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*Political Research Quarterly* published online 20 December 2012  
DOI: 10.1177/1065912912469729

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# Toward an Actor-Based Measure of Supreme Court Case Salience: Information-Seeking and Engagement during Oral Arguments

Political Research Quarterly  
XX(X) 1–15  
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sagepub.com/journalsPermissions.nav  
DOI: 10.1177/1065912912469729  
http://prq.sagepub.com  


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## Abstract

Case salience affects nearly every aspect of Supreme Court justices' behavior, yet a valid actor-based measure of salience has remained elusive. Researchers have instead relied on external proxy indicators, such as amicus curiae participation and media coverage, to explain justices' behavior. We propose a novel measurement of salience in which we use justices' differential levels of engagement to generate actor-based measures of case and justice-level salience. Focusing on justices' behavior during oral argument, we contend that the more engaged the justices are in a case—defined by the number of words they speak—the more salient the case.

## Keywords

judicial politics, case salience, oral arguments, U.S. Supreme Court

On March 23, 1982, the Supreme Court was hearing oral argument in the last of four cases scheduled for the day. Justice Harry A. Blackmun's attention and concern, however, were focused not on the attorney arguing his case but rather on his colleague and fellow Nixon appointee, Justice William H. Rehnquist. During the argument, Blackmun passed a note to Rehnquist that read, "Bill—You have been utterly quiet today! Is everything all right?" Rehnquist, responding on the bottom half of the same note, wrote, "Fine—I'm just bored. The previous argument was atrocious. All that and my view is already settled. The deaf child case is tough and we didn't get much help."

This exchange underscores a simple yet powerful idea: Although they occupy one of the most important roles in American society, Supreme Court justices are not immune to disengagement while doing their jobs.<sup>1</sup> This, in turn, has broad importance for how scholars explain justices' behavior. In particular, because many judicial actions are costly in terms of time and energy (e.g., opinion writing), we should expect a justice's propensity to engage in these behaviors is, in part, related to how important, interesting, or salient a given case is to her.

Despite the notion that a justice's personal view of salience has implications for how she acts, the predominant approach in the literature operationalizes salience based on the behavior of actors other than justices. In their comprehensive evaluation of the opinion-writing

process, for example, Maltzman, Spriggs, and Wahlbeck (2000) measure case salience by counting the number of *amicus curiae* briefs filed in a case. Beyond interest group participation, scholars have most often turned to postdecision media coverage of Supreme Court cases to differentiate salient from nonsalient cases (Collins and Cooper 2011; Epstein and Segal 2000). Specifically, this measure has been employed to analyze justices' final votes on the merits (Collins 2011) and the extent to which written opinions borrow language from litigants' brief (Corley 2008). The problem with using these perspectives to assess salience is that they are not based on the justices' behavior. They assume, instead, that cases deemed salient by actors beyond the Court—such as interest groups or the media—must also be salient from a justice's personal perspective.

In this article, we attempt to address this disconnect between theory and measurement. Specifically, we seek to provide a theoretically motivated and empirically valid

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measure of salience that taps into the importance of cases decided by the Supreme Court as viewed from the perspective of the justices themselves. Borrowing from social psychology, we argue that individuals seek out more information and display higher levels of engagement with a topic when it is salient to them than when it is not. To operationalize this concept, we examine Supreme Court oral arguments and suggest that higher levels of activity by the justices during these proceedings indicate that a case is more salient to the Court as a whole as well as to individual justices.

Our efforts make contributions that span multiple literatures. First, salience is itself a concept of great consequence in the judicial decision-making literature. By our count, media-based measures have been deployed in over two dozen articles on the Supreme Court alone. Despite its ubiquitous usage, scholars recognize limitations of such an approach. Epstein and Segal, who pioneered media-based measures, observe “our measure, as well as all other existing indicators of salience cannot speak to features of a case that may make it especially salient to a given justice” (2000, 76). Brenner (1998, 191) notes similarly, “The Holy Grail in this field remains a measure [of salience] based on the justices’ behavior but no one as of yet has identified the type of behavior that we ought to measure.” Thus, our approach offers a novel—and highly sought after—method to address a variable of nearly universal importance.

Second, while our analysis focuses on the Supreme Court, our approach is transportable to a variety of other domestic and international political institutions. This point is especially important as interest in the concept of salience spans across nearly every subfield in the discipline. We return to this point in greater detail below. Next, however, we review media-based measures and some of their potential problems. From there, we present the theoretical foundation for our approach, detail the measurement procedure, and assess its validity. Third, we use our measure to provide a test of a recent formal model of the Court’s opinion assignment process. We conclude by addressing how our approach might be transported beyond the Supreme Court.

## Media-Based Measures of Case Salience

Noting a bevy of problems with existing measures, Epstein and Segal (2000) initially proposed using front-page coverage of Supreme Court decisions by the *New York Times* as a way of capturing case salience. Due to its intuitive appeal, straightforward operationalization, and the generosity with which the authors’ shared their data, the measure quickly became the “standard measure of case salience for judicial scholars” (Maltzman and Wahlbeck 2003, 3). As such, it has been utilized in a

plethora of studies of Supreme Court decision making and applied in other judicial settings (e.g., Vining and Wilhelm, 2011).

Since its creation, the *Times* measure provided the basis for a series of important refinements that address some of its empirical deficiencies. In a recent study, for example, Collins and Cooper (2011) introduce the Case Salience Index (CSI), which (a) expands the scope of media coverage to include three additional nationally oriented newspapers and (b) incorporates non-front-page coverage of the Court’s decisions. Combining these enhancements yields a third benefit: increased variability in the underlying measure. Whereas the original *Times* measure was dichotomous (i.e., salient or not salient), the CSI varies from a minimum value of 0 (i.e., no coverage in any of the four papers) to a maximum of 8 (i.e., front-page coverage in all four newspapers).

While the CSI represents a sizable improvement over Epstein and Segal’s approach, it is still a media-based measure, which limits its applicability in certain contexts. First, media measures necessarily focus on what newspaper editors and reporters think is salient as opposed to what case justices themselves deem salient.<sup>2</sup> In fact, a significant body of literature identifies factors that affect media coverage but are unlikely to influence a justice’s determination of case salience. Boydston (2008) shows, for example, that the fullness or “congestion” of the news agenda varies dramatically from day to day. In deciding (a) whether to cover a story and (b) the eventual placement of that story, reporters and editors must factor in what else is going on across the news universe and what is most likely to help them sell newspapers. Justices undoubtedly face constraints, but news agenda congestion is unlikely to be one of them.

Second, media measures have documented empirical limitations. A variety of studies show that newspaper coverage of the Court’s decisions is systematically influenced by characteristics of the decisions themselves, such as whether the chief justice authored the opinion and the size of the majority coalition (e.g., Collins and Cooper 2011; Epstein, Friedman, and Staudt 2008; Maltzman and Wahlbeck 2003). Given these outcomes are generally characterized as consequences of salience and not causes, media measures, as commonly used by judicial scholars, are endogenous. In a similar vein, because the determination of salience occurs after a decision has been rendered, the ability of a media measure to capture salience during the Court’s actual decision-making process is limited.<sup>3</sup>

To be clear, we do not advocate the wholesale abandonment of media-based measures. On the contrary, there are numerous contexts where a media measure is desirable. For example, Baird (2004) examines how the Court’s decisions alter the flow of cases litigants subsequently

pursue. As this decision hinges on how litigants perceive signals sent by the Court, a media-based measure is not just appropriate but absolutely necessary. Similarly, Giles, Blackstone, and Vining (2008) analyze whether the Court's adherence to public opinion in its decisions is conditioned by case salience. Because the theoretical argument hinges on the public's perception of the decision, using the *Times* measure is again appropriate.

There are a number of situations, however, where the concept of interest is contemporary salience to a justice—or to the Court—as opposed to public sentiment or post-decision media salience. Expressing the need for a measure that is both contemporaneous and justice-based, Unah and Hancock (2006, 298) contend, “Ideally, case salience is best conceptualized by answering the question: how important is the case to a justice at the time the justice was making the decision?” Our own review of the literature that uses the *Times* measure suggests analyses of the internal process outnumber studies where an external media measure should be employed.<sup>4</sup> Accordingly, we turn next to the theoretical foundation for our approach.

### A Justice-Based Approach to Case Salience

We derive guidance for our actor-based measure of salience from existing literature in political science and social psychology. Within political science, salience is defined in terms of an issue's importance and is therefore a principal consideration for political actors when making decisions (e.g., Edwards, Mitchell, and Welch 1995). While social psychologists normally rely on survey data to discover and measure importance, this option is generally unavailable when studying political elites (Epstein and Segal 2000). We therefore look to quantifiable behaviors for our measure of salience. Specifically, social psychology literature tells us that important issues stand out, spur more cognitive involvement, and have a strong and positive effect on engagement. As Petty and Krosnick (1995, 161) note,

To attach personal importance to an attitude is to commit oneself to think about the object, to gather information about it, to use that information as well as one's attitude in making relevant decisions, and to design one's actions in accord with that attitude.

In other words, the more important a topic is to a person, the more interested she is in gathering information on that topic, and the more apt she will be to use that information when making decisions. It is precisely because behavior is altered when individuals are exposed to personally important issues that evidence of salience can be found by measuring differential levels of behavioral engagement.

In this vein, Miller, Krosnick, and Fabrigar (2006) demonstrate that the more personally important an issue is for someone, the more cognitively and behaviorally engaged she is with that issue.

We submit that Supreme Court justices provide publicly observable evidence of their engagement and information-gathering tendencies during the Court's oral argument sessions. Two lines of evidence support this claim. First, statements from the justices themselves suggest they are engaged in oral arguments and use them as an information-gathering tool. As Justice Douglas (Galloway 1989, 84) put it, “The purpose of a hearing is that the Court may learn what it does not know . . . It is the education of the Justices . . . that is the essential function of the appellate lawyer.” Moreover, Justice John Harlan (1955, 7) describes his engagement during oral arguments: “There is no substitute . . . for the Socratic method of procedure in getting at the real heart of an issue and in finding out where the truth lies.”

Second, our empirical argument flows from research demonstrating the justices are not passive agents but rather are actively engaged in oral arguments in multiple ways. A growing body of research shows that they use oral argument to begin the coalition-formation process (Black, Johnson, and Wedeking 2012; Johnson et al. 2009; Johnson, Spriggs, and Wahlbeck 2007), to reevaluate a tentative vote position (Ringsmuth, Bryan, and Johnson, forthcoming), and to gain information not found in the filed briefs or in other materials before the Court (Johnson, 2001, 2004). This wide range of activity, unlike a justice's vote, is *voluntary*; it is precisely that the justices *are* engaged, and not *how* they are engaged, that is important for our argument.<sup>5</sup>

### Measuring Case Salience

To construct our measure of salience, we used LexisNexis to download the oral argument transcripts for all Supreme Court cases beginning with the 1979 term and ending with the 2010 term ( $N = 3256$ ).<sup>6</sup> With transcripts in hand, we counted the number of words spoken by the justices in each case. We counted words—rather than questions—because this value more directly taps into the Court's engagement in a case. Consider, for example, two utterances from Justice Breyer during oral argument in *Jerman v. Carlisle* (2010). In one instance, Breyer uses 185 words to pose one of his infamous hypothetical questions. Within a minute of that question, however, Breyer utters a single word answer—“Yes”—to bring the attorney back toward answering the hypothetical (2010 U.S. Trans Lexis 5, at 5-6). Whereas the former provides strong evidence that Breyer is interested in probing the implications of the attorney's argument, the latter does not. Our approach accounts for this difference.

From these data, we generate two measures. First, to gain an overall sense of how important a case is to the *entire* Court, we simply take the total number of words spoken by all justices during the argument. The median value for the raw number of words is 2,734 with 5th and 95th percentile values of 1,158 and 4,806 words, respectively. Second, to ascertain the salience of each case to a *particular* justice, we leave the data at the individual unit of analysis.<sup>7</sup> We then take steps to address likely threats to our measures' validity. First, for both measures, we take the natural logarithm of (one plus) each measures' value to account for both skewness in the data and the fact that going from 10 to 100 words spoken is more revealing than going from 500 to 590 words spoken.

We next address the confounding role played by Court membership, which manifests itself in two ways. One initial concern is a variation in the questioning styles of the justices. Among those on the current court, for example, Justice Antonin Scalia is known for being a relentless questioner, whereas Justice Clarence Thomas did not ask a single question during a recent five-year period (Liptak 2011). The danger for the Court-level measure is that cases might appear to be more salient simply based on which justices were on the Court when it was decided. This concern also applies to our justice-level measure, because 500 total words spoken can potentially have a different meaning for Scalia than it does for Justice Alito.

A second membership-based concern occurs when the Court operates with fewer than its full membership due to nonparticipation by a justice. This happens, for instance, when a justice has a financial stake in a case (e.g., owns stock in one of the litigants) or had participated in a case before becoming a justice (e.g., as the Solicitor General or as a lower court judge). This affects both the aggregate and individual measures but likely in opposing ways. With fewer justices present, we would expect, all else equal, less overall activity than when all seats are full. At the justice level, however, an absence likely creates a greater opportunity for an individual justice to show more evidence of engagement. Scalia's absence, for example, would create more time for Breyer to pose hypothetical questions.

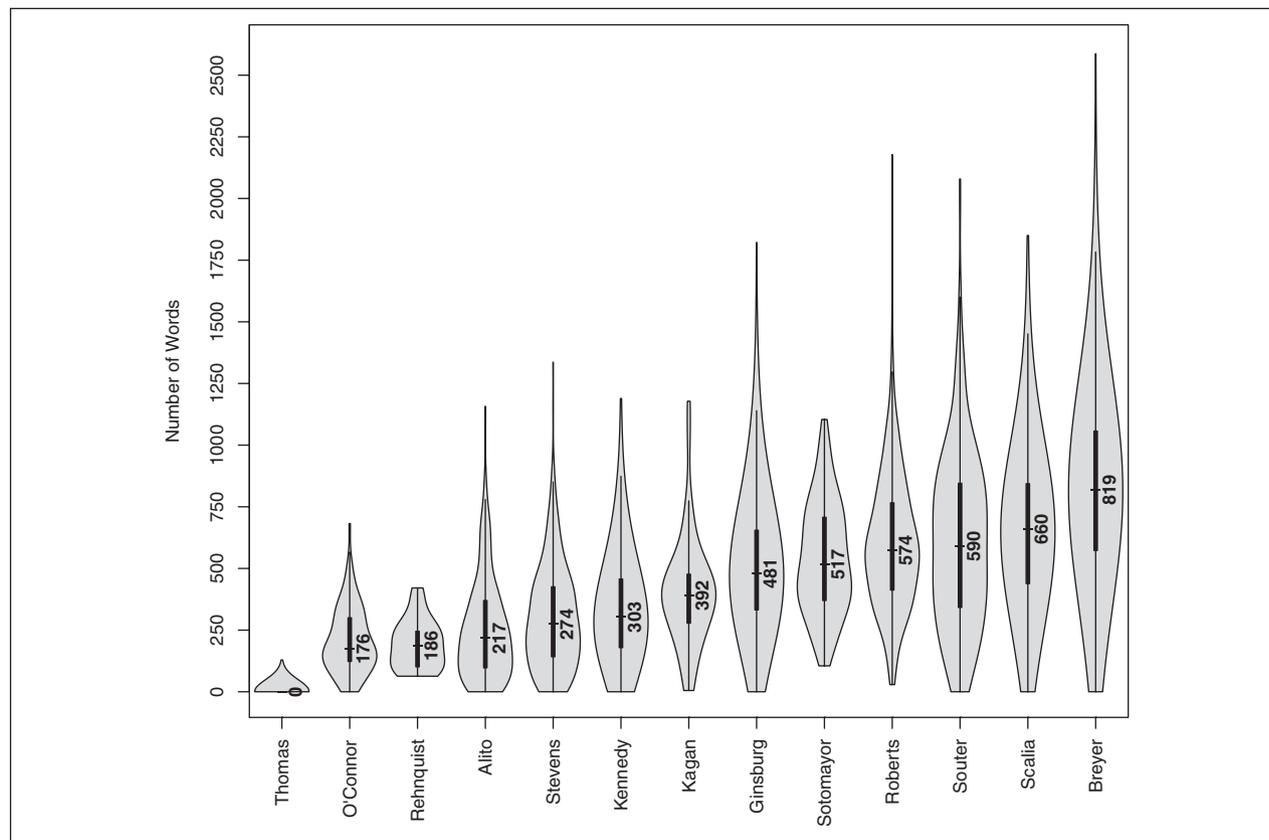
To jointly account for these influences, we standardize our Court-level measure by the number of justices who participated and by "natural court," which accounts for every personnel change that occurs on the Court. This allows, for example, the direct comparison of salience in cases heard both before and after the arrival of Scalia while controlling for the general impact he had on the number of words spoken during oral argument. Indeed, while we found a significant difference in unstandardized oral argument activity when comparing the last two terms before Scalia arrived with the first two terms after he

joined the Court, this difference disappeared after we standardized our measure.<sup>8</sup>

For our justice-level measure, we standardize within each justice and across the number of justices present during oral argument. In other words, our measure calculates a baseline level of activity for each justice based on the number of her colleagues who were present and then examines how a particular case caused her to be more or less active in relation to this baseline.<sup>9</sup> The violin plots in Figure 1 illustrate the need for this adjustment. Along the *x*-axis, we plot each of the thirteen justices for whom we have voice-identified transcripts. The *y*-axis is the number of words spoken during an argument session. The gray area is a kernel density plot for the number of words spoken by a justice. The thin and thick vertical lines show the "whiskers" of a traditional box plot and inner quartile range, respectively. The horizontal tick mark denotes the median value for a justice, which is also printed next to the tick mark.

As the figure makes clear, we observe considerable variation across justices. According to our data, Breyer is the most verbose of his colleagues, uttering a median value of 819 words per argument session. Alito, by contrast, has a median just over one-fourth that of Breyer's. Thus, while 550 words would indicate a high level of engagement for Alito—approximately his 90th percentile value—the same would be equivalent to just above the 25th percentile for Breyer. Standardization allows us to account for variation in questioning styles across justices (the standardized values for Alito and Breyer are 0.76 and -0.06, respectively).<sup>10</sup>

Before assessing the validity of our measurement, we note one adjustment for which we did *not* account—the overall length of the oral argument. Since 1970, the Court has allocated a standard thirty minutes of time per side in a case. In some instances, however, the Court grants more argument time for a case. For example, when the justices addressed the constitutionality of President Obama's health care law, it did so after hearing six hours of oral argument spread across three days. Similarly, as it did in *Roe v. Wade* (1973), the Court may, after an initial round of oral arguments, ask the parties to reargue the case (Hoekstra and Johnson 2003). As a result, extended time and reargument will likely lead to a higher value on our measure owing simply to the amount of time justices have to speak. This would potentially counsel toward adjusting our measure to account for the length of the argument. At the same time, such decisions are made by the justices themselves. As this is at the heart of our theory about information gathering and salience, we ultimately believe such adjustments would omit valuable information from our measure. For this reason, we do not adjust our measure for the length of the argument.<sup>11</sup>



**Figure 1.** Violin plots showing the distribution of the number of words spoken by each justice during oral arguments. The gray area is a kernel density plot. Within the density plot, the thin and thick vertical lines denote the outer whisker and interquartile range components, respectively, of a traditional box plot. The horizontal tick mark denotes the median value for a justice. This specific value also appears next to the tick mark.

## Validating Our Measure

Our validation strategy proceeds in two steps. First, we begin by asking whether there are sources of systematic bias in our measure and, if so, the strength of those biases. We consider—and ultimately reject—four potential sources of bias that might affect oral argument activity: case complexity, case divisiveness, attorney quality, and a justice’s certainty about her likely voting behavior in the case. Second, we demonstrate how our measure correlates with other observable indicators of justice and Court-level case salience.

### Potential Sources of Bias

Beginning with case complexity, the bias argument is quite simple. Because oral arguments are one of the few opportunities for the Court to directly seek information from the litigants, it will be more likely to do so when the case is legally complex. To assess the strength of this relationship, we regress our Court- and justice-level

measures on the number of legal provisions contained in a case, which we obtain from the Supreme Court Database.<sup>12</sup> The coefficient on the legal provisions variable is statistically significant and in the expected direction in both models, whereas its substantive magnitude is small. Indeed, in the Court-level model, a change from the 1st to 99th percentile value of complexity yields less than one-third of a standard deviation increase in our case salience measure. The same change in complexity in our justice-level model results in one-eighth of a standard deviation increase in our measure.

We also consider whether our measure is merely tapping the underlying divisiveness of a case as opposed to its importance to the justices. Arriving at a suitable measure for divisiveness is considerably more challenging. Obvious candidates such as the size of the majority coalition or the number of separate opinions in a case are inappropriate because we would also expect these quantities to be systematically influenced by case salience. Justices, for example, should be (and, as we show below, are) more willing to put pen to paper and author separate opinions

when a case is salient for them than when it is not. To arrive at an exogenous, pre-oral argument indicator of a case's divisiveness, we turn to the justice's agenda-setting votes. Because justices are forward looking and evaluate the merits consequences of their agenda-setting votes (Black and Owens 2009; Caldeira, Wright, and Zorn 1999), a contentious outcome at the agenda stage should foreshadow greater divisiveness than those votes that are less divided.

Although agenda-setting votes are not publicly reported, they are easy to obtain from Justice Blackmun's docket sheets. Epstein, Segal, and Spaeth (2007) provide these data for all cases that sought the Court's review during the 1986–1993 terms. We accessed the docket sheets for the cases in our data set ( $N = 608$ ) and counted the number of grant votes for each case during the agenda-setting stage. We then regressed our Court-level measure on the number of grant votes a case received. In so doing, we find no systematic relationship between the two variables ( $p = .44$ ).<sup>13</sup>

We also evaluate whether a justice's activity during oral argument simply taps into the quality of the attorneys standing at the podium. Recall, for example, the exchange in the introduction to this article. In response to Blackmun's concern about his silence, Rehnquist cited both his boredom and assessment that the previous argument was "atrocious." This suggests, potentially, that justices become disengaged when the argument is of low quality. Fortunately, in this context, a measure of argument quality is readily available. In particular, we examined the subset of cases in our data for which Blackmun graded the attorneys' performances at oral argument. Johnson, Wahlbeck, and Spriggs (2006) show that these grades tap into the latent dimension of quality and are reliable predictors of justices' eventual voting behavior.

During the time period in our data, Blackmun graded attorneys on a 0-to-8 scale, where higher values denote better performances. We regressed our Court-level measure on the total number of grade points awarded in a case.<sup>14</sup> Interestingly, and contrary to the justification Rehnquist gave Blackmun, we recover a significant—but weak—negative relationship between attorney quality and case salience. That is, as the overall quality of advocacy increased, the justices were somewhat less likely to engage the attorneys. However, the substantive strength of this relationship is not strong. Going from the 1st to 99th percentile values of attorney quality yields only one-third of a standard deviation decrease in case salience.<sup>15</sup>

Finally, we consider the second reason Rehnquist provided for his apparent boredom—that his "view [was] already settled." More generally, one might be concerned that when a justice has already decided how she plans to vote in a case—a situation that likely occurs with some frequency—she then disengages from

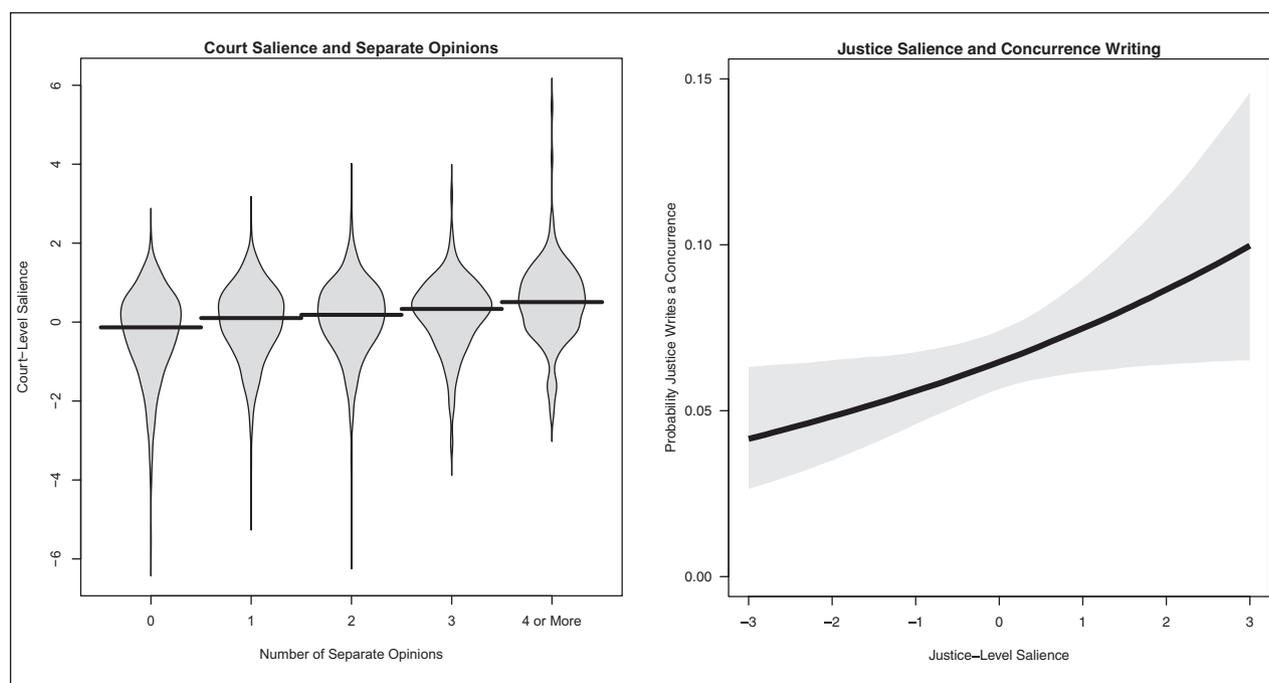
oral argument because her views are established. What is more, we might expect a justice's views to be especially stable in cases that are personally important to her. If this line of reasoning holds, then our measurement strategy would systematically underestimate the importance of such cases. To develop a measure of preference certainty, we first calculated a percentage liberal voting score for each justice in each of the twelve broad issue areas in the Supreme Court Database. Second, we take the absolute value of our voting score minus 50 percent. Thus, large values denote a justice whose votes are one predominant ideological direction whereas small values denote a justice who mixes liberal and conservative votes more frequently. We then regressed our justice-level measure on our consistency scores. Much like attorney quality, we find that the estimated relationship is significant in the opposite direction and substantively weak. As a justice becomes more consistent in her voting, we find that she is more engaged in the argument session. Going from the 1st to 99th percentile of consistency results in one-fifth of a standard deviation increase in justice salience.<sup>16</sup>

To be sure, justices can have motivations unrelated to their interest in a case when they speak during oral argument. In the foregoing analysis, however, we evaluated the extent to which these alternatives might drive variation in our measures and, subsequently, undermine them. To summarize, we find a weak relationship with case complexity, attorney quality, and justice belief consistency, but fail to find evidence that divisiveness is part of our measure.

### *Comparing Our Measure to Other Indicators of Salience*

While the absence of damaging sources of bias is encouraging (and necessary for our measure to be useful), it is not sufficient to establish the general validity of our approach. In what follows, we examine two specific aspects of judicial behavior—authoring separate opinions and exchanging bargaining memos—in which justices should differentially engage when cases are important to them. We undertake these analyses to determine whether our measures are related to such behaviors. If our approach actually captures salience as viewed by the justices, then we should find evidence of a systematic relationship between our measure and these two behaviors.

Consider first the total number of opinions generated in a case. Writing an opinion—especially a separate one—is a costly endeavor. While a justice may utilize law clerks to ease the burden, her clerk's time is still finite, and each hour spent drafting a separate opinion is an hour where the clerk is not aiding in writing majority opinions, summarizing certiorari petitions, or helping the justice prepare for oral arguments. Given this, we expect a



**Figure 2.** The relationship between separate opinion writing and case salience  
The left panel presents Court-level data from 1979 to 2010. The right panel shows justice-level data from 2004 to 2010.

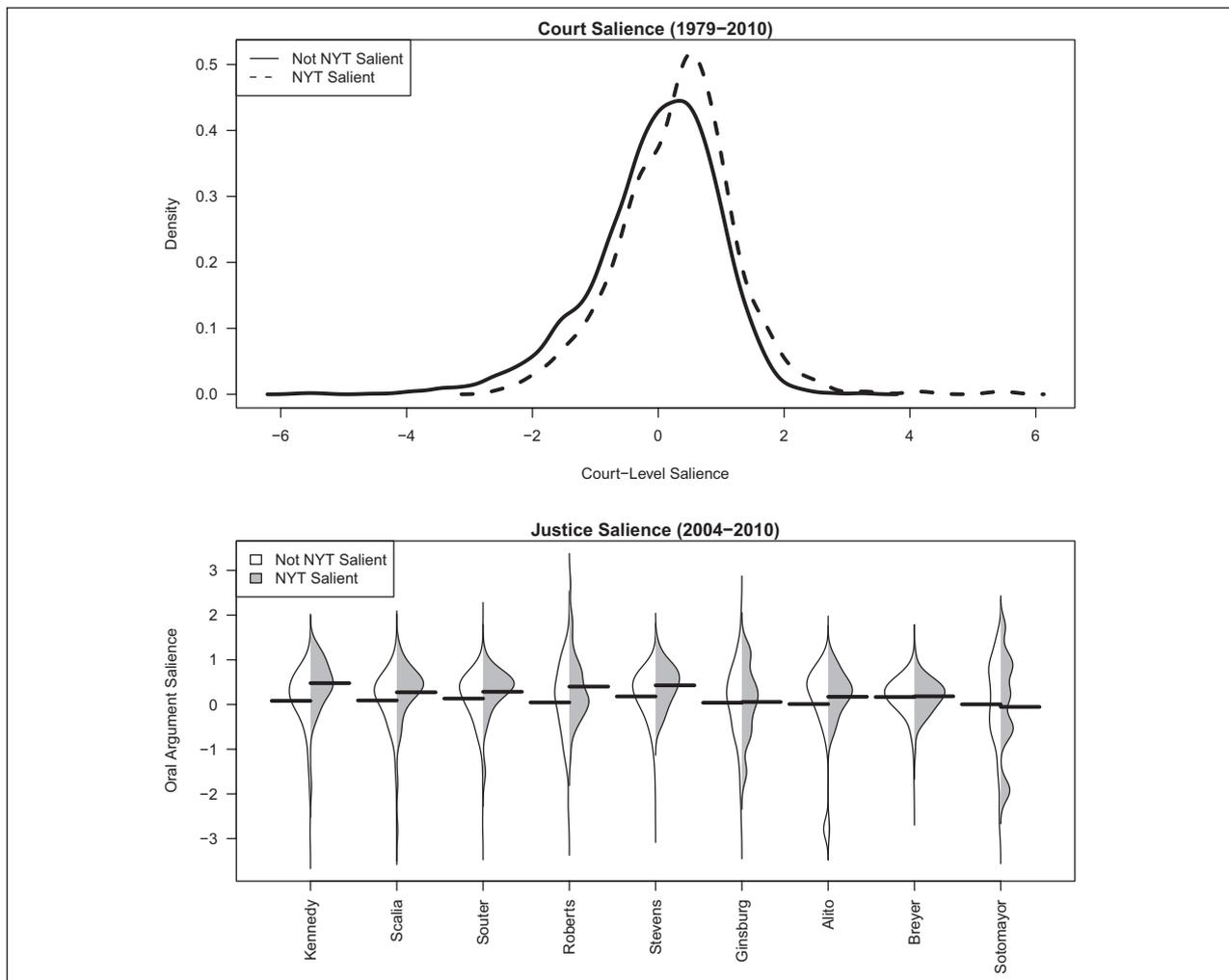
positive relationship between case salience and the number of separate opinions authored.

The two panels of Figure 2 provide evidence to support this expectation. Starting with the left panel, we show the relationship between our Court-level measure and separate opinions. The *x*-axis plots the total number of separate opinions in a case and the *y*-axis is our Court-level measure. The gray-shaded objects within the panel are violin plots, each of which portrays the overall distribution of salience for a particular number of separate opinions. The black horizontal line within each plot denotes the median level of salience for that number of opinions. As the panel illustrates, there is a clear positive relationship between case salience and the number of separate opinions authored in a case.<sup>17</sup> Among the 807 unanimous decisions in our data, the average level of salience is  $-0.29$ . For cases with a single separate opinion (the mode in our data), the average level of salience is approximately 0, which is significantly higher than in unanimous cases ( $p < .01$ ). Furthermore, as we move from a case with a value of salience two standard deviations below the mean to a case two standard deviations above the mean, the probability of observing no separate opinions drops by more than 60 percent from 0.39 to 0.15.<sup>18</sup>

The right panel of the figure illustrates the impact of our justice-level measure on an individual justice's propensity to author a concurring opinion. To generate these values, we examined whether justices in the majority coalition (who were not the majority opinion author)

wrote a concurring opinion. We then estimated a logistic regression model between this dependent variable and the justice-level salience measure to capture *each* justice's level of interest in the case. The salience variable is positively signed and statistically significant. And, as the figure demonstrates, salience exerts a modest substantive effect on a justice's propensity to author a concurring opinion. If a case is of comparatively low salience to a justice, then we estimate only a 5 percent chance that she will author a regular concurrence. When, however, a case has piqued a justice's interest, we observe a 9 percent chance of observing a separate opinion—a relative change of 80 percent.<sup>19</sup>

While the final number of separate opinions is publicly observable, many aspects of the Court's work are not. Justices correspond throughout the decision-making process and, of course, bargain over the content of the majority opinion as it is drafted. Much like the number of separate opinions, we expect justices to be more engaged in the bargaining process when a case is more salient to the Court. To aid our examination of how salience affects the Court's internal decision making, we turn to Wahlbeck, Spriggs, and Maltzman's Burger Court Opinion Writing Database (2009), which records each of the more than 48,000 documents circulated among the justices during the Burger Court (1969–1985). To explore the effect of our salience measure on these internal components of the Court's decision making, we examine the 980 cases decided toward the end of the Burger Court for which oral argument transcripts exist (i.e., 1979–1985). Using the number of documents circulated in each case as our



**Figure 3.** Comparisons between *New York Times* measure of case salience and our Court-level (top) and justice-level (bottom) measures

The horizontal lines in the bottom panel denote the mean within a particular distribution. The bottom panel omits justices for whom we have fewer than hundred observations (i.e., Kagan, O'Connor, and Rehnquist) and also excludes Thomas who only spoke in 3 of the 508 cases in our data.

dependent variable, we estimated a negative binomial regression with our Court-level salience measure as the independent variable. We find a positive and statistically significant relationship between the two. When a group of relatively disinterested justices (i.e., the 5th percentile value of salience) attempt to arrive at a final majority opinion, we predict that roughly 17 documents will be passed among the justices. By contrast, when the justices are highly interested in a case (i.e., the 95th percentile value of salience), this document total increases by about 47 percent to a total of 25 documents. Comparing the sample minimum and maximum values of salience shows predicted values of 13 and 29, respectively—more than a two-fold increase in the Court's paper trail.

The foregoing makes a strong case that analyzing the Court's behavior during oral arguments provides a valid indicator of case salience. Importantly, the evidence we

marshal to support this claim comes from examining variation in the justices' behavior, conditional on varying levels of our measure. Opinion writing and bargaining are two of the more costly behaviors in which justices engage. As such, we should expect them to be more (less) likely to perform these actions when cases are of higher (lower) salience. The data, culled from public and archival records, support this intuition for both our Court and justice-level measures.

Before showing an application of our measure, however, we pause to show how it compares with the existing standard bearer: the *New York Times* measure. While the *Times* measure captures things other than case salience as perceived by the Court, and does so in a way that is not contemporaneous with the decision-making process, we should still expect some congruence between these two measures. The two panels of Figure 3 focus on this comparison. The top panel features our Court-level

measure and shows its distribution conditioned by whether the case did (dashed line) or did not (solid line) receive front-page coverage in the *Times*. As a preliminary matter, we note that the average level of salience according to our measure is systematically higher in cases that receive *Times* coverage than those that do not (0.31 vs. -0.05, respectively). Interestingly, we also observe significant variation in case salience within both cases that did and did not receive media coverage. There are, for example, dozens of cases that, despite being deemed not salient by a media-based measure, nevertheless present evidence of significant importance to the Court that decided them.

The bottom panel of the figure compares our justice-level measure with the *Times* approach. We also show how salient a case was to *individual* justices, conditional on whether the case did (gray) or did not (white) receive *Times* coverage after being decided.<sup>20</sup> The horizontal lines denote the mean for each distribution. Looking at the distributions for Justice Kennedy, for example, we find his average salience values are significantly higher in cases that receive *Times* coverage versus those that do not. The same is not always true for Kennedy's colleagues, however. Justices Scalia, Souter, Roberts, Stevens, and Alito appear to be—to varying degrees—more interested in cases that will be covered by the *Times*, but the gap for Justices Ginsburg and Breyer is far smaller. For Justice Sotomayor, the relationship is weakly reversed, although this is likely driven by the small number of observations we have for her (only 11 cases were covered by the *Times* and 132 were not).

Finally, we examined whether media coverage *prior* to oral argument could predict Court and justice-level salience. In particular, we gathered data on all articles published in the *Times* before oral argument for all cases decided during the 2004–2010 terms. At the Court level, going from the sample minimum to maximum levels of coverage—in terms of the number of articles—resulted in a 1.3 standard deviation increase in Court-level salience. At the justice level, the analogous increase is smaller—roughly six-tenths of a standard deviation. This dampening in size of the effect is driven by the same justice-level variation seen in the bottom panel of our previous figure. For example, Chief Justice Roberts' average level of salience is -0.13 in cases with no preargument coverage but is 0.24 in cases that do have some coverage. Kennedy's salience levels are nearly identical. By contrast, Ginsburg's salience levels are -0.002 (no coverage) and 0.004 (some coverage). Sotomayor continues to exhibit the opposite relationship with salience levels of 0.04 (no coverage) and -0.11 (some coverage), but the difference is not statistically significant.

Overall, we provide an assessment of whether our measure provides leverage for distinguishing among cases the justices find salient. To do so, we turned to behaviors that justices should differentially engage in based on how

important a case is to them. Our results are encouraging. We are systematically more likely to observe separate opinions—both at the Court and justice levels—in cases we identify as being of higher salience than those that are not. Similarly, archival data from the opinion-writing process demonstrate a positive and significant relationship between bargaining activity and our measure of case salience. In short, multiple sources of evidence suggest our approach taps into our concept of interest (i.e., case salience from the Court's perspective) while largely avoiding contamination from other sources (e.g., complexity, divisiveness, and quality).

### Application: Opinion Assignment

We next apply our measure to provide an empirical test of a hypothesis derived from Lax and Cameron (2007)'s formal model of the Court's bargaining process. Lax and Cameron argue an opinion author is able to obtain gains in policy—i.e., a winning opinion close to her ideal point—by writing an opinion that is of sufficiently high quality. The opinion ends up becoming policy because a would-be dissenter is unwilling to invest a similar amount of time to produce a viable competing opinion.

Building from this premise, Lax and Cameron (2007) show that an opinion assignor has an incentive to assign cases to justices who are on the same ideological "side" but who are actually *more* ideologically extreme. This holds because when such a justice attempts to pull policy closer to herself (and the opinion assignor), she must bargain for this space by crafting a high-quality opinion. Assignment to the ideological wings creates higher quality opinions that are also closer to the assignor. Thus, in contrast to existing studies, which argue that opinion assignors prefer "to have opinions written by those whose policy views most closely match his own" (Maltzman and Wahlbeck 1996, 425–426), Lax and Cameron demonstrate that assignors prefer an *opinion*—not an *author*—that best reflects their policy views.

Beyond considerations of quality and policy location, Lax and Cameron (2007) further show that case salience acts as a modifier for choice of opinion author. In particular,

greater case importance magnifies the effect of variables that increase or decrease the attractiveness of justices as assignees . . . The [more] important the case, the greater the incentive for the assignor to find an assignee with 'attractive' qualities. (Lax and Cameron, 2007, 294–295)

To summarize, the ideological aspect of opinion assignment is a function of the interaction between case salience, ideological distance between the assignor and the assignee, and whether the assignee is on the same side

of the ideological spectrum as the assignor. When the would-be assignee is more ideologically extreme than the assignor and the case is salient, that assignee is more attractive than she would be if the case was not as salient. If the assignee is less extreme than the assignor, then the effect of distance and salience will not be as strong and—as Lax and Cameron suggest—might even be reversed.

To test this hypothesis, we combined Maltzman and Wahlbeck (2004)'s opinion assignment data with our measure of case salience. To provide a comparison against the field's standard bearer, we also estimate a separate model using the *Times* measure.<sup>21</sup> Our dependent variable is coded one for the member of the original majority coalition who was assigned the opinion and zero for other justices in that case. Because this variable is dichotomous, we estimate logistic regression models.<sup>22</sup> The constitutive terms in our model are the absolute value of the ideological distance between an assignee and the chief justice, a dummy variable for whether a justice's policy preferences are more extreme than the chief's, and the level of case salience. We then interact the three constitutive terms and the three unique pairwise combinations. Figure 4 illustrates our results.

Consider, first, the left column of panels. Here, we show the effect of ideological distance (*x*-axis) and case salience (line type) when a justice is on the "wrong" ideological side of the chief justice. The top row shows results from our measure, and the bottom row shows results from using the *Times* measure. Using either measure, we find the directionality of the effect of ideological distance is conditioned by the salience of a case. When picking among justices whose policy preferences are less extreme than his own, the chief prefers to assign to ideologically distant justices in unimportant cases and to ideologically proximate colleagues in salient cases. This is consistent with the Lax and Cameron prediction. Although the directionality of the effect is the same regardless of one's measurement approach, there are important differences between the estimated magnitudes of the effect. This is most apparent when comparing the solid lines from these two panels. Using our measure, we show that the probability of assignment in cases of low salience runs from 0.08 when a justice is ideologically identical to the chief all the way to 0.41 when the justice is at the sample maximum of distance—just over an eightfold increase. Users of the *Times* measure, however, would estimate a far smaller effect. Indeed, the analogous probabilities are 0.13 and 0.16, which implies a relative increase of only 23 percent.<sup>23</sup>

Turning to the right column of panels, we show the relationship of case salience and ideological distance among justices who are more extreme than the chief (e.g., more conservative than Chief Justice Burger).<sup>24</sup> Here, the differences between measures are more apparent. Under our approach, we find that, when making an assignment in a salient case, the chief now prefers a colleague who is

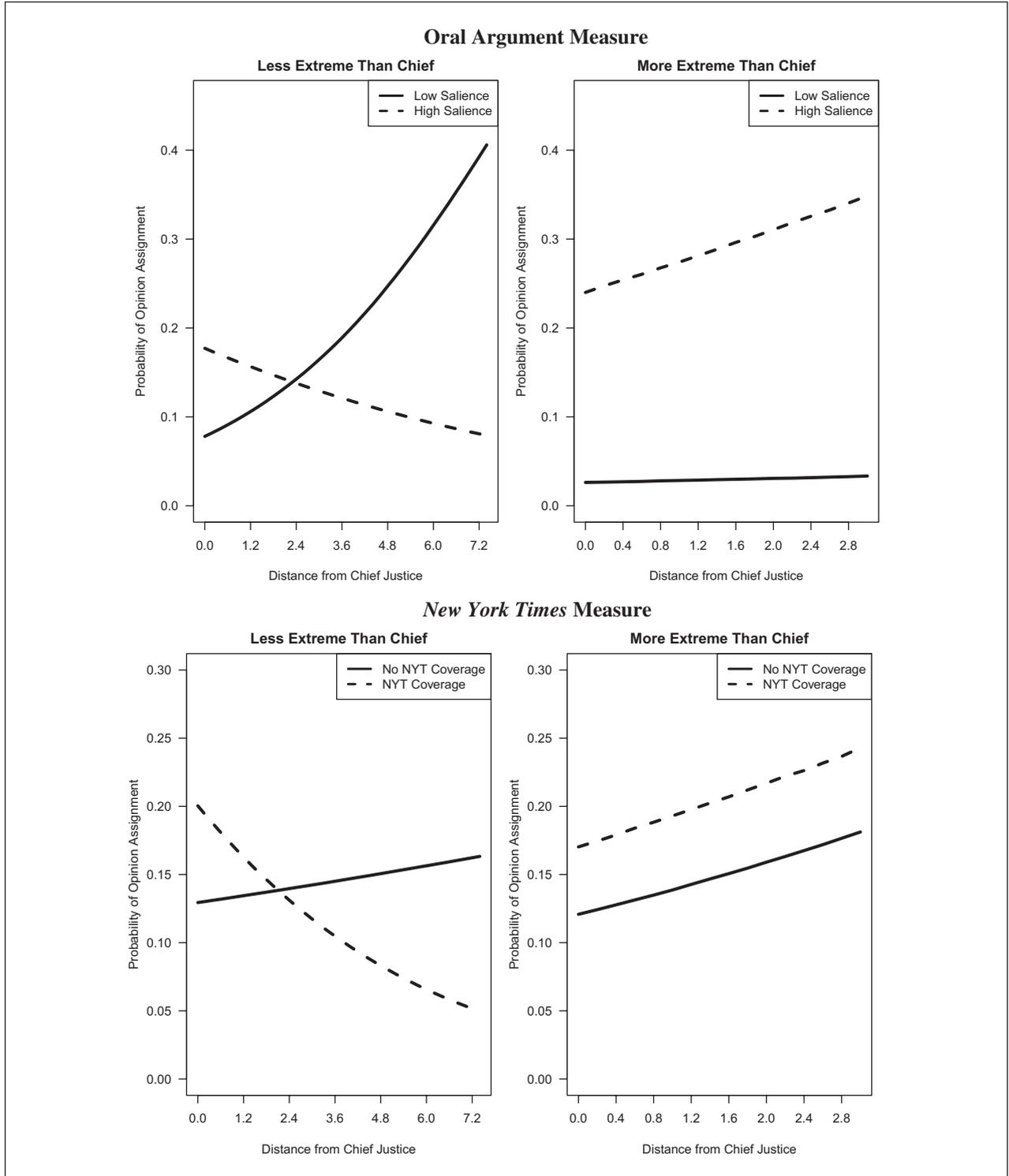
more distant (i.e., more conservative) than his position. This stems, again, from that colleague's need to write a high-quality opinion to pull policy away from the median and toward his—and the chief's—preferred location. But, when the case is of low salience, the chief is uninfluenced by ideological distance and is therefore very unlikely to waste the valuable talents of an ideologically extreme ally in a case of little importance. By contrast, when using the *Times* measure, one would conclude that the chief's assignment decisions do not differ much between cases of high versus low salience. By this account, the chief appears to assign to the ideological wings in both types of cases, as evidenced by the positive (and roughly equal) slope of both lines in the panel. And, given the comparatively large probability values (e.g., 0.12 and greater), the chief no longer appears to avoid assigning low salience cases to his more extreme colleagues.

To be clear, as this represents—to our knowledge—the first test of this particular Lax and Cameron hypothesis, it cannot speak to the validity of our approach. For that, we refer the reader back to the different types of evidence marshaled in our previous section. What this application does, however, is illustrate two important points. First, it demonstrates the ease with which our measure can be used to answer questions of substantive importance in the field. Second, given the differing results obtained between the two approaches, it shows that our measure is not just a more complicated repackaging of the *Times* measure; rather, it captures something different. We conclude by summarizing our results and describing how we think our approach can be transported beyond the Supreme Court.

## Discussion and Conclusion

Media-based measures of salience are a clear advance beyond previous approaches to studying salience. Indeed, as we describe above, for some research questions, their continued use is entirely appropriate. When analyzing how salience affects the behavior of political actors such as Supreme Court justices, however, we believe media measures are more problematic. In particular, on a theoretical level, they fail to capture what the actors themselves find salient. Empirically, they often provide only a post hoc assessment of salience.

In our quest for a measure that is both theoretically and empirically valid, we borrowed insights from social psychology, which suggest that the behaviors of engagement and information acquisition provide a useful indicator of salience. This approach has numerous advantages, not the least of which is its applicability to the study of political elites who, as Epstein and Segal (2000) cogently note, are not likely to submit themselves to the types of surveys scholars find useful in assessing salience. While the need for such a measure is especially pressing in the



**Figure 4.** The effect of case salience and ideological distance on opinion assignment. Predicted probability the chief justice assigns the majority opinion to a justice, conditional on ideological distance (x-axis), case salience (line type), and position vis-à-vis the Chief (left vs. right panel). In the top two panels, low and high salience represent the 5th and 95th percentile values of our salience measure, respectively. In the bottom two panels, NYT coverage is a dummy variable. The different ranges on the x-axes reflect that we observe smaller values among the subset of justices who were more extreme than the chief (right panel) than we do among those who are less extreme (left panel).

context of the U.S. Supreme Court, the general approach is readily transportable across other political institutions and subfields within political science.

Consider, for example, the study of the U.S. Congress. Here, scholars could look to information gathering that occurs during congressional hearings. More specifically, by examining questions asked by members of a committee or statements made on the floor about a bill, researchers could learn about what bills or issues are particularly salient to an individual member. And by aggregating across members, they can identify how important those issues are to Congress as a whole. Existing studies already deploy cutting edge methodological tools to examine precisely these topics (e.g., Quinn et al. 2010). To be sure, there are certainly potential pitfalls with such an approach, including time limits for speakers. However, a fruitful approach similar to our oral argument analysis could be easily considered.

While the above example focuses on another U.S. political institution, this need not foreclose the possibility of using our approach in an international context. Scholars of foreign policy decision making may find our approach especially useful. Consider rules from the United Nations Security Council, which mandate the publication of records from its public meetings. By analyzing the amount of attention members of the Security Council pay to each issue (through the number of comments made or number of questions asked in a meeting), scholars could analyze how salient the issue is to the council as a whole or to individual member nations.

Our approach can also be employed to measure nonverbal methods by which decision makers seek information. In the United States, for example, presidents and members of Congress can seek information by ordering reports from federal administrative agencies. Similarly, members of Congress can order reviews by the Government Accountability Office (GAO) or reports from the Congressional Research Service, and presidents have a wide array of bureaucratic agencies from which to request information. A request for additional information from one of these bodies by a decision maker could, therefore, be an indicator of the salience of a particular topic.

Regardless of the geographic scope or material being analyzed, the key hurdle to finding an appropriate measure of salience is a sound theoretical understanding of the inner mechanics of each institution of inquiry—something that is almost certainly already a prerequisite to conducting good research. Given this understanding, scholars need only ask how actors in those institutions go about gathering information for the cases, bills, or agenda items they deem most important. While the identification and gathering of such data are almost certainly nontrivial tasks, we believe they will ultimately produce variables that are far more meaningful in advancing scholars' understanding of salience for actors of interest.

## Acknowledgments

For providing thoughtful comments and feedback, we thank Amanda Bryan, Tony Madonna, Wendy Martinek, Rachel Schutte, Robert Walker, and workshop participants at Emory, Michigan State, and Washington University.

## Authors' Note

An earlier version of this project was the corecipient of the Pi Sigma Alpha award for the best paper presented at the 2008 annual meeting of the Southern Political Science Association.

## Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

## Notes

1. Beyond describing his state of mind, Justice Rehnquist's response also suggests what is causing it—namely, a poor performance by an attorney and the fact that Rehnquist had already made up his mind in the case. Although we address each of these points in more detail while validating our measure, the data actually suggest the *opposite* is true for both of Rehnquist's proffered justifications.
2. To be sure, we would expect to find some correlation between the two measures; the results we present below suggest that such overlap exists.
3. This lattermost concern could be avoided if scholars gathered data on stories about granting certiorari or about oral argument. As actually used, however, media measures do not do this.
4. By our count, there are twenty-two articles employing the *Times* measure (specifically about the Supreme Court) that appeared in political science journals between 2000 and 2011. Fourteen of these articles examine internal, actor-based, aspects while only eight study phenomena external to the justices.
5. This claim is conceptually distinct from the well-documented inverse relationship between the number of questions asked of a specific side and that side's likelihood of winning on the merits (e.g., Black et al. 2011). This case outcome prediction depends on the ratio of questions directed toward the petitioner versus the respondent. Our salience-based argument is related to the *overall* level of activity from the justices in a case.
6. Reliable transcription is not (yet) fully available prior to 1979. The Oyez Project is currently creating voice-identified transcripts from audio recordings of oral argument, which are available back through 1955. As these data become available, we will update our measure. Thus, when the Oyez

- work is complete, our measure will span almost to the beginning of the Warren Court.
7. Our Court-level measure is available for all terms in our data (i.e., 1979–2010). Because voice-identified transcripts were not available prior to the Court’s 2004 term, the justice-level measure is, at present, only available for the 2004–2010 terms. However, as we suggest in Note 6, this limitation will soon be eliminated as the Oyez Project continues its work.
  8. This approach will also allow us to account for longitudinal changes in the way the Court uses oral argument (e.g., Phillips and Carter 2010)—so long as personnel change on the Court was a key determinant of those changes. We believe this is a plausible assumption.
  9. It could be the case that a justice’s own questioning style changes across his or her career (e.g., “freshman” or “senior” effects). Although we lack sufficient longitudinal data to test this hypothesis at present, it is something we will consider once enough terms of justice-identified transcripts are available.
  10. Given the relative short timespan for these data (i.e., only four distinct natural courts), we do not standardize our justice-level measure by natural court. If (when) a significant personnel change occurs that would alter the overall dynamic at oral argument (e.g., Thomas retires and is replaced by someone just as verbose as Scalia), then we will revisit this decision in subsequent releases of our measures.
  11. Once pre-1970 transcripts are available, however, some adjustment will be necessary because the Court’s baseline amount of time was two total hours of argument. This will be addressed as necessary in subsequent releases of our data.
  12. This parts ways somewhat with previous scholarship, which captures complexity with an exploratory factor analysis of the number of issues, legal provisions, and written opinions in a case. We do not include the number of written opinions because that would be a post hoc measure and is likely a consequence of case salience. We similarly avoid using the number of issues in a case as Shapiro (2009) finds the coding protocol for this variable is unreliable and of limited theoretical validity.
  13. We also evaluated whether cases that were minimum winning (i.e., received only four grant votes) had higher levels of salience than those that were not. Among those that were and were not minimum winning, the average salience values are 0.05 and –0.09, respectively. This difference falls outside the conventional levels of statistical significance ( $p = .14$ ) and is, in any event, not especially large (less than one-seventh of a standard deviation in terms of a change in salience).
  14. Because the number of grade points is influenced by how many attorneys appeared, we also controlled for the number of attorneys who received grades in a case.
  15. We also repeated this analysis at the attorney unit of analysis by pairing justices’ oral argument activity directed at *each* attorney with the grade award by Blackmun. While a change from the 1st to 99th percentile in attorney quality is slightly stronger—roughly nine-tenths of a standard deviation in terms of case salience—the  $R^2$  for this regression reaches an anemic value of 0.03.
  16. We suspect that this result is driven by the fact that justices can—and do—use oral argument for multiple purposes. A justice who is deeply interested in the case outcome should be more likely, for example, to try to attack the opposing side while aiding her own.
  17. We also examined the more general relationship between case salience and the overall length of the Court’s opinions. Using data from Black and Spriggs (2008), we estimated a negative binomial regression where total opinion length (including separate opinions) was the dependent variable. For independent variables, we included our salience measure and the number of legal provisions in the case. Going from the 5th to 95th percentile value in case salience results in a 65 percent increase in the total length of the Court’s opinion (i.e., 5,153 words to 8,511 words).
  18. We calculated this value by estimating a bivariate negative binomial regression between the Court-level salience—the independent variable—and the number of separate opinions in case—the dependent variable.
  19. We use salience values of two standard deviations below and above the mean for this counterfactual. Even a more modest change from one standard deviation below to one standard deviation above a justice’s mean yields a 36 percent increase in her likelihood of writing a concurring opinion.
  20. We report results only for justices who have decided at least 100 cases in our data. Thus, we exclude Chief Justice Rehnquist (30 cases), and Justices Kagan (50 cases) and O’Connor (93 cases). We also exclude Justice Thomas due to the infrequency with which he spoke (only three cases out of 508).
  21. Our analysis is limited to the subset of cases for which we have oral argument data and, following Maltzman and Wahlbeck, where the chief justice made the opinion assignment. This includes 1,182 cases decided during the 1979–1990 terms.
  22. See Maltzman and Wahlbeck (2004, 555) for a discussion of the advantages and disadvantages of estimating a variety of other types of statistical models. We note our results are unchanged if we estimate a random effects logit model (i.e., we fail to reject the null hypothesis that the panel-level variance component is equal to zero).
  23. The effect size for the dashed lines is different as well, although the size of the difference between measurement strategies is not as pronounced. For our measure, going from the sample minimum to maximum values of ideological distance in salient cases results in a 56 percent relative decrease in the probability of assignment. Using the *Times* measure, the relative change is 75 percent.
  24. Note that we limit the range of the ideological distance variable in the right panel. This reflects the fact that we observe smaller values among the subset of justices who were more extreme than the chief.

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