is fairly straightforward and intuitive: liberal (conservative) justices should tend to trust liberal (conservative) interest groups. However, the second condition—involving an unexpected signal—is more complicated.

Like the Solicitor General, interest groups sometimes file amicus briefs that appear contrary to their traditional ideological preferences. These unexpected signals may be particularly influential with the justices for four reasons. First, the group's surprising position on a case immediately captures the eye. Since interest groups are expected to support their traditional ideological views, supporting a seemingly contrary outcome may stand out in the minds of justices and clerks. In addition, this litigation strategy often implies that an interest group supports the same party as several ideologically divergent organizations and/or opposes ideologically proximate organizations. The result is often the formation of heterogeneous coalitions, which may draw special attention (Goelzhauser and Vouvalis 2015; Swenson 2016).[3] Therefore, heuristic signals may help justices and clerks manage their workload by focusing attention on certain briefs.

Second, the counterintuitive nature of these unexpected signals may enhance their credibility by implying that the signal is based on objective legal or factual criteria rather than any ideological bias. For example, if an extremely liberal (conservative) group advocates a conservative (liberal) outcome, the signal may appear more credible because it is unlikely that such a group would support such an outcome unless truly compelled to do so by objective factors.

Third, an unexpected signal may be more influential because it indicates the ideological extremity of a potential outcome. For example, if a liberal group supports a conservative ruling in a particular case, it may send a credible signal to the justices that a liberal decision in that case would set policy at an extremely liberal position—so extreme that it is too liberal for even the traditionally liberal interest group. A conservative group sending the same signal would be less credible because the conservative group opposes both moderate and extreme liberal outcomes.

Finally, the credibility of unexpected signals may stem from the complexity of their legal argument. As Fischman (2015) argues, legal cases often present questions along several different policy

---

[3]   In the Supporting Information, we empirically test whether our results are driven by heterogeneous coalitions rather than unexpected signals. We find no effect of heterogeneous coalitions, and all of our results are robust to controlling for the presence of heterogeneous coalitions.

dimensions. For this reason, interest groups may sometimes choose to support a ruling that seemingly runs counter to their ideological commitments, yet ultimately reflects their policy interests. Fischman (2015) uses the example of a case involving white collar crime to explain this situation. Ordinarily, business actors, such as the U.S. Chamber of Commerce, oppose defendants' rights. However, the Chamber of Commerce might take a pro-defendant stance if the defendant in a particular case is a business group in order to advance its pro-business policy interests. Therefore, a counterintuitive litigation strategy often results from a careful and complete consideration of all policy implications at stake in a case.

Two cases further illustrate this dynamic: *Troxel v. Granville* (2000) and *Florida v. J.L.* (2000). *Troxel* concerned a Washington State statute's significant limit to parental rights. The statute allowed state courts to grant anyone child visitation rights, if deemed in the child's best interest. In this case, lesbian, gay, bisexual, and transgender (LGBT) groups such as Lambda Legal Defense and Education Fund and Gay and Lesbian Advocates and Defenders advocated in favor of parental autonomy, which the Washington statute completely neglected, in relation to gay and lesbian couples' parental rights.[4] In the same case, conservative groups such as the Christian Legal Society and the National Association of Evangelicals put forth a very similar argument as the previously mentioned LGBT groups. Both conservative associations agreed on the unconstitutionality of the Washington State statute, given its blunt disregard for any form of parental autonomy.[5] While the LGBT groups' amicus brief focused on the need to grant lesbian and gay parents' equal autonomy as heterosexual parents, the conservative associations' amicus brief focused on parental autonomy as the necessary corollary to parents' right to educate their children without undue interference.[6] Thus, in *Troxel* liberal and conservative groups agreed on the unconstitutionality of the Washington statute for the same reason, although for the protection of different types of interests. The Supreme Court agreed with the argument supported by LGBT and Christian groups, and declared the Washington statute unconstitutional.

A similar dynamic can be observed in the case of *Florida v. J.L.* (2000), which concerned the right of law enforcement to "stop and

---

[4] *Troxel et vir. v. Granville*, 530 U.S. 57 (2000) Brief of Lambda Legal Defense and Education Fund and Gay and Lesbian Advocates and Defenders as Amici Curiae in Support of Respondent.

[5] *Troxel et vir. v. Granville*, 530 U.S. 57 (2000) Brief Amici Curiae of Christian Legal Society and the National Association of Evangelicals in Support of Respondent.

[6] *Troxel et vir. v. Granville*, 530 U.S. 57 (2000) Brief Amici Curiae of Christian Legal Society and the National Association of Evangelicals in Support of Respondent.

frisk" on the basis of an anonymous call about an individual carrying a gun, without any further evidence of dangerous conduct. Several liberal groups, including the ACLU, urged the court to declare the policy unconstitutional on the basis that it violated the Fourth Amendment.[7] However, a traditionally conservative organization, the National Rifle Association (NRA), also opposed the practice. The NRA intervened in the case to defend the right to bear arms. For this reason, this interest group supported the Florida Supreme Court's decision not to establish an exception to the unconstitutionality of the aforementioned practice when an individual was carrying a gun.[8] Therefore, although on very different ground than the one held by groups like the ACLU, the NRA sided with several liberal organizations in favor of the lower court's decision. Thus, the NRA's intervention indicated that the legal question cut across several policy issues in ways that did not align with traditional ideological divisions. The Supreme Court eventually affirmed the lower court's ruling, substantially in accordance with the arguments supported by the ACLU and the NRA.

Both of these cases exemplify instances in which interest groups take seemingly counterintuitive positions, which ultimately advance their policy preferences. These unexpected stances are particularly noticeable and, importantly, underscore the complex and potentially overlooked implications of the legal controversies at stake. More generally, these examples illustrate a point that distinguishes our application of the signaling theory from Bailey et al.'s (2005): we assume the policy space in a legal disagreement may be multidimensional rather than one-dimensional (Bailey et al. 2005: 74). This assumption underlies Fischman (2015)'s attempt to use interest groups in order to identify issue dimensions. Our purpose is less ambitious. We only highlight the possibility of multidimmensional policy space as one important mechanism which may explain why unexpected signals from amicus filers may be more influential than expressions of policy preferences in accordance with established expectations.

Hypotheses

We test three hypotheses stemming from the application of signaling theory to interest group amicus activity (see Bailey et al.

---

[7] *Florida v. J.L.*, 529 U.S. 266 (2000) Brief Amicus Curiae of the National Association of Criminal Defense Lawyers, the American Civil Liberties Unions, the American Civil Liberties Union of Florida, the Criminal Justice Policy Foundation, the Juvenile Law Center, the National Legal Aid and Defender Association, and the Southern Poverty Law Center, in Support of Respondent.

[8] *Florida v. J.L.*, 529 U.S. 266 (2000) Brief Amici Curiae of the National Rifle Association and Independence Institute in Support of Respondent.

2005). Our first hypothesis tests whether an interest group's ideological proximity to a justice affects that group's influence on the justice. In other words, we hypothesize that justices are inclined to trust information from groups that hold similar ideological preferences as their own.

> H1: The positive association between amicus signals and justice votes is stronger when the amicus filer is ideologically proximate to the justice; i.e., signals from liberal (conservative) groups have greater influence on liberal (conservative) justices.

Our second hypothesis tests whether an interest group's signal is more credible when it runs counter to its traditional ideological predispositions. We intentionally disregard the ideological distance between the justice and the interest group in this hypothesis in order to test whether unexpected signals generally appeal to justices regardless of their ideological preferences.

> H2: The positive association between amicus signals and justice votes is stronger when the amicus filer sends an unexpected signal; i.e., conservative (liberal) signals from liberal (conservative) groups have greater influence on the justices.

Our third hypothesis tests whether the influence of unexpected signals is moderated by a justice's ideological proximity to the interest group sending the signal. Interest groups advocating for rulings contrary to their expected preferences may appear particularly credible. However, justices with different ideological leanings may interpret those signal differently. We hypothesize that unexpected signals are especially credible for justices who share the ideology of the group sending the signal.

> H3: The positive association between amicus signals and justice votes is strongest when the interest group is ideologically proximate to the justice and the interest group sends an unexpected signal; i.e., conservative (liberal) signals from liberal (conservative) groups have greater influence on liberal (conservative) justices.

Measuring Interest Group Ideology

We argue that justices assess the credibility of an amicus filer based on both its general ideological predisposition and the party

it supports in the case. Therefore, we assume that an interest group's ideological predisposition is identifiable independently of its contingent stance on a specific case. For this reason, we code brief filers' ideology differently than in most studies of amicus activity. Most analyses equate brief filers' policy preferences with the type of outcome they support in their amicus briefs. Under this logic, brief filers advocating a liberal outcome to a case are coded as liberal groups, and brief filers advocating a conservative outcome are coded as conservative groups (Box-Steffensmeier et al. 2013; Collins 2007, 2008b). However, in order to test the role of heuristic signals, we need to move beyond this logic and classify brief filers according to their more general ideological identity. First of all, we focus on each interest group signing onto an amicus brief, whether it is a single-signer or one of many co-signers to the same amicus brief. Therefore, we code each amicus signer's ideology independently from the ruling the group supports in its amicus brief and any other groups that signed the same brief.

Unfortunately, current measures of interest group ideology are insufficient for our purposes. These measures are based either on interest groups' legislative ratings (McKay 2008) or on their political action committee (PAC) contributions (Bonica 2013, 2014). However, most of the organizations filing amicus briefs before the U.S. Supreme Court concentrate their resources solely on legal advocacy. As a result, these groups rarely invest in campaign contributions. In most cases, this is a strategic choice due to a lack of lobbying resources or access to other political forums (Epstein 1985). Those groups that do fund political campaigns and file amicus briefs usually create separate branches for legislative lobbying due to federal legislation (Epstein 1985). For instance, the ACLU runs these activities through two different corporate entities.[9] Moreover, very few of the organizations filing amicus briefs provide legislator ratings. The most notable ones that do are the ACLU and the Chamber of Commerce, but these two groups are not representative of the rest.

In the absence of readily available measures of interest group ideology for our study, we coded the ideological predispositions of organizations according to the information these groups provide about their lobbying activities. First, we collected data on all interest groups filing amicus curiae briefs on the merits during

---

[9] See American Civil Liberties Union (2017) "Giving to the American Civil Liberties Union and the American Civil Liberties Union Foundation: What is the Difference?," American Civil Liberties Union and American Civil Liberties Foundation, https://www.aclu.org/donating-american-civil-liberties-union-and-aclu-foundation-what-difference (accessed 30 March 2017).

the 1991 through 2002 terms from the Lexis Nexis database. We focused on this time period because it provided remarkable stability in Court membership; only 11 justices served during this 12-year period. All cases decided by the court during this time frame were included in the dataset, regardless of the manner in which the court took jurisdiction or the reasons for review. We then coded each interest group that signed onto each brief (including single-signers and cosigners) as liberal or conservative based on their general policy preferences.

We relied on several different online sources for our coding decisions. First, most interest groups provide clear statements about their mission, goals, activities, and membership directly on their web sites. For groups that did not have a web site, we relied on the descriptions the groups provided when signing the amicus brief. Each amicus brief must include a "statement of interest" explaining why its signers have a reason to make their voice heard on the specific case, and groups often provide a brief description of their main ideological commitments in their statements of interest. Finally, we sought information through online sources about groups' identity and activities other than these groups' websites.[10]

We coded interest groups as liberal or conservative depending on their positions on highly divisive policy issues. To this end, the current literature on polarization among political elites aided our coding efforts. Polarization has rendered specific policy preferences more easily recognizable in terms of political ideology (Adams 1997; Carmines and Stimson 1989; Layman 2001; Layman and Carsey 2002). Moreover, several of the issues that have become polarizing for political parties in Congress are the same issues on which the Supreme Court is routinely called to decide. Therefore, we assume that the same ideological divide between conservative and liberal political elites may be reflected in the positioning of interest groups on one side or the other of legal controversies. Although this assumption would require empirical testing, the broad body of literature on polarization strengthens its plausibility. Moreover, most studies of Supreme Court ideology assume that the liberal-conservative divide on the court mirrors

---

[10] For example, we could not find a website for the American Loggers Solidarity. Nevertheless, this group was listed as a "friend" organization by another interest group, the American Land "business interest Rights Association, on the following webpage: http://www.landrights.org/friends.htm. The webpage described the American Loggers Solidarity as "[r]epresenting people whose lives have been forever changed by application of laws that place the welfare of plants and animals above the welfare of families and communities and to educate the public in regards to natural resource issues." We therefore coded the American Loggers Solidarity as a property rights organization. American Land Rights Association, Friends' Links, http://www.landrights.org/friends.htm (accessed 30 March 2017).

ideological disagreement in the other branches of government (e.g., Segal and Spaeth 2002). Thus, we coded interest groups as liberal or conservative depending on their general stances on such divisive policy issues.

Our coding procedure followed three steps. First, all amicus signers were identified on the basis of their stated mission or status. A wide variety of actors file amicus briefs before the court. Amicus filers include individuals, government agencies and states, and interest groups with varied purposes, including private companies, trade associations, professional associations, and public interest groups. We coded each amicus signer according to its nature or purpose. For example, politicians were coded as "elected officials," incorporated business were coded as "corporations," and organizations such as the National Association of Criminal Defense Lawyers and Association of Trial Lawyers of America were coded as "legal interest groups." Similarly, organizations such as the Chamber of Commerce and the Business Roundtable were coded as "business interest groups." During the first round of coding, only a limited number of organizations were immediately identified as liberal or conservative. For instance, well known groups like the ACLU and the Pacific Legal Foundation were coded as "liberal public interest" and "conservative public interest," respectively. However, most groups were coded according to their main focus of interest. For instance, the NAACP was coded as a "minority interest group," and the National Organization of Women (NOW) was coded as a "women's rights group."

Second, we grouped these narrow group types into intermediate categories to reduce coder error. Thus, even if different coders assigned slightly different labels to the same organization, this mistake would not affect the group's broader classification. For instance, coders might have labeled the NAACP as "minority interest group" in some cases and as a "civil rights group" in others. However, both descriptions fall under the broader category of "liberal associations."

Third, we use some, but not all, of these intermediate categories to create the broad classifications for liberal and conservative groups. We exclude categories that do not include interest groups (e.g., "States and Local Government" and "individuals"). Table 1 reports which intermediate categories were combined to create variables for liberal and conservative amicus signers.

This approach to coding interest group ideology is obviously open to several challenges and limitations. For instance, some groups pose unique challenges to our coding effort given their multifaceted policy focus. In all of these cases, our coding relied on what seemed to be the most important policy dimension of interest to the organization. For instance, we usually coded bar

Table 1. Coding Interest Group Ideology

Conservative Groups	Liberal Groups
Business interest groups	*Liberal associations*
Business interest group	Civil rights
Corporation	Labor interest group
Conservative associations	Pro-choice group
Pro-family group	Pro-euthanasia
Anti-gay interest group	Legal advocacy
Anti-euthanasia	Grassroots organizing
Pro-life group	Secular group
Pro-gun group	Environmental group
Veterans interest group	Abortion provider
Agricultural interest group	Women rights
States rights	LGBT interest group
Anti-immigrant	Gun control
Property rights group	Child welfare
Industry	Animal rights
Retail industry	Civic interest
Sports industry	Human rights group
Technology industry	Homelessness advocacy
Computer industry	Minority interest group
Communication industry	Native American Group
Housing industry	Pro-immigration
Lumber industry	*Liberal public interest*
Precious metals industry	Liberal public interest
Conservative public interest	Labor union
Conservative public interest	Consumer advocacy
Anti-union group	*Media*
White supremacy	Media trade group
Tax policy interest group	Media interest group
Financial interest groups	Media
Financial interest group	*Legal interest group*
Bank	Legal interest group
Creditor	Bar association
Group self-insurance facility	
Protection and indemnity clubs	
Law enforcement interest groups	
Law enforcement interest group	
Police group	
Military interest group	
Military interest group	
Military group	
Trade associations	
Trade association	
Natural resources trade association	
Transportation interest group	
Marketing interest group	

   Table reports categories of amici that were combined to create variables for liberal and conservative amicus signers.

associations simply as "bar associations." However, we coded the National Hispanic Bar Association as a "minority interest group," given its particular focus on the Latino community. Similarly, we coded local chambers of commerce as "business interest groups." Yet we decided to code the National Black Chamber of Commerce as a "minority interest group" due to its focus on empowering African-American communities. We are aware of the limitations and subjectivity inherent in this coding process. Nevertheless, other recent studies have pursued similar approaches with good results (Swenson 2016). Moreover, a measure of interest group

ideology independent of the group's position on a case is necessary in order to test our signaling theory. Therefore, we offer our coding scheme as the best available approach given current data limitations.

After coding each organization on the basis of its ideological preferences, we also classified brief filers according to the ideological direction of the ruling they supported in each case. We did so by identifying whether brief filers supported the petitioner or the respondent to a case. We then combined this information with data on the ideological direction of the Supreme Court's ruling and the winning party in the case from the Supreme Court Database.[11] This coding procedure allowed us to identify expected signals—liberal (conservative) amicus signers supporting a liberal (conservative) ruling—and unexpected signals—liberal (conservative) amicus signers supporting a conservative (liberal) ruling. Consequently, our coding of expected and unexpected signals is dependent on Spaeth's coding for the ideological direction of each Supreme Court decision.[12] The end result of our coding procedure is the creation of eight variables, summarized in Table 2, which we use to test the influence of ideological signals on justices' decisionmaking.

Modeling Amicus Signaling on the Supreme Court

We test our signaling theory of amicus influence by examining the relationship between amicus activity and the votes of U.S. Supreme Court justices during the 1991 through 2002 terms ($N = 9$; 851). The dependent variable in our analyses is the ideological direction of each justice's vote in each case based on the Supreme Court Database (1 = liberal; 0 = conservative). We analyze the data using a multilevel logistic regression with random intercepts for justice and a series of dummy variables for each term to account for possible interdependence among votes by the same justice and potential temporal dependence (Beck et al. 1998). This approach is functionally equivalent to a traditional duration analysis and offers clearer interpretation.[13]

---

[11] This latter classification reflects the traditional way in which the literature identifies liberal versus conservative amicus briefs and their filers (Box-Steffensmeier et al. 2013; Collins 2007, 2008b).

[12] Spaeth's coding for the ideological nature of each Supreme Court's ruling is thoroughly explained in the Supreme Court Database codebook (Spaeth et al. 2013).

[13] Logit models with crossed random effects for justice and term, cubic polynomials (Carter and Sigorino 2010), and cubic splines (Beck et al. 1998) all yield substantively indistinguishable results.

Table 2. Variables for Ideological Signals

Name of Variables	Ideological Signals
Net liberal signals from liberal groups	Number of signals by liberal groups in favor of a conservative outcome subtracted from the number of signals by liberal groups in favor of a liberal outcome in each case
Net liberal signals from conservative groups	Number of signals by conservative groups in favor of a conservative outcome subtracted from the number of signals by conservative groups in favor of a liberal outcome in each case
Net expected liberal signals	Number of signals by conservative groups in favor of a conservative outcome subtracted from the number of signals by liberal groups in favor of a liberal outcome in each case
Net unexpected liberal signals	Number of signals by liberal groups in favor of a conservative outcome subtracted from the number of signals by conservative groups in favor of a liberal outcome in each case
Liberal signals from conservative groups	Number of liberal signals by conservative groups in each case
Liberal signals from liberal groups	Number of liberal signals by liberal groups in each case
Conservative signals from conservative groups	Number of conservative signals from conservative groups in each case
Conservative signals from liberal groups	Number of conservative signals from liberal groups in each case

The primary independent variables in our analyses are heuristic signals based on interest group ideology and the ruling the groups advocate in each case. Below we describe the specific independent variables we use to test our three hypotheses. Each measure of amicus-signer activity is a logistic transformation of the number of amicus signers in each category.[14] This operationalization allows for a nonlinear relationship between amicus signers and justice votes; however, the results reported below are generally robust without the transformation.

We also include several control variables that are widely used in the literature on Supreme Court decisionmaking. First, we include Martin and Quinn scores (2002) as a measure of each justice's ideology.[15] The use of this variable for justice ideology provides a conservative test for the effect of amicus briefs on each justice's vote because the scores themselves are based on the justices' voting behavior. As a result, these scores should explain most variation in the justices' decisionmaking. Next, we include a dichotomous indicator for the ideological direction of the lower court's decision (1 = liberal; 0 = conservative) to control for the Supreme Court's tendency to reverse lower courts decisions.

---

[14] Specifically, transformed signals $= 1/(1 + \exp(-\text{signals}_c/2)) - .5$, where signals indicates the number of each signal type in each case c.

[15] We utilize the most recent version of these scores released in 2016.

Table 3. Descriptive Statistics

	Mean	s.d.	Min.	Max.
Liberal justice vote	0.46	0.50	0.00	1.00
Justice liberalism	−0.55	2.01	−3.86	3.37
Net liberal signals from liberal groups	2.25	10.62	−70.00	172.00
Net liberal signals from conservative groups	−0.70	5.81	−43.00	71.00
Net unexpected liberal signals	0.36	5.44	−59.00	81.00
Net expected liberal signals	1.19	9.49	−32.00	166.00
Liberal signals from liberal groups	2.98	10.02	0.00	173.00
Liberal signals from conservative groups	1.09	4.43	0.00	81.00
Conservative signals from conservative groups	1.78	4.33	0.00	43.00
Conservative signals from liberal groups	0.73	3.79	0.00	70.00
Liberal Solicitor General	0.12	0.32	0.00	1.00
Conservative Solicitor General	0.13	0.33	0.00	1.00
Liberal lower-court decision	0.48	0.50	0.00	1.00

Table reports descriptive statistics.

Finally, we include two dichotomous indicators reflecting the intervention of the Solicitor General as an amicus: Liberal Solicitor General and Conservative Solicitor General. Both variables take on the value of 1 if the solicitor filed a brief in the indicated ideological direction, and 0 otherwise. Table 3 presents descriptive statistics for the data used in our analyses.

In the Supporting Information, we conduct several supplementary analyses (focusing on Model 2 in Table 4) to test the potentially confounding influences of several other variables, including ideologically heterogeneous cosigners on the same briefs, ideologically heterogeneous filers in the same coalition, high-profile interest groups, case complexity, and issue areas. Though unrelated to our theoretical expectations, some of these models suggest interesting avenues for future research. For example, high-profile groups appear to influence justice votes whether they send expected or unexpected signals, suggesting these groups are viewed as credible regardless of other factors. Additionally, expected signals may be influential in cases with low complexity, but counterproductive in cases with high complexity. Nonetheless, our primary findings are robust to the inclusion of these control variables: unexpected signals always have stronger influence on the justices' votes than expected signals.

When discussing our theory, we pointed out the causal identification problems that might undermine our analysis. However, our results are interesting both due to the associations we identify and, importantly, those we do not. If interest groups and justices are both responding to the same stimuli, these patterns should emerge across situations. However, we find that a great deal of amicus activity is actually not associated with justice voting. These results indicate that amici and justices are not merely responding to the same stimuli in the same manner or, if they are, for some reason this pattern emerges only in certain types of cases. Given

Table 4. Interest Group Influence on Supreme Court Decisionmaking

	(1)	(2)	(3)	
Justice liberalism	0.14* (0.01)	0.18* (0.01)	0.18* (0.01)	0.15* (0.01)
Net liberal signals from liberal groups	0.24* (0.07)			
Net liberal signals from liberal groups × justice liberalism	0.29* (0.03)			
Net liberal signals from conservative groups	0.13* (0.07)			
Net liberal signals from conservative groups × justice libera	−0.11* (0.03)			
Net expected liberal signals		0.00 (0.06)		
Net unexpected liberal signals		0.57* (0.08)		
Liberal signals from liberal groups			0.08 (0.08)	0.25* (0.09)
Liberal signals from liberal groups × justice liberalism				0.36* (0.04)
Liberal signals from conservative groups			0.70* (0.10)	0.57* (0.11)
Liberal signals from conservative groups × justice liberalism				−0.25* (0.05)
Conservative signals from conservative groups			−0.00 (0.09)	0.02 (0.09)
Conservative signals from conservative groups × justice liber				0.06 (0.04)
Conservative signals from liberal groups			−0.39* (0.13)	−0.46* (0.14)
Conservative signals from liberal groups × justice liberalism				−0.16* (0.07)
Liberal Solicitor General	0.46* (0.04)	0.43* (0.04)	0.42* (0.04	0.43* (0.04)
Conservative Solicitor General	−0.27* (0.04)	−0.28* (0.04)	−0.28* (0.04)	−0.28* (0.04)
Liberal lower-court decision	−0.51* (0.03)	−0.51* (0.03)	−0.52* (0.03)	−0.53* (0.03)
Constant	0.39* (0.05)	0.41* (0.05)	0.39* (0.05)	0.37* (0.05)
N	9,851	9,851	9,851	9,851
Log likelihood	−6,058.60	−6,093.13	−6,093.28	−6,034.58
Wald χ^2	917.35	859.28	858.43	958.50
BIC	12,310.30	12,360.97	12,379.67	12,299.05

Table reports the results of multilevel logistic regression models of decisionmaking by justices on the U.S. Supreme Court with random intercepts for justice. Term dummy variables omitted for presentation purposes.

*$p < 0.05$ (two-tailed test): standard errors in parentheses.

that the pattern that emerges closely fit our empirical expectations, we conclude that our analyses provide strong support for our signaling theory.

Results

Table 4 reports the results of our multilevel logistic regression models. All of the control variables perform as expected in each of the models. Justices are more likely to cast a liberal vote when their ideology scores are more liberal or the Solicitor General supports a liberal outcome; justices are less likely to cast a liberal vote when the lower-court decision was in a liberal direction or

the Solicitor General supports a conservative outcome. Most importantly, the results also confirm our theoretical expectations with regard to amicus signaling.

We begin by testing whether the influence of amicus briefs on justices' votes depends on the ideological proximity between the justice and the group filing the brief (H1). We calculate Net Liberal Signals from Conservative Groups in each case as the number of signals sent by conservative groups advocating a conservative outcome subtracted from the number of signals sent by conservative groups advocating a liberal outcome. We calculate Net Liberal Signals from Liberal Groups in each case as the number of signals sent by liberal groups advocating a conservative outcome subtracted from the number of signals sent by liberal groups advocating a liberal outcome. We then perform the logistic transformation on these variables. We interact these variables with Justice Liberalism to test our hypothesis that amicus signals are more persuasive when the group sending the signal is ideologically proximate to the justice.

The first model in Table 4 tests the influence of amicus signals based on the ideological proximity of the group filing the brief to the justice casting the vote. The coefficients for net liberal signals from both conservative and liberal groups, as well as their interactions with Justice Liberalism, are all statistically significant and signed in the expected directions. Figure 1 illustrates the conditional marginal effects of increasing each signal type from 0 to 1 s.d. above zero on the probability of a liberal vote by justices of different ideologies, holding all other variables constant at their means. Net Liberal Signals from Conservative Groups are associated with more liberal voting by conservative justices; yet, these signals have no effect on liberal justices. Net Liberal Signals from Liberal Groups are associated with more liberal voting by liberal justices; however, these signals appear to have the opposite effect on conservative justices. These results confirm H1: Supreme Court decisionmaking is positively associated with amicus signals from ideologically proximate brief filers.

Next, we test whether the influence of amicus signals on justices' votes depends on whether the interest group sends an unexpected signal; i.e., whether a liberal (conservative) group advocates for a conservative (liberal) outcome (H2). We calculate Net Expected Liberal Signals in each case as the number of signals sent by conservative groups advocating a conservative outcome subtracted from the number of signals sent by liberal groups advocating a liberal outcome. We calculate Net Unexpected Liberal Signals in each case as the number of signals sent by liberal groups advocating a conservative outcome subtracted from the number of signals sent by
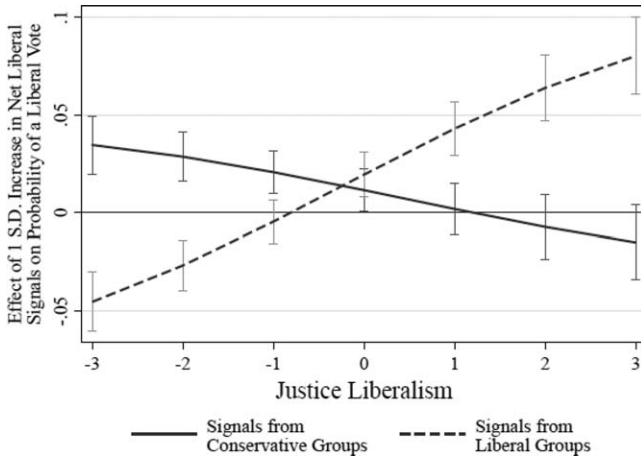
Figure 1. Effects of Net Liberal Amici Signals on Justice Voting by Brief Filer's Ideological Pre-Disposition and Justice Ideology.
Note: **Figure presents the conditional marginal effects of a 1 s.d. increase in Net Liberal Signals from Conservative Groups and Net Liberal Signals from Liberal Groups as Justice Liberalism increases from its minimum to its maximum with 95% confidence intervals. Conditional marginal effects are calculated based on the first model in Table 4.**

conservative groups advocating a liberal outcome. We then perform the logistic transformation on these variables.

The second model in Table 4 tests the influence of expected versus unexpected amicus signals. Consistent with H2, the influence of unexpected signals appears to be significantly and substantially larger than the effect of expected signals. In fact, Net Expected Liberal Signals is not significantly associated with Supreme Court voting, and the coefficient on the variable is close to zero. In contrast, increasing from zero to five unexpected signals (a 1 s.d. increase; or from 0 to 0.42 after the logistic transformation), increases the odds of a liberal vote from 0.45 to 0.55. In short, unexpected amicus signals are strongly associated with Supreme Court voting behavior; expected signals are not associated with the justices' voting behavior.

As an additional test of H2, we break down expected and unexpected signals based on the ideology of the groups sending the signals, creating four different variables: Liberal Signals from Liberal Groups and Conservative Signals from Conservative Groups (i.e., the expected signals), as well as Liberal Signals from Conservative Groups and Conservative Signals from Liberal Groups (the unexpected signals). Once again, we perform the logistic transformation on these variables. The third model in Table 4 tests the influence of each signal type, and Figure 2 presents the conditional marginal effects of increasing each signal
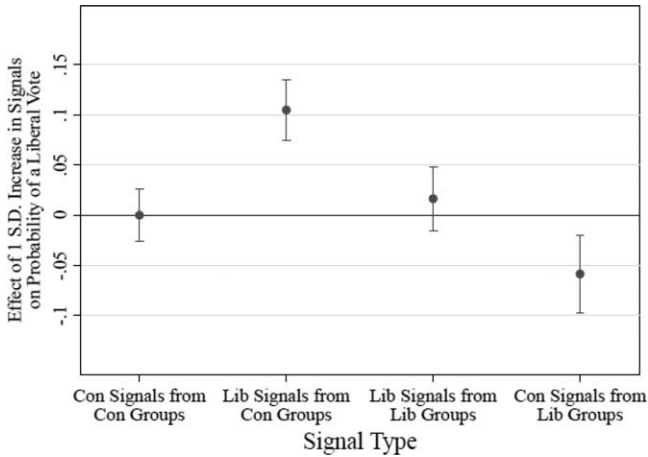
Figure 2. Effects of Amici Signals on Justice Voting by Signal Credibility.
Note: **Figure presents the conditional marginal effects of increasing liberal and conservative signals from liberal and conservative groups from 0 to 1 s.d. above 0 with 95% confidence intervals. Conditional marginal effects are calculated based on the third model in Table 4.**

type from 0 to 1 s.d. above zero on the predicted probability of a justice casting a liberal vote, holding all other variables constant at their means. Conservative Signals from Conservative Groups are not significantly associated with justice voting, but Conservative Signals from Liberal Groups are negatively and significantly associated with liberal voting. Similarly, Liberal Signals from Liberal Groups are not significantly associated with liberal voting, while Liberal Signals from Conservative Groups are positively and significantly associated with liberal voting. In other words, on average, both conservative and liberal groups only influence justice voting when they issue unexpected signals.

The last model in Table 4 examines the influence of amicus signals based on the type of signals sent, the ideological predisposition of the interest groups sending the signals, and the ideology of the justice receiving the signals (H3). This model includes the separate measures of liberal and conservative signals from liberal and conservative groups interacted with Justice Liberalism. Figure 3 presents the conditional marginal effects of increasing each signal type from 0 to 1 s.d. above zero on the predicted probability of a justice casting a liberal vote, holding all other variables constant at their means. As expected, the coefficients for unexpected signals (Liberal Signals from Conservative Groups and Conservative Signals from Liberal Groups) and their interactions with Justice Liberalism are all statistically significant and signed in the expected directions. These results suggest that unexpected signals influence justices, but this influence is moderated by the
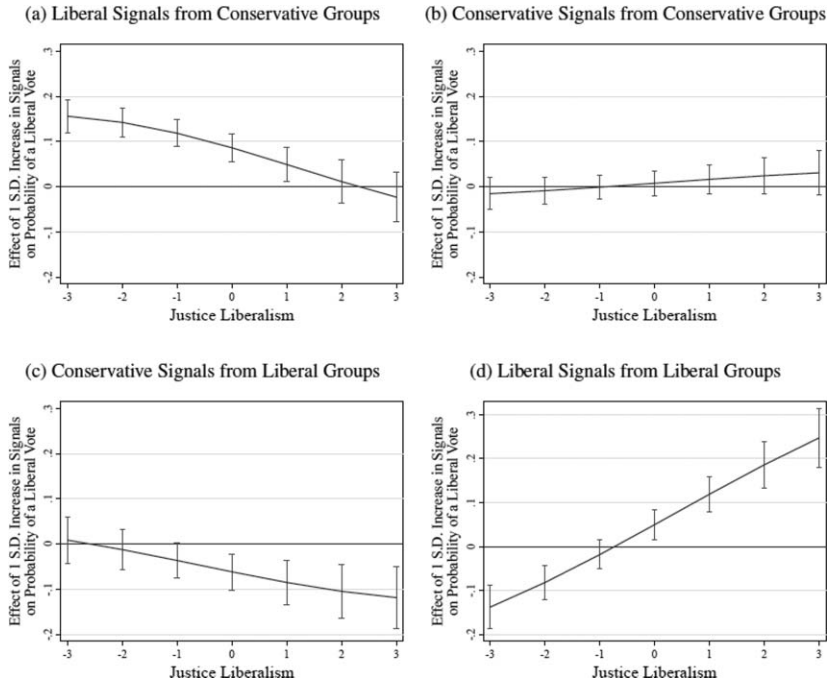
Figure 3. Effects of Amicus Briefs on Justice Voting by Interest Group and Justice Ideology.
Note: **Figure presents the conditional marginal effects of increasing each signal type from 0 to 1 s.d. above zero as Justice Liberalism increases from its minimum to its maximum with 95% confidence intervals. Conditional marginal effects are calculated based on the fourth model in Table 4 holding all other variables constant at their means.**

justices' ideology. Also as expected, the coefficients for one type of expected signal (Conservative Signals from Conservative Groups) and its interaction with Justice liberalism are not statistically significant, indicating that this type of expected signal does not influence justices, regardless of their ideology. However, contrary to expectations, the coefficients for the other type of expected signal (Liberal Signals from Liberal Groups) and its interaction with Justice Liberalism are both statistically significant. Because interaction terms are often difficult to interpret, we present marginal effects for these variables in Figure 3.

Figure 3a presents the effects of unexpected amicus signals from conservative groups. Liberal Signals from Conservative Groups is positively associated with liberal voting. However, that effect only emerges among conservative justices. Unexpected signals sent by conservative groups are not associated with votes cast by liberal justices. Figure 3b presents the effects of expected amicus signals from conservative groups. As depicted in the figure,

there is no association between justice voting and Conservative Signals from Conservative Groups regardless of justice ideology. In other words, when conservative groups advocate for conservative outcomes, that advocacy does not appear to have any effect on any of the justices. In short, conservative interest groups may be able to influence justices' votes, but that influence only appears in limited circumstances: conservative groups only influence conservative justices to cast more liberal votes. This finding lends strong support for our third hypothesis: amicus signals from conservative groups only influence ideologically proximate justices when the group sends an unexpected signal (H3).

Figure 3c presents the effects of unexpected signals from liberal groups. Once again, unexpected signals appear to influence ideologically proximate justices. Conservative Signals from Liberal Groups is negatively associated with liberal voting, but that effect only emerges among liberal justices. However, the effects of Liberal Signals from Liberal Groups are more complicated. Figure 3d presents the effects of expected signals from liberal groups. Unlike expected signals from conservative groups (which appeared to have no effect on any justices), expected signals from liberal groups appear to polarize the court. When liberal groups send liberal signals, liberal justices are more likely to support a liberal outcome and conservative justices are less likely to do so. These countervailing effects explain why the average effect of expected liberal signals is not significantly different from zero (see Model 3 in Table 4). But they also suggest that more complicated dynamics are at work with these signals. Thus, these results only partially support H3. Unexpected liberal signals appear to influence only liberal justices; however, expected liberal signals also seem to have complicated, polarizing effects on the justices' votes.

The results regarding expected liberal signals reported in Figure 3d suggest several interesting conclusions. First, these results reinforce the concerns regarding causal identification discussed above. If amicus activity by liberal groups is positively associated with voting behavior by liberal justices but negatively associated with voting behavior by conservative justices, it may indicate that all of these actors are simply responding to unobserved characteristics of the cases. However, several aspects of our results mitigate this concern. Most importantly, the lack of any association between expected signals from conservative groups and voting behavior by any justices suggests amicus groups and justices are not simply responding to the same stimuli. Moreover, the lack of any association between unexpected signals and ideologically distant justices suggests that we are not merely detecting situations in which both amici and justices are

likely to support unexpected outcomes. Therefore, we remain confident that our results imply a causal relationship.

Nonetheless, our theory does not explain the surprising findings regarding expected signals from liberal groups. A quick comparison between Figure 3b and 3d suggests that expected signals from conservative and liberal groups play very different roles on the court. Moreover, these results dovetail nicely with prior findings regarding the justices reaction to amici. For example, Box-Steffensmeier et al. (2013: 456) find that "for more conservative justices, the presence of a powerful liberal amicus decreases their probability of casting a liberal vote." However, liberal justices tend to vote in opposition to their ideological predisposition when the amicus filer is a very prominent conservative group. Such a result leads the authors to argue that "for some justices, the presence of a powerful interest group can act as a signal to vote against a litigant supported by a group" (456). Yet this pattern appears to vary across justices. It is possible that conservative and liberal amici may behave differently in predictable ways. For example, liberal groups may advocate more extreme ideological positions. It is also possible that justices react differently to similar behavior from liberal and conservative groups. Although exploring these possibilities is beyond the scope of the current study, future research should consider these alternative explanations.

In sum, our empirical analyses support the expectations of our signaling theory of amicus curie influence. The positive association between amicus signals and justice votes is stronger when the amicus filer is ideologically proximate to the justice (H1) and when the amicus filer sends an unexpected signal (H2). We also find some evidence that amicus influence is strongest when both the interest group is ideologically proximate to the justice and the interest group sends an unexpected signal (H3), though these results are somewhat more complicated. Nonetheless, our findings suggest that, when evaluating the trustworthiness of amicus curie signals, Supreme Court justices consider both the source of the signal (specifically, the source's ideological predisposition) and the content of the signal (specifically, congruence between the source's ideological predisposition and the ideological direction of the signal).

Conclusion

Our findings suggest that the influence of interest groups on the U.S. Supreme Court generally comports with the expectations of the signaling theory. First, justices tend to respond to

legal advocacy by groups with ideologically proximate predispositions. Second, ideological signals appear to exert significantly greater influence on the justices when groups advocate for outcomes contrary to their ideological predispositions. Third, when considered in combination, conservative groups appear to only influence some justices (conservative justices) when they advocate certain outcomes (liberal outcomes). Liberal groups influence only liberal justices when they send conservative signals, but the pattern is much more complicated when they send liberal signals.

When considered together, the evidence presented here suggests that brief filers' ideological predispositions, especially in conjunction with the ideological outcomes advocated in their briefs and the justices' ideology, may crucially affect the way in which the justices interpret the signals they send. More importantly, these findings suggest that unexpected amicus activity may be more persuasive than expected legal advocacy. Unexpected signals appear to capture the justices' attention and earn their trust. The credibility and influence of these amicus filers result from the comprehensive considerations of the policy and legal implications in a case. Moreover, these briefs seem to be especially influential among ideologically sympathetic justices.

Previous studies suggest that briefs are important because of the legal arguments and policy information they convey to the justices (e.g., Collins 2008a). However, our study suggests that information is only as important as its source. We argue that the ideological predisposition of the brief filer and her position on a case work as heuristics, or mental "shortcuts," for the justices to choose the most reliable brief filers and collect credible information. The huge number of briefs filed on each case, coupled with scarce judicial resources, prompts justices to rely on these simple heuristics to help them make decisions. Thus, the justices may not carefully process the persuasive information in amicus briefs; in fact, they could collect these heuristics by simply reading the cover page.

Nonetheless, the informational hypothesis may still have merit. Our evidence does not address whether justices (and/or clerks) rely solely on heuristic signals or use those signals to identify which briefs are worth reading, and then subsequently process the information those briefs contain. However, our analyses strongly suggest that the justices may only process information from credible sources or they may give more weight to credible arguments when processing that information. Therefore, legal arguments and policy information may indeed persuade the justices, but only when a credible signal highlights the information for the justices.

Future research should address several notable limitations in the current study. First, our dichotomous coding of interest groups as liberal or conservative may obscure important variation in the ideological reputation of some groups. That is, some "liberal" groups may be much more liberal than others, and this variation may be important to the justices. Second, we have not considered here the potentially complex interactions between a group's ideological predispositions and the group's relative power (Box-Steffensmeier et al. 2013). Justices may consider both a group's ideological identity and its power when interpreting amicus signals. Third, our results regarding amicus activity by liberal interest groups suggest more investigation is necessary to fully understand the dynamics of this activity. Last, our analyses may suffer from problems related to causal identification. Although we believe that the nature of our analyses (specifically, our expectation and finding that amici and justices only behave similarly in certain situations) mitigates these concerns, future research should consider alternative ways to address this problem.

Finally, our findings suggest several practical implications for interest groups hoping to influence the court. First, interest groups would be well-advised to devote disproportionate energy and resources when they wish to advocate a view contrary to their traditional ideological predispositions. Second, interest groups should focus resources on cases in which the votes of ideologically proximate justices are in jeopardy. These friendly justices may be the most likely to heed their advice.[16]

References

Adams, Greg D. (1997) "Abortion: Evidence of an Issue Evolution," 41 *American J. of Political Science* 718–37.

American Civil Liberties Union (2017) *Giving to the American Civil Liberties Union and the American Civil Liberties Union Foundation: What Is the Difference?* American Civil Liberties Union and American Civil Liberties Foundation. Available at: https://www.aclu.org/donating-american-civil-liberties-union-and-aclu-foundation-what-difference (accessed 30 March 2017).

American Land Rights Association, *Friends' Links*. Available at: http://www.landrights.org/friends.htm (accessed 30 March 2017).

Bailey, Michael A., Brian Kamoie, & Forrest Maltzman (2005) "Signals from the Tenth Justice: The Political Role of the Solicitor General in Supreme Court Decision Making," 49 *American J. of Political Science* 72–85.

Beck, Nathaniel, Jonathan N. Katz, & Richard Tucker (1998) "Taking Time Seriously: Time-Series-Cross-Section Analysis with a Binary Dependent Variable," 42 *American J. of Political Science* 1260–88.

---

[16] See the Supporting Information for a preliminary analysis.

Bonica, Adam (2013) "Ideology and Interests in the Political Marketplace," 57 *American J. of Political Science* 294–311.

——— (2014) "Mapping the Ideological Marketplace," 58 *American J. of Political Science* 367–86.

Box-Steffensmeier, Janet M., Dino P. Christenson, & Matthew P. Hitt (2013) "Quality Over Quantity: Amici Influence and Judicial Decision Making," 107 *American Political Science Rev.* 446–60.

Caldeira, Gregory A. & John R. Wright (1988) "Organized Interests and Agenda Setting in the U.S. Supreme Court," 82 *American Political Science Rev.* 109–27.

Calvert, Randall L. (1985) "The Value of Biased Information: A Rational Choice Model of Political Advice," 47 *The J. of Politics* 530–55.

Carmines, Edward G. & James A. Stimson (1989) *Issue Evolution: Race and the Transformation of American Politics*. Princeton: Princeton Univ. Press.

Carter, David B. & Curtis S. Sigorino (2010) "Back to the Future: Modeling Time Dependence in Binary Data," 18 *Political Analysis* 271–92.

Collins Jr, Paul M. (2004) "Friends of the Court: Examining the Influence of Amicus Curiae Participation in U.S. Supreme Court Litigation," 38 *Law & Society Rev.* 807–32.

——— (2007) "Lobbyists before the U.S. Supreme Court: Investigating the Influence of Amicus Curiae Briefs," 60 *Political Research Q.* 55–70.

——— (2008a) "Amici Curiae and Dissensus on the U.S. Supreme Court," 5 *J. of Empirical Studies* 143–70.

——— (2008b) *Friends of the Supreme Court: Interest Groups and Judicial Decision Making*. New York: Oxford Univ. Press.

Collins Jr, Paul M., Pamela C. Corley, & Jesse Hamner (2013) "Me Too: An Investigation of Repetition in US Supreme Court Amicus Curiae Briefs," 97 *Judicature* 228–34.

Collins, Paul M., Pamela C. Corley, & Jesse Hamner (2015) "The Influence of Amicus Curiae Briefs on US Supreme Court Opinion Content," 49 *Law & Society Rev.* 917–44.

Collins Jr, Paul M. & Lisa A. Solowiej (2009) "Counteractive Lobbying in the U.S. Supreme Court," 37 *American Politics Research* 670–99.

Crawford, Vincent & Joel Sobel (1982) "Strategic Information Transmission," 50 *Econometrica* 1431–51.

Epstein, Lee (1985) *Conservatives in Court*. Knoxville: Univ. of Tennessee Press.

Epstein, Lee & Jack Knight (1998) *The Choices Justices Make*. Washington, DC: CQ Press.

Fischman, Joshua B. (2015) "Do the Justices Vote Like Policy Makers? Evidence from Scaling the Supreme Court with Interest Groups," 44 *The J. of Legal Studies* 269–93.

Galanter, Marc (1974) "Why the Haves Come Out Ahead: Speculation on the Limits of Legal Change," 9 *Law & Society Rev.* 95–160.

Gigerenzer, Gerd & Wolfgang Gaissmaier (2011) "Heuristic Decision Making," 62 *Annual Rev. of Psychology* 451–82.

Goelzhauser, Greg & Nicole Vouvalis (2015) "Amicus Coalition Heterogeneity and Signaling Credibility in Supreme Court Agenda Setting," 45 *Publius: The J. of Federalism* 99–116.

Hansford, Thomas (2011) "The Dynamics of Interest Representation at the U.S. Supreme Court," 64 *Political Research Q.* 749–64.

Hansford, Thomas G. & Kristen Johnson (2014) "The Supply of Amicus Curiae Briefs in the Market for Information at the US Supreme Court," 35 *Justice System J.* 362–82.

Harper, Fowler V. & Edwin D. Etherington (1953) "Lobbyists Before the Court," 101 *Univ. of Pennsylvania Law Rev.* 1173–77.

Kearney, Joseph M. & Thomas W. Merrill (2000) "The Influence of Amicus Curiae Briefs on the Supreme Court," 148 *Univ. of Pennsylvania Law Rev.* 743–855.

Layman, Geoffrey (2001) *The Great Divide: Religious and Cultural Conflict in American Party Politics*. New York: Columbia Univ. Press.

Layman, Geoffrey & Thomas M. Carsey (2002) "Party Polarization and "Conflict Extension" in the American Electorate," 46 *American J. of Political Science* 786–802.

Li, Hao & Wing Suen (2004) "Delegating Decisions to Experts," 112 *J. of Political Economy* 311–35.

Lynch, Kelly J. (2004) "Best Friends? Supreme Court Law Clerks on Effective Amicus Curiae Briefs," 20 *J. of Law and Politics* 33–73.

Maltzman, Forrest James, James F. Spriggs II, & Paul J. Wahlbeck (2000) *Crafting Law on the Supreme Court*: The Collegial Game. New York: Cambridge University Press.

Martin, Andrew D. & Kevin M. Quinn (2002) "Dynamic Ideal Point Estimation via Markov Chain Monte Carlo for the U.S. Supreme Court, 1953–1999," 10 *Political Analysis* 134–53.

Mayhew, David R. (1974) *Congress: The Electoral Connection*. New Haven: Yale Univ. Press.

McGuire, Kevin T. (1998) "Explaining Executive Success in the U.S. Supreme Court," 51 *Political Research Q.* 505–26.

McKay, Amy (2008) "A Simple Way of Estimating Interest Group Ideology," 136 *Public Choice* 69–86.

Owens, Ryan J. & Ryan C. Black (2011) "Solicitor General Influence and Agenda Setting on the United States Supreme Court," 64 *Political Research Q.* 765–78.

Segal, Jeffrey A. & Harold J. Spaeth (2002) *The Supreme Court and the Attitudinal Model Revisited*. New York: Cambridge Univ. Press.

Songer, Donald R. & Reginald S. Sheehan (1993) "Interest Group Success in the Courts: Amicus Participation in the Supreme Court," 46 *Political Research Q.* 339–54.

Spaeth, Harold J., et al. (2013) *Supreme Court Database, Version 2013 Release 01*. Washington Univ. Law The Supreme Court Database. Available at: http://scdb.wustl.edu/documentation.php?s=2 (accessed 30 March 2017).

Spriggs, James F. & Paul J. Wahlbeck (1997) "Amici Curiae and the Role of Information on the Supreme Court," 50 *Political Research Q.* 365–86.

Swenson, Karen (2016) "Amicus Curiae Briefs and the US Supreme Court: When Liberal and Conservative Groups Support the Same Party," 37 *Justice System J.* 1–11.

von Helversen, Bettina & Jörg Rieskamp (2009) "Predicting Sentencing for Low Level Crimes: Comparing Models of Human Judgment," 15 *J. of Experimental Psychology: Applied* 375–95.

Cases Cited

Florida v. J.L., 529 U.S. 266 (2000).

Florida v. J.L., 529 U.S. 266 (2000) Brief Amicus Curiae of the National Association of Criminal Defense Lawyers, the American Civil Liberties Unions, the American Civil Liberties Union of Florida, the Criminal Justice Policy Foundation, the Juvenile Law Center, the National Legal Aid and Defender Association, and the Southern Poverty Law Center, in Support of Respondent.

——— (2000) Brief Amici Curiae of the National Rifle Association and Independence Institute in Support of Respondent.

Troxel et vir. v. Granville, 530 U.S. 57 (2000).

Troxel et vir. v. Granville, 530 U.S. 57 (2000) Brief of Lambda Legal Defense and Education Fund and Gay and Lesbian Advocates and Defenders as Amici Curiae in Support of Respondent.

——— (2000) Brief Amici Curiae of Christian Legal Society and the National Association of Evangelicals in Support of Respondent.

Lucia Manzi is a Ph.D. candidate in the Department of Political Science at the University of Notre Dame. Her research interests include judicial independence, judicial behavior, and the role of the judiciary as an institution of horizontal accountability. Her research examines the conditions for the effective judicial prosecution of political corruption.

Matthew E.K. Hall is an Associate Professor of Political Science and Law and the University of Notre Dame. He holds a Ph.D. from Yale University, and he is the author of The Nature of Supreme Court Power (Cambridge University Press, 2011). His research interests include judicial behavior, judicial implementation, and the personality traits of political elites.

Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Table SI-1. Robustness Checks for Interest Group Influence on Supreme Court Decisionmaking
Table SI-2. High Profile Interest Groups