Gendered Interruption Behavior on the U.S. Courts of Appeals[+]

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Oral argument is a critical venue for judges to carefully examine party arguments and begin to determine how a case ought to be decided. Although this stage in the judicial process is often publicly observable—allowing a glimpse into judicial deliberation that is otherwise a black box—there is a surprising dearth of studies on oral argument behavior at the U.S. Courts of Appeals. Existing studies on the Supreme Court have considered the effect of gender on judicial deliberation; finding that women justices and attorneys tend to be over-interrupted by men in the courtroom. But studies of gendered behavior at this level suffer from the small number of women who have served on the bench and at the bar. In contrast, the U.S. Courts of Appeals provide a robust environment for the study of gender differentials in oral argument behavior, especially with the record number of women judges appointed by former President Biden. Further, analyzing judicial differences at this level is integral to our understanding of the judiciary as a whole. Research on gender and politics often casts women as "collaborators," reaching across aisles and creating ties to achieve their goals. Thus, this Article proposes that women judges on the U.S. Courts of Appeals will affect a more collaborative speech style at oral argument, tending to use more positive interruptions while their colleagues who are men might use more negative interruptions.

Using a novel sample of federal appellate oral arguments from 2023 and 2022, I employ a series of regressions that predict a judge's propensity to interrupt other speakers at oral argument. My results suggest that women judges may be less likely to interrupt and less likely to use negative interruptions as compared to peer men, though these gender differences are small. Additionally, women are more likely to apologize when interrupting others. My findings for attorneys parallel those for judges but with greater statistical strength. Ultimately, the data suggest that women tend to use more collaborative and affiliative speech tactics at oral argument

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whereas men tend to be slightly more assertive and conflictual. These results have a number of implications for the oral argument environment and for judicial deliberation more generally.

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INTRODUCTION

What a privilege to have, normally two other people bring their brains to the bench with you to help wrestle through hard problems, make those decisions together, and be able to discuss and dialogue about them.

-Judge Patricia Millett, District of Columbia Circuit[1]

Deliberation is a hallmark of the appellate-level judicial process, where most decisions require a panel of judges to reach majority agreement. Understanding the contribution of each judge to this group deliberation is critical to a comprehensive knowledge of how outcomes are reached in a given case. Group dynamics among judges are most prominently on display in the public venue of oral argument, where attorneys present their cases while judges intervene to discern how precedent and pragmatic concerns may impact their ruling. Together, the panel and advocates deliberate, justifying to each other why the court ought to decide in favor of a given party. At oral argument, judges frequently interrupt counsel and each other to express their opinion on a line of thought. While these interjections sometimes come in the form of a question, judges are increasing the number of "non-questions" they use at oral argument, communicating their advocacy for a particular side rather than acting as neutral arbiters.[2] These non-questions may also function as a signal of ultimate voting intentions to peer judges.[3]

Perhaps due in part to this increased advocacy by judges, research has shown that the deliberation environment of oral argument can have an impact on case outcomes.[4] This setting is largely shaped by the speech behavior of judges as they decide which questions to ask and when to interject and ask them, though attorney arguments may also play a role in the decision. It's concerning then, that women on the court may be stymied from equal participation in this environment. Specifically, women justices on the U.S. Supreme Court are interrupted more often by both their

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[1] *Episode 133: Patricia Millett*, PORTIA PROJECT (Jun. 26, 2024), https://www.portiaprojectpodcast.com/episodes/ episode133-patricia-millett.

[2] Tonja Jacobi & Matthew Sag, *The New Oral Argument: Justices as Advocates*, 94 NOTRE DAME L. REV. 1161, 1246 (2019).

[3] Timothy R. Johnson, Ryan C. Black, & Justin Wedeking, *Pardon the Interruption: An Empirical Analysis of Supreme Court Justices' Behavior during Oral Arguments*, 55 LOY. L. REV. 331, 355 (2009).

[4] Timothy R. Johnson, Paul J. Wahlbeck, & James F. Spriggs, *The Influence of Oral Arguments on the U.S. Supreme Court*, 100 AM. POL. SCI. REV. 99, 108 (2006).

peers on the bench and the male attorneys arguing in front of them.[5] Gender also matters for attorneys—women lawyers are interrupted earlier, more frequently, and for longer periods of time by justices as compared to their male counterparts.[6] Further understanding the role gender plays in courtroom speech behavior is critical to understanding the influence women can have over oral argument, and in turn their effect on final case outcomes.

This Article primarily focuses on gendered interruption behavior at oral argument. In other contexts, interruptions tend to be viewed as a violation of turn-taking norms.[7] While there is some debate over what constitutes an interruption, it usually takes the form of simultaneous speech occurring before the original speaker has completed their line of thought.[8] In some cases, interruptions can be particularly negative, with the interruptive speaker using them to take power over the direction of the conversation and even wholly reject the interrupted speaker's point.[9] But in other cases, interruptions may actually have a normatively positive impact on the conversation, if the interrupter seeks to support or add on to the interrupted speech.[10]

The current research on gendered interruption behavior on the courts is limited in a number of ways. First, it is completely concentrated on our nation's highest court, likely due to the large number of transcripts available for analysis at this level. This is a major limitation; not only do the lower courts make a significantly greater proportion of final decisions in the nation, they also provide a larger sample of women judges and attorneys on which to analyze true gender effects. Second, most of the present studies focus on the speaker being interrupted, rather than the interrupter themselves. This provides only half the story as to the effect of interruptions on the nature of the ongoing deliberation. And third, while studies on

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[5] Tonja Jacobi & Dylan Schweers, *Justice, Interrupted: The Effect of Gender, Ideology and Seniority at Supreme Court Oral Arguments*, 103 VA. L. REV. 1379, 1493 (2017).

[6] Dana Patton & Joseph L. Smith, *Lawyer, Interrupted: Gender Bias in Oral Arguments at the US Supreme Court*, 5 J. L. & CTS. 337, 345 (2017).

[7] Campbell Leaper & Melanie M. Ayres, A *Meta-Analytic Review of Gender Variations in Adults' Language Use: Talkativeness, Affiliative Speech, and Assertive Speech*, 11 PERSONALITY & SOC. PSYCHOL. REV. 328, 351(2007).

[8] Lynn Smith-Lovin & Charles Brody, *Interruptions in Group Discussions: The Effects of Gender and Group Composition*, 54 AM. SOC. REV. 424, 425 (1989).

[9] *Id*. at 426.

[10] Marianthi Makri-Tsilipakou, *Interruption Revisited: Affiliative vs. Disaffiliative Intervention*, 21 J. PRAGMATICS 401, 404 – 405 (1994).

interruptions in other contexts have distinguished between positive and negative interruptions, work on the Supreme Court tends to combine all interruptions as if they served the same purpose.[11] Thus, we currently lack information about the substantive content of interruptions and the ways in which judges shape group deliberation through their behavior as an interrupter. This Article takes steps to expand the research on judicial behavior at oral argument, investigating *the impact of gender on judges' and attorneys' propensity to use positive and negative interruptions*.

Parts I and II of this Article provide an overview of the relevant literature on judicial deliberation and the impact of gender on group dynamics. I begin by discussing the collegial environment of the federal appellate courts and the cordiality with which these judges tend to deliberate with each other to reach case outcomes. After all, reasonable minds are bound to disagree on at least some of the difficult questions up for appellate review. I then review the research related to the court's most public venue for case deliberation: oral argument. Next, I consider the impact of gender on group deliberations more generally, especially as it concerns interruption behavior and related speech patterns. I then assess the application of these separate bodies of literature to explain gender differentials in judicial behavior. Finally, I review the research on women attorneys and the effect of attorney gender on case success, especially in the scope of oral argument.

In Part III, I present my key expectations. The literature indicates that both the gender of an individual judge and the gender composition of a panel may impact interruption behavior on the court. First, I posit that women will be less likely than men to interrupt others. Because women are socialized from childhood to act as passive listeners rather than assertive speakers, they ought to be less likely to interrupt other speakers. Additionally, with minority status on the bench, women judges may be more sensitive to the turn-taking norms of conversational debate that discourage interrupting. Second, I expect there will be tonal differences in the types of interruptions men and women use. Specifically, I anticipate that women judges will be more likely to use positive interruptions while men will be more likely to use negative interruptions. I also expect these individual-judge effects to be echoed among women attorneys. Finally, I propose that, as the courtroom includes more

[11] Though at least one of these studies notes in passing that such a distinction in tone might exist. *See, e.g.,* Adam Feldman & Rebecca D. Gill, *Power Dynamics in Supreme Court Oral Arguments: The Relationship between Gender and Justice-to-Justice Interruptions*, 40 JUST. SYS. J. 173, 174 (2019).

women (both judges and attorneys), the overall interruptive behavior at oral argument will decrease.

Part IV discusses the method and data used to test these hypotheses. The data includes 264 oral arguments across eleven federal appellate courts. Each of the relevant circuits publishes audio files of oral arguments on their websites. Because transcribing thousands of arguments would be both costly and time intensive, I selected a random sample of 24 arguments presented in each circuit during 2023 and 2022 to be transcribed. These transcripts were then hand coded to determine the speaker, their gender, whether a given instance of speech is interruptive, and the tone of each interruption. This provides a relatively robust test for gender effects. Although the federal appellate courts have yet to reach gender parity, forty-one percent of federal appellate judges are now women, due in large part to the appointment record of former President Biden.[12] Part V presents my results, ultimately finding that, while women attorneys are much less likely to interrupt as compared to men, women judges are only slightly less interruptive s compared to peer men. Further, both women judges and attorneys are more likely to use positive interruptions as compared to their male counterparts who interrupt more negatively, though the effect is, again, stronger among attorneys. Finally, I find that interruptions do decrease as the room contains a higher proportion of women, though this is mostly driven by the women themselves—men actually become more interruptive with more women in the room.

This Article concludes with a discussion of possible explanations for and implications of these findings in Part VI. Namely, I examine whether the lack of statistical strength in my findings among judges is indicative of obfuscated gendered speech differences or perhaps a function of collegial conflict on the court that alters everyday norms against interrupting. Further, I consider whether the tonal differences in interruptions based on a judge's or attorney's gender might impact the venue of oral argument and the judicial process as a whole. Importantly, I discuss the possibility that judicial speech at oral argument may affect the

[12] Women's Representation in the Judiciary, REPRESENT WOMEN https://www.representwomen.org/judiciary#:~:text=Women's%20Representation%20in%20the%20Judiciary&text=Four%20of%20the%20six%20female,appeal%20are%20female%20(41%25). Sixty-three percent of former President Biden's appointees to the bench are women, heavily outdoing even former President Obama, who ranks second in gender diversity with forty-two percent of appointees being women. *How Biden Compares with Other Recent Presidents in Appointing Federal Judges*, PEW RESEARCH CENTER (Jan. 9, 2025), https://www.pewresearch.org/short-reads/2025/01/09/how-biden-compares-with-other-recent-presidents-in-appointing-federal-judges/.

direction and content of a case's final opinion. In fact, I even present some subsidiary findings that judges (especially men) tend to be over-interruptive of attorneys that will ultimately win their cases. Overall, this Article takes a major step in exploring the effect of gender on panel deliberation in the federal appellate courts—a critical inquiry as more women join both the bench and the bar.

I. COLLEGIAL COURT DELIBERATION

To better understand how and why interruptions might emerge during oral argument requires thinking about collegial court deliberation and the role of oral arguments more generally. Any group tasked with making a decision is likely to engage in deliberation, which requires participants to discuss possible outcomes and to justify preferred choices with explicit reasoning.[13] By requiring justification for any decision making, deliberation not only has the potential to achieve the best outcomes, but also legitimizes those outcomes, providing collective authority for their enforcement.[14] As such, theorists have posited that a deliberative democracy, while difficult to achieve in practice, would likely be the most desired form of government.[15] While the other branches of government face constraints from collective action problems and hierarchical power dynamics, the more egalitarian judiciary may be best posed to practice deliberative democracy.[16]

A. Judicial Deliberation

The federal appellate courts are perhaps best situated to practice deliberative democracy since nearly all decisions of these courts require a panel of judges to reach relative consensus. Because a case cannot be resolved until at least a simple majority of judges agrees on its outcome, deliberation and collaboration necessarily

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[13] Dennis Thompson, *Deliberative Democratic Theory and Empirical Political Science*, 11 ANN. REV. POL. SCI. 497, 504 (2008).

[14] Joshua Cohen, *Deliberative Democracy*, *in* DELIBERATION PARTICIPATION AND DEMOCRACY 219, 228 (S.W. Rosenberg ed., 2007); Maya Sen, *Courting Deliberation: An Essay on Deliberative Democracy in the American Judicial System*, 27 NOTRE DAME J. L. ETHICS & PUB. POL'Y 303, 308 (2013).

[15] AMY GUTMANN & DENNIS F. THOMSSON, WHY DELIBERATIVE DEMOCRACY? 13–21 (2004).

[16] Sen, *supra* note 14 at 310–311. Despite this potential, Sen argues that the judiciary may not live up to ideals of democratic deliberation. *Id*. at 304 (asserting that judicial deliberations are "more similar to *quid pro quo* bargaining than to reasoned intellectual exchanges"); *see also* Donald B. Hutt, *Measuring Popular and Judicial Deliberation: A Critical Comparison*, 16 INT'L J. CONST. L. 1121, 1136 (2018) (noting that "judicial proceedings and rules do not enable democratic deliberation in the way demanded by deliberative democratic theory").

occur during this decision-making process.[17] Consequently, appellate courts are widely thought to be collegial bodies.[18] Indeed, several judges have lauded not only the substantial collegiality on their courts, but also the lifelong friendships they have made in their colleagues.[19] Internal Operating Procedures for most circuits indicate that panel assignment is at least semi-random,[20] so judges must have a good working relationship with all their peers on the bench, even if they primarily sit in different cities from one another. Of course, respecting your colleagues does not require that you agree with them on everything.[21] But some judges proffer that collegiality can mitigate individual ideological preferences in a case, permitting even the most ideologically distant panels to reach common ground.[22]

In addition to collegial pressures, judges must contend with norms of consensus that encourage them to compromise with their fellows to achieve greater unanimity.[23] Because the judiciary lacks any formal enforcement mechanism for its decisions, it relies on notions of legitimacy to maintain power.[24] Judges may be concerned that frequently authoring discretionary dissents will present the view of

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[17] Pauline T. Kim, *Deliberation and Strategy on the United States Courts of Appeals: An Empirical Exploration of Panel Effects*, 157 U. PA. L. REV. 1319, 1320 (2009).

[18] *E.g.*, Paul J. Wahlbeck, James F. Spriggs, II, & Forrest Maltzman, *The Politics of Dissents and Concurrences on the U.S. Supreme Court*, 27 AM. POL. Q. 488, 491 (1999).

[19] *See, e.g., Transcript of Interview with Carolyn Dineen King*, AMERICAN BAR ASSOCIATION WOMEN TRAILBLAZER'S PROJECT (July 19, 2010; Sept. 1, 2010; Dec. 20, 2010; Jan. 14, 2011), https://purl.stanford.edu/rn603bc3430 ("Judge Rubin and Judge Reavley became very close friends. . . . I made ultimately very good friends on the [Fifth Circuit]").

[20] Many circuits attempt to ensure panels encompass different permutations of judges. For a summary of internal operating procedures on case, panel, and opinion assignment, *see* Appendix A. Appendix A also includes the predicted probabilities for panel composition given true randomization and a comparison to the true parameter.

[21] As Justice Ginsburg states, "[P]ersonal friendships don't divide along party lines." *See Transcript of Interview with Ruth Bader Ginsburg*, NEW YORK UNIVERSITY INSTITUTE OF JUDICIAL ADMINISTRATION (July 5, 2017), https://www.law.nyu.edu/centers/ija-oral-history/ginsburg.

[22] Harry T. Edwards, *The Effects of Collegiality on Judicial Decision Making*, 151 U. PA. L. REV. 1639, 1640–41 (2003).

[23] Gregory A. Caldeira & Christopher J. W. Zorn, *Of Time and Consensual Norms in the Supreme Court*, 42 AM. J. POL. SCI. 874, 876 (1998).

[24] Dino P. Christenson & David M. Glick, *Chief Justice Roberts's Health Care Decision Disrobed: The Microfoundations of the Supreme Court's Legitimacy*, 59 AM. J. POL. SCI. 403, 403 (2015).

a fractured court, threatening public perceptions of the court's legitimacy.[25] This may be one explanatory factor for the relatively high percentage of unanimous opinions on the U.S. Courts of Appeals. [26] At the very least, scholars have found that a judge is less likely to author a separate opinion when the majority author has cooperated with them in the past.[27] Consensus may also be prevalent in this venue because majority opinions are circulated to the whole panel several times before final publication, and thus the ultimate content of that opinion is likely to reflect more than just the author's point of view.[28]

These norms of collegiality and consensus foster the deliberative environment of the federal appellate courts.[29] Judges themselves acknowledge this fact and extol the impact it has on their decision making. For example, Judge Harry T. Edwards on the D.C. Circuit argues that collegiality permits "that intrapanel discussion can lead to a mutually agreeable result."[30] Empirical evidence bolsters the anecdotal claims that judges are open to persuasion by their peers in at least some cases. Significantly, judges have been found to vote differently on a case as part of a panel than they would if deciding the case individually.[31] And, more diverse groups of

[25] *See* Cass R. Sunstein, *Unanimity and Disagreement on the Supreme Court*, 100 CORNELL L. REV. 769, 804–805 (2015).

[26] Kaleigh A. Ruiz, *Gender & Consensus on the Courts*, 32 MICH. J. GENDER & L. (forthcoming) (finding approximately 81% unanimity in a sample of more than 9,000 federal appellate cases from 2000–2024).

[27] Wahlbeck, Spriggs, & Maltzman, *supra* note 18 at 507.

[28] Cliff Carrubba et al., *Who Controls the Content of Supreme Court Opinions?*, 56 AM. J. POL. SCI. 400, 409 (2011) (arguing that the median member of a court is likely highly influential in shaping majority opinion content); *See also* Chris W. Bonneau et al., *Agenda Control, the Median Justice, and the Majority Opinion on the U.S. Supreme Court*, 51 AM. J. POL. SCI. 890, 891 (2007) (finding that a Justice's likelihood of joining a majority opinion is contingent both on who the majority author is and who the median on the bench is).

[29] Jennifer L. Peresie, *Female Judges Matter: Gender and Collegial Decisionmaking in the Federal Appellate Courts*, 114 YALE L.J. 1759, 1781 (2005).

[30] Edwards, supra note 22 at 1659; *see also* Harris L. Hartz, "How Do Judges Think?" 91 DENV. U. L. REV. 575, 575 (2014) (noting that, when deciding cases, "we [judges] actually listen to our colleagues").

[31] Kim, *supra* note 17 at 1321–22.

judges tend to produce opinions that include coverage of more points of law, indicating robust deliberation.[32]

B. Oral Argument

While judges work together throughout the judicial process, their deliberative dynamics are fully on display at oral argument. Here, attorneys present legal arguments to supplement their briefs while the assigned panel of judges periodically interjects with questions. For federal appellate cases, oral argument will be scheduled unless the panel deems it unnecessary because the appeal is frivolous, caselaw clearly governs the dispositive issue(s), or the case is presented clearly enough in the briefs.[33] Several circuits broadcast their oral arguments live to the public. Thus, while much of judicial deliberation is obfuscated among the panel, oral argument provides a venue for any interested party to listen in as judges talk through how they ought to decide a given case.

Prior to oral argument, judges receive the record from the court below—any motions, transcripts, or orders—as well as party and amicus briefs describing the case and justifying the disposition sought. Because judges can familiarize themselves with the key facts and issues involved from these initial case materials, some scholars argue that oral argument is a mere dog and pony show, rarely if ever impacting judicial decisions.[34] But oral argument does more than simply rehash the arguments in the briefs. As Chief Judge Adalberto Jordan on the Eleventh Circuit describes oral argument to a *pro se* appellant, "this is your opportunity to sort of supplement or augment the arguments that you presented in your brief and essentially tell us why you think the district court made a mistake in doing what it did."[35]

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[32] Susan B. Haire, Laura P. Moyer, & Shawn Treier, *Diversity, Deliberation, and Judicial Opinion Writing*, 1 J.L. & CTS. 303, 320 (2013).

[33] *See* Federal Rules of Appellate Procedure 34. Reports indicate that a majority of cases are decided on the briefs, with most circuits hearing oral argument in less than a third of all cases. Avalon Zoppo, *Which Federal Appeals Courts Grant Oral Argument the Most and Least Often?*, LAW.COM (May 20, 2024), https://www.law.com/nationallawjournal/2024/05/20/which-federal-appeals-courts-grant-oral-argument-the-most-and-least-often/.

[34] *See*, *e.g.*, DAVID W. ROHDE & HAROLD J. SPAETH, SUPREME COURT DECISION MAKING 153 (1976).

[35] Audiotape: *Eliezer Taveras, et al., Appellants v. Bank of America, et al.*, Docket No. 22-11355, UNITED STATE COURT OF APPEALS FOR THE ELEVENTH CIRCUIT (Aug. 9, 2023), https://www.ca11.uscourts.gov/oral-argument-recordings.

Importantly, as caseloads increase on the federal appellate courts, judges necessarily expend less time reading case materials ex ante, making oral argument all the more important.[36] And even if judges both read all the case materials and have preconceived notions as to how they might rule in a case, complicated issues can foster an uncertainty that can best be cured by attorney responses at oral argument.[37] Oral argument also provides a rare opportunity for judges to drive the conversation, rather than passively receive information from the parties.[38] Consequently, completely new issues sometimes surface during oral argument, compelling judges to ask parties to file supplemental briefs.[39]

Several scholars have endeavored to discern whether interactions at oral argument can portend ultimate case outcomes. Even Chief Justice Roberts has thrown his hat into the empirical ring, finding that attorneys who receive more questions at oral argument are more likely to lose their cases.[40] Other scholars have replicated this result, additionally finding that losing rates are heightened when attorneys receive questions that employ more "unpleasant" language.[41] Interestingly, a judge's vocal pitch may also be outcome predictive: justices who direct questions to attorneys at a higher vocal pitch—indicative of greater emotional arousal—are less likely to

[36] Myron H. Bright & Richard S. Arnold, *Oral Argument? It may be Crucial!*, 70 ABA J. 68, 70 (1984).

[37] *Id*. at 68.

[38] Timothy R. Johnson, *Information, Oral Arguments, and Supreme Court Decision Making*, 29 AM. POL. RES. at 331 (2001).

[39] For example, upon counsel citing to relevant precedent that he admitted was not briefed, Judge Richard Lowell Nygaard stated: "Well, you may discuss it now, but I'm going to give the opposing counsel, you know, each of you can submit a supplemental letter brief in a few days." Audiotape: *Bunge SA v. Adm International Sarl*, Docket No. 22-1276, UNITED STATE COURT OF APPEALS FOR THE THIRD CIRCUIT (Jan. 23, 2023), https://www.ca3.uscourts.gov/oral-argument-recordings

[40] John G. Roberts, Jr., *Oral Advocacy and the Re-emergence of a Supreme Court Bar*, 30 J. SUP. CT. HIST. 68, 75 (2005).

[41] Lee Epstein, William M. Landes, & Richard A. Posner, *Inferring the Winning Party in the Supreme Court from the Pattern of Questioning at Oral Argument*, 39 J. LEGAL STUDS. 433, 448–49 (2010); Ryan C. Black et al., *Emotions, Oral Arguments, and Supreme Court Decision Making*, 73 J. POL. 572, 577 (2011).

ultimately vote in favor of that attorney.[42] More importantly, judges may be convinced to switch their vote based on the persuasiveness of attorney arguments.[43]

Judges themselves have acknowledged the role of oral argument and the possibility that attorney arguments can sometimes affect case outcomes.[44] For example, in the 1980s, Judges Myron Bright and Richard S. Arnold on the Eighth Circuit recorded their perspectives on cases before and after the oral arguments they heard during a ten-month period.[45] They reported that oral argument was most likely to change their preconceived notions on a case when it brought to light certain facts that were insufficiently emphasized in the party briefs.[46] This anecdotal evidence comports with empirical work finding that oral argument provides an opportunity for judges to seek information and clarification that can be essential to their ultimate determination in the case.[47]

Additionally, even when a judge predetermines their preferred outcome, attorney arguments provide further justification for their perspective that can help one persuade a majority of their fellows to vote their way.[48] And, in fact, research has found that judges use oral argument in part to communicate their preferences to each other through their questions to counsel.[49] Observers of the court have also noted a change in oral argument over time, with Supreme Court Justices today acting more like advocates than the arbiters of the past: asking more leading questions and lacing their questions with comments and legal conclusions, among

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[42] Bryce J. Dietrich, Ryan D. Enos, & Maya Sen, *Emotional Arousal Predicts Voting on the U.S. Supreme Court*, 27 POL. ANALYSIS 237, 240 (2019).

[43] Eve M. Ringsmuth, Amanda C. Bryan, & Timothy R. Johnson, *Voting Fluidity and Oral Argument on the U.S. Supreme Court*, 66 POL. RES. Q. 429, 434 (2013) (finding that Justices Powell and Blackmun were more likely to switch their vote in a case as argument quality increased); *see also* Johnson, Wahlbeck, & Spriggs, *supra* note 4 at 108 (finding that higher quality attorneys are more likely to win their cases). The "quality" of an oral argument in both studies is assessed using archival notes from Justice Blackmun grading attorney presentations on a scale of A–F. *Id*. at 104–05. These grades are correlated with greater litigation experience, better legal education/training, and greater resources, indicating that this is a strong proxy for quality. *Id*. at 107–08.

[44] Johnson, Wahlbeck, & Spriggs, *supra* note 4 at 101 (quoting several Supreme Court Justices as they describe the impact of oral argument on case deliberations).

[45] Bright & Arnold, *supra* note 36 at 68.

[46] *Id*.

[47] Johnson, Wahlbeck, & Spriggs, *supra* note 4 at 99.

[48] Bright & Arnold, *supra* note 36 at 68.

[49] Johnson, Black, & Wedeking, *supra* note 3 at 355.

other behaviors.[50] Supporters of this modern "hot" bench argue that active judges increase transparency in judicial decision making.[51] But even with increased interruptions and judges spending more time asking non-questions, oral argument remains a discussion, both among the panel of judges and with the attorneys.

Thus, a close examination of oral argument is critical to understanding case outcomes. But the vast majority of research on oral argument is focused on the U.S. Supreme Court, which hears about one percent of cases appealed to it each year.[52] This focus is likely due in part to the substantial data availability at this level. Decades of transcripts are publicly accessible online, and many scholars have made use of archival data—including retired justices' personal papers that are eventually made public some time after their tenure ends. But given that a much larger portion of final judicial decisions rest with the lower federal appellate courts, oral argument at this level is in dire need of investigation.

II. GENDER, GROUP DYNAMICS, AND INTERRUPTIONS

It is evident from the above that appellate judges are engaged in a fundamentally deliberative task, especially during oral argument. But productive deliberations require, among other items, equal respect and equal participation.[53]And sometimes, psychological factors may interact with group dynamics to distort a deliberation, for example if participants' attitudes begin to converge with those of the most socially advantaged in the group so as not to rock the boat.[54] Thus, the general environment and behavior of individual participants can have an impact on the success of any group deliberation.

A. Gendered Speech Differences

Importantly, gender differences in speaking style and group participation rates can have an effect on a discussion. Under socialization theory, men and women function

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[50] Jacobi & Sag, *supra* note 2 at 1169.

[51] Terry Skolnik, *Hot Bench: A Theory of Appellate Adjudication*, 61 B.C. L. REV. 1271, 1318 (2020).

[52] *How the Supreme Court Decides Which Cases to Hear*, PEW CHARITABLE TRUSTS (Nov. 24, 2020), https://www.pewtrusts.org/en/research-and-analysis/articles/2020/11/24/how-the-supreme-court-decides-which-cases-to-hear.

[53] Thompson, *supra* note 13 at 504.

[54] Robert C. Luskin et al., *Deliberative Distortions ? Homogenization, Polarization, and Domination in Small Group Discussions*, 452 BRIT. J. POL. SCI. 1205, 1205–1206 (2022).

in distinct ways from one another not due to inherent differences, but rather because traditional gender roles and social learning reinforce gender-stereotyped behavior.[55] In fact, gender differences in speech patterns have been found in children as young as three, indicating that gender socialization begins early.[56] In the venue of group deliberations, gender socialization may impact not only how women speak, but whether they speak at all. Historically, men have been cast as speakers and women as listeners.[57] This notion is only exacerbated by gendered care expectations that ask women to listen more carefully than men.[58] These historical perceptions still pervade social gender roles today and may explain why we see gendered differences in group behavior.

Most prominently, men tend to dominate discussions in gender-heterogeneous groups.[59] In fact, men in general are significantly more talkative than women, despite pervasive misperceptions otherwise.[60] While women do express a willingness to engage in group deliberation, they may be undermined from doing so by men who assert control over the course of the discussion.[61] The fact that men tend to be more likely to interrupt women as compared to other women likely only further discourages women from attempting to speak up.[62] Thus, women's

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[55] Cindy S. Rosenthal, *Gender Styles in State Legislative Committees*, 21 WOMEN & POL. 21, 24–25 (2000).

[56] Janet Holmes, *Language and Gender*, 24 LANGUAGE TEACHING 207, 211 (1991) (reviewing scholarship that finds young girls use more polite language and are more likely than young boys to use indirect methods of handling conflict).

[57] Deborah Borisoff & Dan F. Hahn, *Dimensions of Intimacy: The Interrelationships between Gender and Listening*, 6 INT'L LISTENING ASS'N 23, 29 (1992).

[58] Elizabeth S. Parks & Kristen Barta, *Are You My Mother: Perpetuating Gender Inequality through Listening Expectations and Relational Roles*, 8 J. RES. GENDER STUD. 28, 32–33 (2018).

[59] Nancy S. Marder, *Gender Dynamics and Jury Deliberation*, 96 YALE L. J. 593, 596 (1987) (finding women participate at lower rates than men during jury deliberations, even controlling for the predominance of male forepersons); Denisa Kostovicova & Tom Paskhalis, *Gender, Justice and Deliberation: Why Women Don't Influence Peacemaking*, 65 INT'L STUD. Q. 263, 274 (2021) (finding that men dominate conversational turn-taking in peacemaking discussions, leading to under-consideration of women's needs and interests).

[60] Leaper & Ayres, *supra* note 7 at 346.

[61] Afsoun Afsahi, *Gender Difference in Willingness and Capacity for Deliberation*, 28 SOC. POL. SOC'Y 1046, 1059–1060 (2021).

[62] Smith-Lovin & Brody, *supra* note 8 at 431. *See also* Don H. Zimmerman & Candace West, *Sex Roles, Interruptions and Silences in Conversation*, *in* TOWARDS A CRITICAL SOCIOLINGUISTICS 211, 224 (Rajendra Singh ed., 1996) (finding men to be responsible for the majority of interruptions in

participation fares better when their group includes a higher proportion of other women.[63] Conversely, groups with only a few "token" women tend to see even greater conversation domineering by men.[64]

When women's voices are heard, they tend to speak differently from men. In general, women are socialized to be more relational and collaborative than men whereas men tend to be more assertive and competitive as compared to women.[65] Likely because of this difference, women tend to use more affiliative speech (i.e., speech aimed at forging and maintaining connections with others) whereas men tend to use more assertive speech (i.e., aimed at asserting dominance and achieving specific goals).[66] This manifests as women using language that is less aggressive,[67] includes more compliments,[68] and is more polite.[69] Women also tend to be more apologetic than men[70] and display more uncertainty, mainly through the usage of hedges and tag questions.[71] Hedges are phrases that reduce the assertiveness of a

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cross-sex conversations). Some scholars have posited that women are more likely to be interrupted simply because they are more likely to cede to attempts to interrupt them as compared to men. Smith-Lovin & Charles Brody, *supra* note 8 at 431. Conversely, men tend to use conversational strategies such as pausing and using fillers as a means of holding their turn. *See* Sheila Brownlow, Julie A. Rosamond, & Jennifer A. Parker, *Gender-Linked Linguistic Behavior in Television Interviews*, 49 SEX ROLES 121, 122 (2003).

[63] Anita W. Woolley et al, *Evidence for a Collective Intelligence Factor in the Performance of Human Groups*, 330 SCI. 686, 688 (2010) (this study also finds that majority-women groups exhibit more equality in turn-taking during the discussion and demonstrate increased levels of collective knowledge post-deliberation).

[64] Christopher F. Karpowitz, Tali Mendelberg, & Lee Shaker, *Gender Inequality in Deliberative Participation*, 106 AM. POL. SCI. REV. 533, 536 (2012).

[65] Rosenthal, *supra* note 55 at 25.

[66] Leaper & Ayres, *supra* note 7 at 351–352.

[67] Brownlow, Rosamond, & Parker, *supra* note 62 at 122.

[68] Janet Holmes, *Paying Compliments: A Sex-Preferential Positive Politeness Strategy*, 12 J. PRAGMATICS 445, 449 (1988).

[69] Robin Lakoff, *Language and Woman's Place*, 2 LANGUAGE SOC'Y 45, 56 (1973). However, some scholars argue that politeness is not always "a good thing," and can sometimes be used to manipulate the behavior of others. SARA MILLS, GENDER AND POLITENESS 59 (2003).

[70] Janet Holmes, *Sex Differences and Apologies: One Aspect of Communicative Competence*, 10 APPLIED LINGUISTICS 194, 209 (1989).

[71] See, e.g., Campbell Leaper & Rachel D. Robnett, *Women Are More Likely Than Men to Use Tentative Language, Aren't They? A Meta-Analysis Testing for Gender Differences and Moderators*, 35 PSYCHOL. WOMEN Q. 129, 134 (2011).

statement, such as "I guess," "well," and "you know."[72] Tag questions are added on to the end of an otherwise certain statement and function similarly, tending to take forms like "are you?" "isn't she?" and "can't they?"[73] Interestingly, there are even gender differentials in the use of humor during group discussions. Namely, while both men and women primarily use humor to build cohesion with those around them, the former are much more likely than the latter to use differentiating humor that points attention to a single group member or subgroup.[74]

One of the most notable gender differences in group behavior involves the usage of interruptions. However, scholars have disagreed over what precisely constitutes an "interruption." On one hand, an interruption could be one form of simultaneous speech, along with inadvertent overlaps and back-channel responses.[75] Back-channel responses usually take the form of brief utterances such as "yeah" or "right" and are interjected to communicate active listening without any real attempt to begin a longer speaking turn.[76] These types of minimal responses are often inserted so skillfully into conversation that there is rarely any overlap, requiring that the responder pay close attention to the conversation and listen for impending pauses.[77] On the other hand, some researchers have found that interruptions can happen even without simultaneous speech.[78] Interestingly, there may be gendered differences in the perception of what constitutes an interruption in the first place, with women more likely to categorize all types of overlapping speech as interruptive.[79]

In general, interruptions are thought to violate conversational turn-taking norms whereby listeners are expected to wait until a speaker has finished their thought

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[72] Janet Holmes, *Women's Language: A Functional Approach*, 24 GEN. LINGUISTICS 149, 152 (1984). However, Holmes argues that a phrase's designation as a "hedge" might also hinge on the intonation of the speaker. *Id*.

[73] Janet Holmes, *Hedges and Boosters in Women's and Men's Speech*, 10 LANGUAGE & COMM. 185, 186 (1990).

[74] Lynn Smith-Lovin & Dawn T. Robinson, *Getting A Laugh: Gender, Status, and Humor in Task Discussions*, 80 SOC. FORCES 123, 142 (2001).

[75] Makri-Tsilipakou, *supra* note 10 at 402.

[76] *Id*. at 405–406.

[77] *See* Peter Kollock, Philip Blumstein, & Pepper Schwartz, *Sex and Power in Interaction: Conversational Privileges and Duties*, 50 AM. SOC. REV. 34, 36 (1985).

[78] Mary I. Bresnahan & Deborah H. Cai, *Gender and Aggression in the Recognition of Interruption*, 21 DISCOURSE PROCESSES 171, 173 (1996).

[79] *Id*. at 177.

before proffering a new opinion.[80] This norm persists even in group settings, where one person at a time is usually given an unimpeded period to speak their mind.[81] But norms can be violated, and studies have found that women experience a disproportionate number of interruptions when they speak.[82] This is even true for women who sit in relative positions of power. For example, women senators are 10% more likely to be interrupted when speaking at committee hearings as compared to peer men.[83] Further, at judicial confirmation hearings, male nominees to the Supreme Court interrupt women senators interviewing them at higher rates than they do male senators.[84] Congressmen also interrupted the first women to serve as chair of the Federal Reserve, Janet Yellen, at a higher rate than male chairs that served both before and after her.[85]

Of course, interruptions qua interruptions are not necessarily negative. While early literature on group deliberation tended to conceive of all interruptions as a means for domination and control, contemporary work draws a distinction between interruptions that are conflict-oriented and those that are aimed at collaboration, cooperation, and mutual orientation.[86] Supportive interruptions may be thought of as "positive" whereas obstructive interruptions are considered to be "negative."[87] Introducing this dichotomy led to findings that women tend to use more of these positive interruptions—collaborative overlapping speech that is supportive and

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[80] Leaper & Ayres *supra* note 7 at 351.

[81] Geoffrey W. Beattie, *Turn-Taking and Interruption in Political Interviews: Margaret Thatcher and Jim Callaghan Compared and Contrasted*, 39 SEMIOTICA 93, 93 (1982).

[82] *See*, *e.g.*, Adrienne B. Hancock & Benjamin A. Rubin, *Influence of Communication Partner's Gender on Language*, 34 J. LANGUAGE & SOC. PSYCHOL. 46, 55 (2014).

[83] Michael G. Miller and Joseph L. Sutherland, *The Effect of Gender on Interruptions at Congressional Hearings*, 117 AM. POL. SCI. REV. 103, 109 (2023).

[84] Christina L. Boyd, Paul M. Collins, & Lori A. Ringhand, *Gender, Race, and Interruptions at Supreme Court Confirmation Hearings*, 119 AM. POL. SCI. REV. 492, 496–497 (2025).

[85] James Bisbee, Nicolò Fraccaroli, & Andreas Kern, *Yellin' at Yellen: Hostile Sexism in the Federal Reserve Congressional Hearings*, 87 J. POL. (forthcoming 2025).

[86] Julia A. Goldberg, *Interrupting the Discourse on Interruptions: An Analysis in Terms of Relationally Neutral, Power- and Rapport-Oriented Acts*, 14 J. PRAGMATICS 883, 890 (1990).

[87] Various terms have been used in the literature to describe this dichotomy, and this Article uses some terms interchangeably. Positive interruption may be deemed "supportive," "cooperative," "affiliative," "conversational," or "constructive." Negative interruptions could also be called "obstructive," "competitive," "assertive," "intrusive," or "disruptive." However, it's worth noting that even interruptions which are intended to be positive may still have a negative effect on the original speaker. *See* Feldman & Gill, *supra* note 11 at 175.

conversational.[88] Men also sometimes use positive interruptions, but they are much more likely than women to use negative interruptions to undermine or obstruct the current speaker.[89]

The gender composition of a group may matter considerably to the interruption environment. We know that women are less likely to be interrupted during a discussion when there are many other women in the group.[90] Further, men actually use a relatively high proportion of supportive interruptions in all-male groups, though they become more likely to use negative interruptions even against other men as more women join the group.[91] Differences in body language may also contribute to the gender gap in interruptions. One experiment finds that women are more likely to lean away from a group and smile while talking, and that they were more likely to be interrupted when doing so.[92] Interruption behavior may also be impacted by the decision rule of the group.[93]

B. Gender and Judging

These gendered differences in deliberation dynamics extend across the federal courts in a number of ways. Namely, women judges tend to be more collaborative and consensus seeking as compared to peer men. For example, on the U.S. District Courts, women judges have been found to foster settlement more quickly and more frequently, indicating greater collaborative tendencies with attorneys and parties.[94] At the level of the federal appellate courts, women judges may also indicate more willingness to work toward consensus with peer judges on their panel.[95] Within

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[88] Makri-Tsilipakou, *supra* note 10 at 412. Conversely, men tend to be more likely to use intrusive interruptions. Kristin J. Anderson & Campbell Leaper, *Meta-Analyses of Gender Effects on Conversational Interruption: Who, What, When, Where, and How*, 39 SEX ROLES 225, 244 (1998).

[89] Makri-Tsilipakou, *supra* note 10 at 412.

[90] Christopher F. Karpowitz, Tali Mendelberg, & J. Baxter Oliphant, *Gender Inequality in Deliberation: Unpacking the Black Box of Interaction*, 12 PERSP. POL. 18, 25 (2014).

[91] Smith-Lovin & Brody, *supra* note 8 at 431.

[92] Carol W. Kennedy & Carl T. Camden, *Interruptions and Nonverbal Gender Differences*, 8 J. NONVERBAL BEHAV. 91, 104–105 (1984).

[93] CHRISTOPHER F. KARPOWITZ & TALI MENDELBERG, THE SILENT SEX: GENDER, DELIBERATION, & INSTITUTIONS 138–139 (2014).

[94] *See* Christina L. Boyd, *She'll Settle It?*, 1 J.L. & CTS. 193, 211 (2013).

[95] Ruiz, *supra* note 26.

state courts, women majority authors may even be able to increase voting consensus for cases involving certain issue areas.[96] Further, women judges on the U.S. Courts of Appeals have been found to be able to change peer men's opinion on cases involving issues they may have more experience with, such as sex discrimination.[97]

However, as with laywomen, women judges may be impeded from any positive impact on judicial deliberation if they fail to have their voices heard. In one 1990 study, 81% of women judges on the U.S. Courts of Appeals indicated that they had experienced some sort of gender bias.[98] And research indicates that this bias may still persist today. Even before they are confirmed to the Supreme Court, women nominees are interrupted at higher rates than male nominees by senators at their confirmation hearings.[99] And once sitting on the bench, these women justices tend to be over interrupted during oral argument, both by their fellow men on the bench and by the male attorneys presenting their cases.[100] These interruptions permit men to speak for longer periods of time and ultimately dominate the deliberation environment that is oral argument.[101] However, this effect may persist because

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[96] Meghan E. Leonard and Joseph V. Ross, *Gender Diversity, Women's Leadership, and Consensus in State Supreme Courts*, 41 J. WOMEN POL. & POL'Y 278, 294 (2020) (finding this to hold for employment discrimination as well as search and seizure cases).

[97] Christina L. Boyd, Lee Epstein, & Andrew D. Martin, *Untangling the Causal Effects of Sex on Judging*, 54 AM. J. POL. SCI. 389, 406 (2010).

[98] Elaine Martin, *Men and Women on the Bench: Vive la Difference*, 73 JUDICATURE 204, 207 (1990).

[99] CHRISTINA L. BOYD, PAUL M. COLLINS, & LORI A. RINGHAND, SUPREME BIAS 137 (2023). Women nominees also face more inquiries into their competence and ability to maintain impartiality at these hearings. *Id*. at 117.

[100] Jacobi & Schweers, *supra* note 5 at 1493. Of course, ideology also has an impact on interruptions. *See id*; *see also* Johnson, Black, & Wedeking, *supra* note 3 at 350.

[101] Feldman & Gill, *supra* note 11 at 184–185. Interestingly, the Supreme Court went through a rule change for oral arguments in 2021 that was reported by Justice Sonia Sotomayor to be a response to scientific studies (specifically one by Jacobi and Schweers) finding gender bias existed under the earlier rules. Amy Howe, *Justices Tweak Format of In-Person Oral Arguments to Allow Time for Taking Turns*, SCOTUSBLOG (Sept. 21, 2021, 12:00 AM), https://www.scotusblog.com/2021/09/justices-tweak-format-of-in-person-oral-arguments-to-allow-time-for-taking-turns/. In addition to the formal rule change that followed, Chief Justice Roberts became more active in refereeing among his fellow Justices during oral argument, frequently intervening to ensure women justices were heard. Tonja Jacobi & Matthew Sag, *Supreme Court Interruptions and Interventions: The Changing Role of the Chief Justice*, 103 B.U. L. REV. 1741, 1801 (2023). This has huge implications for the power and role of the Chief Justice, though that is not the focus of this Article. *See generally* Christina L. Boyd & Sidney E. Shank, *How Gender-Biased Oral Argument Interruptions Opened the Door for Chief Justice Roberts to Be a Transformational Leader*, 103 B.U. L. REV. 1806 (2023).

women justices tend to use framing words (similar to hedges) like "may I ask" when introducing their questions that permit interruptions more easily.[102] It may also occur because both women and men on the court overestimate the degree to which women are dominating the conversation.[103] And this behavior has the potential to affect case outcomes; interruptions among Justices at oral argument have been found to correlate with conflict in voting later on in the case.[104]

C. Women Attorneys

The extent to which gender affects interruptions encompasses attorneys as well. Justices interrupt women lawyers sooner, more frequently, and with longer questions as compared to men arguing before the court.[105] As with women judges, this finding may persist simply because of gender bias against women attorneys. In one survey of practicing attorneys, about 75% of women reported experiencing some form of mistreatment in the past five years of practice.[106] Because lawyer is still perceived to be a "man's job," women attorneys likely also face a classic double bind. That is, they must either embrace more masculine presentation styles and thus be criticized for breaking gender norms or instead perform femininity and subsequently face judgement for not conforming to society's expectations of what it means to be an attorney.[107]

Some research indicates that adherence to gender norms may yield benefits for attorneys. In one experiment varying the level of anger present in a mock closing statement, participants indicated a preference for male attorneys who used higher

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[102] Jacobi & Schweers, *supra* note 5 at 1448–1449.

[103] Feldman & Gill, *supra* note 11 at 187.

[104] Tonja Jacobi & Kyle Rozema, *Judicial Conflicts and Voting Agreement: Evidence from Interruptions at Oral Argument Interruptions at Oral Argument*, 59 B.C. L. REV. 2259, 2311 (2018).

[105] Patton & Smith, *supra* note 6 at 345. While judges also disproportionately interrupt out-ideologues, this effect of gender on interruption behavior is stronger than that of ideology. Erica Cai et al., *"Let Me Just Interrupt You": Estimating Gender Effects in Supreme Court Oral Arguments*, J.L. & CTS. 1, 14 (2025).

[106] Lilia M. Cortina et al., *What's Gender Got to Do with It? Incivility in the Federal Courts*, 27 LAW & SOC. INQUIRY 235, 244 (2002). Another survey of attorneys and judges at the Florida bar finds that 74.8% of women attorneys and 68.4% of women judges report experiencing gender biased behavior from male judges. Andrea Stepnick & James D. Orcutt, *Conflicting Testimony: Judges' and Attorneys' Perceptions of Gender Bias in Legal Settings*, 34 SEX ROLES 567, 572 (1996).

[107] Connie Lee, *Gender Bias in the Courtroom: Combating Implicit Bias Against Women Trial Attorneys and Litigators*, 22 CARDOZO J.L. & GENDER 229, 238 (2016).

levels of anger and an aversion to women attorneys presenting the same anger-laced argument.[108] Another experiment similarly finds that, while participants preferred more aggressive argument styles in general, they favor these types of arguments even more when they are presented by male attorneys.[109] Gender roles may also play a role in a judge's reception to attorney arguments. Male justices have been found to be more likely to rule in favor of male attorneys who use unemotional language in their briefs and more likely to rule in favor of female attorneys who use emotional language in their briefs.[110] Additionally, attorneys of both genders tend to receive more interruptions when their oral arguments are not gender normative.[111] That is, men are interrupted more when they use more emotional language whereas women are interrupted less as they use more emotional language.[112]

However, research is mixed as to whether attorney gender affects ultimate case outcomes. At the Supreme Court, women and men attorneys are about equally likely to win cases they argue.[113] Of course, argument in front of the Supreme Court is still highly male dominated, and women attorneys are less likely to be assigned both to argue and to write briefs at this level.[114] On the U.S. Courts of Appeals, women attorneys may actually be more likely than men to win their cases.[115]

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[108] Jessica M. Salerno et al., *Closing with Emotion: The Differential Impact of Male Versus Female Attorneys Expressing Anger in Court*, 42 LAW & HUM. BEHAV. 385, 397 (2018).

[109] Peter W. Hahn & Susan D. Clayton, *The Effects of Attorney Presentation Style, Attorney Gender, and Juror Gender on Juror Decisions*, 20 LAW & HUM. BEHAV. 533, 548 (1996).

[110] *See* Shane A. Gleason, Jennifer J. Jones, & Jessica Rae McBean, *The Role of Gender Norms in Judicial Decision-Making at the U.S. Supreme Court: The Case of Male and Female Justices*, 47 AM. POL. RES. 494, 514 (2019).

[111] Shane A. Gleason, *Since You Put it that Way… Gender Norms and Interruptions at Supreme Court Oral Arguments*, 105 SOC. SCI. Q. 582, 590 (2024).

[112] *Id*. at 590.

[113] John Szmer, Tammy A. Sarver, & Erin B. Kaheny, *Have We Come a Long Way, Baby? The Influence of Attorney Gender on Supreme Court Decision Making*, 6 POL. & GENDER 1, 22 (2010); s*ee also* Jonathan S. Hack & Clinton M. Jenkins, *The Attorney's Gender: Exploring Counsel Success before the U.S. Supreme Court*, 75 POL. RES. Q. 632, 639 (2021) (finding no statistically significant difference in petitioner success based on the gender of the arguing attorney).

[114] John Szmer, Tammy A. Sarver, & Erin B. Kaheny, *"I Haven't Come a Long Way, and I'm not a Baby": Task Assignment and Diversity of the Supreme Court Bar*, 102 SOC. SCI. Q. 2907, 2921 (2021).

[115] John Szmer et al., *The Impact of Attorney Gender on Decision Making in the United States Courts of Appeals*, 34 J. WOMEN POL. & POL'Y 72, 86–87 (2013).

However, women attorneys are less successful with men when they are arguing for a lower court case to be overturned.[116] Further, women attorneys do not appear to gain any special advantage when arguing cases that involve women's issues in front of judges.[117]

Taken together, the literature indicates that women judges and women attorneys are probably not all that different from laywomen, especially when it comes to their preference for collaboration and subjection to some forms of gender bias. Thus, we might expect the research on gender differentials in group deliberation to directly map onto women's experience at oral argument. And, in fact, some work has already found that women justices and attorneys are over-interrupted at oral argument on the Supreme Court, just like laywomen are over-interrupted in daily life. However, no study to date has considered interruption behavior on the U.S. Courts of Appeals, which are responsible for the vast majority of final judicial decisions in the country. Additionally, further research is needed to understand the speech behavior of interrupters rather than interruptees, especially in consideration of the fact that not all interruptions are created equally. An individual judge's or attorney's contribution to the group deliberation that is oral argument hinges on whether they can be heard and what they have to say.

III. EMPIRICAL EXPECTATIONS FOR GENDER & INTERRUPTIVE BEHAVIOR

Given the literature on gendered differences in group deliberation, there is strong reason to expect that women on the bench will be predisposed to use more collaborative speech styles at oral argument as compared to peer men, even if they are sometimes inhibited from doing so. I expect this relationship to manifest in several ways. First, I anticipate that the likelihood of interrupting may depend on the gender of the judge. Women have been socialized to prioritize relationship building during group deliberations and thus should be less likely to violate the

[116] *Id*. at 90.

[117] *Id*. at 88. But laymen may be more likely to trust women attorneys when they argue in cases involving certain women's issues. Mary M. Levi, Kellie R. Lynch, & Jonathan M. Golding, *Strength v. Sensitivity: The Impact of Attorney Gender on Juror Perceptions and Trial Outcomes in a Rape Case*, 28 VIOLENCE AGAINST WOMEN 2010, 2024 (2022) (finding that mock jurors perceive women prosecutors in rape trials to be more competent and skillful than men, and perceive prosecutors in such trials to be less competent and skillful when presented with a woman defense attorney). Participants in this study also showed preference for women attorneys that were "sensitive" and "sympathetic," while preferring male attorneys that were "strong" and "authoritative." *Id*. at 2026.

turn-taking norms associated with conversational back and forth.[118] Of course, these conversational norms may not apply to oral argument, where interjections are not only common but expected by attorneys.[119] Still, if women judges are sensitive to societal gender norms that place them as listeners in everyday conversations,[120] they may be more likely than men to wait for a pause in speech to ask a question. And women's participation may be further stymied by men's tendency to dominate group deliberations.[121] Succinctly:

> Hypothesis 1A: Women judges will be less likely to interrupt during oral argument as compared to peer men.

Additionally, gender may impact the substantive tone of interruptions outside of a judge's general propensity to interrupt. Conditional on interrupting in the first place, I expect that women will use a higher proportion of positive interruptions whereas men will use a higher proportion of negative interruptions. These tonal predictions stem from what we know about gender differentials in deliberation environments: women tend to be more affiliative and cooperative while men tend to be more assertive and independent.[122] Research in other areas has found that women are likely to use positive interruptions to affirm and support other speakers in the room.[123] Women in the judiciary seem to exhibit higher tendencies toward collaboration than their male counterparts in other settings,[124] they should also be more likely to use positive interruptions at oral argument. Additionally, men may be more likely to want to control the flow of oral argument using more negative and obstructive interruptions. Thus:

> Hypothesis 1B: Women (men) judges will use a higher proportion of positive (negative) interruptions at oral argument as compared to peer men (women).

I then consider analogous effects among counselors. Attorneys are part of the deliberation environment at oral argument and their interruption behavior has the

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[118] Leaper & Ayres, *supra* note 7 at 351.

[119] Jacobi & Schweers, *supra* note 5 at 1397.

[120] Borisoff & Hahn, *supra* note 57 at 29.

[121] Leaper & Ayres, *supra* note 7 at 346.

[122] *Id*. at 351–352.

[123] Makri-Tsilipakou, *supra* note 10 at 412.

[124] Ruiz, *supra* note 26.

potential to affect a judge's ability to hold the floor. Similarly to my predictions about judicial speech behavior, women attorneys ought to interrupt at lower rates than those of peer men. And in fact, this effect may be larger among attorneys as compared to judges. The norm at oral argument for judges to interrupt attorneys does not extend both ways. In fact, attorneys are required through all sorts of procedures to be extremely respectful and deferential to the judges they are arguing in front of. This should make attorney interruptions unlikely on the whole. However, women attorneys might be even more sensitive to these norms than men given that women in general are more likely to conceive of interruptions as violating conversational norms.[125] Thus:

> Hypothesis 2A: Women attorneys will be less likely to interrupt at oral argument as compared to peer men.

However, in rare cases where attorneys do happen to interrupt judges, I anticipate that the gender effects on interruption tone will mirror those of judges. Namely, women attorneys will use a higher proportion of positive interruptions and men attorneys will use a higher proportion of negative interruptions. This may occur simply because of gender socialization among attorneys but could also persist for strategic reasons. Judges are apparently more receptive to attorney arguments when they abide by gender norms.[126] Positive interruptions may be seen as more feminine since they tend to be supportive and affiliative whereas negative interruptions tend to be more assertive and thus more masculine. So, attorneys may be incentivized to interrupt in a more positive or negative fashion based on their gender. Essentially:

> Hypothesis 2B: Women (men) attorneys will use a higher proportion of positive (negative) interruptions at oral argument as compared to peer men (women).

Finally, the gender composition of a group will likely impact interruption behavior as well. In other settings, speakers become less likely to interrupt as more women join a group.[127] Thus, adding more women to a group should mitigate overall interruption behavior during a given oral argument. In other words:

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[125] Bresnahan & Cai, *supra* note 78 at 185.

[126] Gleason, *supra* note 111 at 590; Gleason, Jones, & McBean, *supra* note 110 at 514.

[127] Karpowitz, Mendelberg, & Oliphant, *supra* note 90 at 25; *see also* Pamela Ban et al., *How Does the Rising Number of Women in the U.S. Congress Change Deliberation? Evidence from House Committee Hearings*, 17 Q.J. POL. SCI. 355, 382 (2022).

Hypothesis 3: All speakers will be less likely to interrupt as the proportion of women in the room (judges and attorneys) increases.

IV. RESEARCH DESIGN

A. Sample of Cases

Testing my hypotheses requires data on: (1) judge demographics; and (2) interruptions at oral argument. Demographic data on all relevant judges is available through the Federal Judicial Center ("FJC"), the wing of the judicial branch dedicated to education and research. Capturing interruptions, however, requires a bit more effort. The vast majority of researchers studying oral arguments have focused on those occurring at the Supreme Court level.[128] However, all U.S. Courts of Appeals have at least some audio files of oral arguments available for public download on their individual circuit websites. Nonetheless, it is somewhat time consuming and/or costly to create accurate transcripts for these audio files. Thus, I have selected a random sample of twelve arguments per circuit in eleven circuits for two years (2023 and 2022), providing a total of 264 files for review.[129] I contracted with a transcription firm to listen to each audio file and write out the oral arguments verbatim.

The final dataset is comprised of a compilation of all these transcripts. Each row of the data represents one speaking instance, with a new row starting each time a new speaker begins to talk. Thus, a single speaking instance is the main unit of analysis. With the help of an undergraduate research assistant, I then listened to the audio files and hand-coded key variables of interest. For each speaking instance, the first step was to identify the speaker. Attorneys often state their name at the beginning of their argument, making them relatively easy to identify. The difficulty of

[128] *See generally* Feldman & Gill, *supra* note 11; Jacobi & Schweers, *supra* note 5.

[129] This is roughly modified from Donald R. Songer's Appeals Courts Database Project, which randomly samples 30 cases per circuit year and has been adopted by several other researchers of the federal appellate courts. *E.g.*, Moyer et al., *"All Eyes are on You": Gender, Race, and Opinion Writing on the US Courts of Appeals*, 55 LAW & SOC'Y REV. 452 (2021). Random sampling proceeded by counting the number of files available on the website for a given year, using a random number generator to select 12 numbers within the total files, and downloading the files that corresponded to the numbers selected. I do not include First Circuit cases due to inaccessibility of data and I excluded Federal Circuit cases due to their issue area specialty. For a summary of oral argument availability by circuit, *see* Appendix B. Appendix B also includes descriptive statistics as to average case load and average oral argument length by circuit. An average audio file in my dataset includes about 37.77 minutes of data.

identifying a given judge varied by argument. In most cases, I was able to discern who was sitting on a panel by looking up the case docket on Westlaw. Then, it was a matter of matching the voices of those three judges to each speaking instance. Sometimes, attorneys address judges by their names, simplifying this inquiry. And a few circuits post video versions of arguments on their website that make it very clear which judge is speaking. In difficult cases, I searched for videos online of judges and compared the voices in those videos to those on the audio files.

Once the speaker was identified, I was able to code a number of speaker-level variables including their gender and their status as either a judge or attorney. For attorneys, I also determined whether they represented the petitioner, respondent, or some third-party/amicus. For judges, I ascertained whether they were presiding as well as whether they were a visiting district judge. Additionally, for each speaking instance, I identified whether the speaker engaged in an interruption. If so, I categorized the interruption based on tone and type. I also detected whether the interrupter apologized for interrupting. Finally, I coded out several argument-level variables, including the number of women judges on the panel, the total number of speaking instances for the argument, the circuit hearing the argument, and the case name.

B. Measuring Interruptions

As noted *supra* Section II-A, whether speech is interruptive is somewhat subjective. For the purposes of this project, text was coded as an interruption when the interrupter began to speak in the middle of another speaker's sentence, even if that speaker had paused such that no overlapping speech occurred (though many interruptions did in fact involve overlapping speech).[130] For example, the exchange below did not involve simultaneous speech but is still clearly interruptive:

> Counsel: No, every circuit that has addressed this issue--
>
> Judge Paul V. Niemeyer: I understand. I'm asking you to answer my question, not cite another case.[131]

---

[130] In studies on interruptions during oral argument at the U.S. Supreme Court, interruptions are coded as occurring whenever the argument transcript includes a "--" indicating that a speaker was cut off. *E.g.*, Jacobi & Schweers, *supra* note 5 at 1465; Feldman & Gill, *supra* note 11 at 179.

[131] Audiotape: *Stephanie Walker v. Petsense, LLC*, Docket No. 22-1827, UNITED STATE COURT OF APPEALS FOR THE FOURTH CIRCUIT (Oct. 25, 2023), https://www.ca4.uscourts.gov/oral-argument/listen-to-oral-arguments.

Because I categorized all interruptions personally, at the very least they are internally consistent. About 26% of all speaking instances in the dataset are interruptions (n = 7,388).

Once an interruption is identified, it is then sorted as positive, negative, or true neutral.[132] An interruption is "positive" if it: (1) expresses active listening of some sort (i.e., by repeating/summarizing the previous speaker's comments or finishing the speaker's thought); (2) solicits elaboration or clarification from the speaker; or (3) actively agrees or adds on to the speaker's comments without qualification/counterpoint. Below are examples of each of these three types of tonally positive interruptions:

Active Listening

> Judge John M. Rogers: …but the call said that there was extremely loud yelling or whatever by one person against either--
>
> Counsel: A dog or another person outside.[133]

Soliciting Elaboration/Clarification

> Counsel: …and it's summarized in the next email in four bullet points, which essentially it says to punish--
>
> Judge Duane Benton: Which email? Is this the May email or July?[134]

Agreement

> Judge Edith Jones: No, but I'm saying the books don't detail--

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[132] These tonal codes are roughly adapted from schemes used by other researchers on the topic. Smith-Lovin & Brody, *supra* note 8 at 428. I make some modifications for the unique judicial setting.

[133] Audiotape: *Reed v. Campbell County*, Docket No. 22-5751, UNITED STATE COURT OF APPEALS FOR THE SIXTH CIRCUIT (July 27, 2023), https://www.opn.ca6.uscourts.gov/internet/court_audio/audSearch.php

[134] Audiotape: *Sanimax USA, LLC v. City of South St. Paul*, Docket 23-1579, UNITED STATE COURT OF APPEALS FOR THE EIGHTH CIRCUIT (Oct. 18, 2023), https://www.ca8.uscourts.gov/case-number-0.

> Counsel: That's right. They don't explicitly say. That's right. They don't explicitly say in the Excel file. It doesn't say that.[135]

An interruption is "negative" if it: (1) rejects or corrects the speaker's comment; (2) raises an objection or counterargument to the speaker's comment; or (3) changes the topic.[136] Note that a classic hypothetical question could function as either an opportunity for elaboration or an objection to respond to, depending upon the content of the hypo. Below are examples of each type of negative interruption:

Rejection

> Counsel: I can't get a complete unredacted copy of all three of those dates--
>
> Judge Myrna Perez: That's not what the record reflects.[137]

Objection

> Counsel: … I don't think either party disputes the content of those communications.--
>
> Judge Eric Clay: They dispute the meaning and the facts being represented by the communication. So in that sense they do dispute the facts.[138]

Topic Change

> Counsel: There's a standard range for washers to be legal for sale . . . . To be ENERGY STAR, they have to meet a higher threshold—

---

[135] Audiotape: *USA v. Hinjosa*, Docket No. 22-10584, UNITED STATE COURT OF APPEALS FOR THE FIFTH CIRCUIT (Nov. 8, 2023), https://www.ca4.uscourts.gov/oral-argument/listen-to-oral-arguments.

[136] While topic shifts are usually coded as negative in work on interruptions, affiliative topic shifts are possible—for example if the current topic is delicate, divisive, or embarrassing. Makri-Tsilipakou, *supra* note 10 at 408. The topic shifts appearing in these data tend not to be affiliative.

[137] Audiotape: *Gristina v. Merchan*, Docket 22-1114, UNITED STATE COURT OF APPEALS FOR THE SECOND CIRCUIT (Jan. 3, 2023), https://ww3.ca2.uscourts.gov/decisions.

[138] Audiotape: *Hurst v. Caliber Home Loans, Inc.*, Docket 21-3350, UNITED STATE COURT OF APPEALS FOR THE SIXTH CIRCUIT (March 16, 2022), https://www.ca6.uscourts.gov/court-audio-search.

> Judge Stephanos Bibas: Okay. Mr. Deckant, let's talk about the bidding issue. . . .[139]

I also permit the possibility of a "true neutral" coding for: (1) administrative interjections (e.g., telling an attorney they are out of time or that they must get closer to the microphone); and (2) back-channel responses. These true neutral interruptions are excluded from analyses that look at total interruptions. I exclude true neutral interruptions for two reasons. First, they rarely include substantive content. Interruptions are important if they contribute meaningfully to deliberation, but administrative interruptions and minimal responses do not usually have this effect. Second, these interruptions tend to be quite short in length, averaging less than 10 words in the dataset.[140] In other studies, interjections that are exceptionally short tend to be excluded from analysis as not truly interruptive.[141] Examples of true neutral interruptions are as follows:

Administrative

> Counsel: Because in that case, the defendant was saying, on our cosmetics products--
>
> Judge Morgan Christen: Could you slow down a little?[142]

Back Channel

> Judge Adalberto Jordan: We don't know the specific, specific reason--

---

[139] Audiotape: *Dzielak v. Whirlpool Corporation*, Docket 20-2551, UNITED STATE COURT OF APPEALS FOR THE THIRD CIRCUIT (June 2, 2022), https://www.ca3.uscourts.gov/oral-argument-recordings.

[140] Back-channel responses average ~2.1 words and administrative interruptions average ~14.7 words in the dataset.

[141] *See* Gleason, *supra* note 111 at 586 (excluding interjections that include less than 20 characters because they are "not interruptions in the traditional sense; rather, they are a form of conversation maintenance"). This happens especially often with minimal responses, though these could alternatively be considered affiliative interruptions. Anderson & Leaper, *supra* note 88 at 232. Including back-channel interruptions in my analysis as positive interruptions has the potential to slightly overstate gendered effects since women may be more likely than men to use these types of responses, especially when in conversation with other women. Julie Reid, *A Study of Gender Differences in Minimal Responses*, 24 J. PRAGMATICS 489, 509 (1995). Appendix C shows that women attorneys in the dataset were slightly more likely than men to engage in back-channel interruptions ($p < 0.1$), though there are no significant gender differences among judges.

[142] Audiotape: *Nacarino v. Kashi Co.*, Docket 22-15377, UNITED STATE COURT OF APPEALS FOR THE NINTH CIRCUIT (May 10, 2023), https://www.ca9.uscourts.gov/media/.

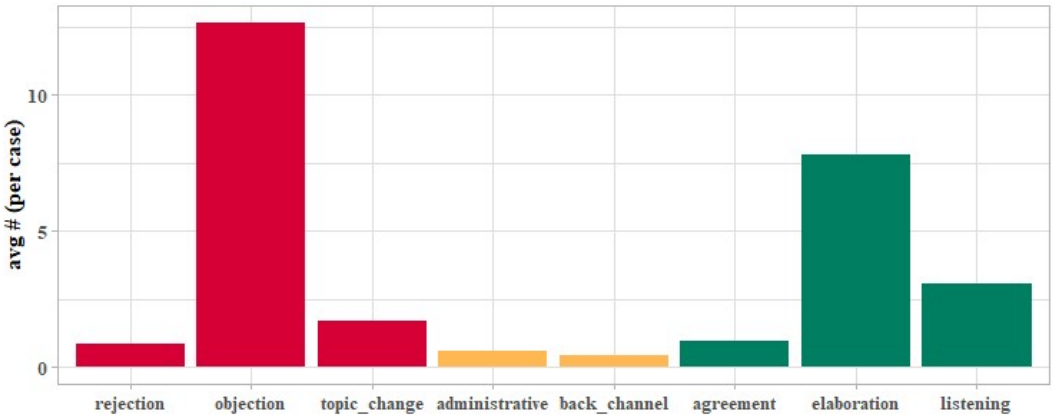
Counsel: Right.

Judge Adalberto Jordan: for the alleged violation, right?

Counsel: Right.[143]

Figure 1 presents the breakup of interruptions by tone and type in an average argument. Note that most interruptions are negative and that very few interruptions were categorized as true neutral. The vast majority of negative interruptions come in the form of an objection to the speaker's point whereas the majority of positive interruptions are categorized as soliciting elaboration/clarification.

Figure 1: Interruption Tone/Type Breakup in an Average Argument



C. Measuring Gender

My predictor variables of interest are the gender of the speaker and the number of women on a panel. Recall that these variables were hand coded. For my hypotheses predicting individual effects, the independent variable is a simple binary that takes a value of 1 when the speaker is a woman and 0 otherwise. For the panel-level hypothesis, the key independent variable ranges from 0 to 3.[144] The data include 753 instances of judges, with 238 unique judges. Women make up about 33% of all

[143] Audiotape: *Bedgood, et al. v. Wyndham Vacation Resorts, Inc., et al.*, Docket 22-11504, UNITED STATE COURT OF APPEALS FOR THE ELEVENTH CIRCUIT (April 21, 2023), https://www.ca11.uscourts.gov/oral-argument-recordings.

[144] My randomized method of oral argument selection happened to include only such cases, though *en banc* arguments would have been omitted if they had been randomly selected. My data includes one case where only two judges could be identified as having heard the case.

unique judges and about 29% percent of all panel judges in the dataset. Women appear on about 65% of all panels: about 44% of panels include 1 woman; about 19% include two women; and about 2% are all-woman panels.

Women attorneys are similarly proportioned in the data, accounting for about 29% of all attorney instances.[145] Although women recently accounted for a majority of all law firm associates,[146] it is not surprising that just a third of those who argue before the federal appellate bench are women in this sample. Just a decade ago, women comprised about a third of all attorneys in private practice.[147] Thus, if substantial experience is needed to argue before the federal appellate courts, a large percentage of women attorneys will simply lack this experience.[148] This disparity will only be exacerbated if women are held to higher standards than men in order to be granted the opportunity to litigate.[149] Research has found that women tend to be less likely to be assigned to orally argue or write briefs, at least at the level of the Supreme Court.[150] While most of the arguments in the dataset (~56%) involve just two attorneys, several arguments involve third-party or amici arguments or multiple attorneys splitting time for the same party. About 51% of cases are argued without women attorneys on any side. Another ~35% involve one woman attorney and the remaining ~14% include two or more women arguing their case.

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[145] There are 614 attorney instances in the dataset, 177 of whom are women. Two male attorneys (Larry Klayman and Paul Clement) show up twice in the data as counsel for different cases.

[146] *Women in the Legal Profession*, A.B.A., https://www.americanbar.org/news/profile-legal-profession/women/.

[147] Lee, *supra* note 107 at 230. Lee goes on to explain that women attorneys may be stymied from achieving lead positions in trial litigation in part due to lack of effective mentorship, limited client-development opportunities, and other barriers to advancement. *Id*. at 248.

[148] Tammy A. Sarver, Erin B. Kaheny, & John Szmer, *The Attorney Gender Gap in U.S. Supreme Court Litigation*, 91 JUDICATURE, 238, 246–247 (2008) (finding that women litigators before the Supreme Court tended to be younger and less experienced than their male counterparts).

[149] *Id*. at 244–245 (finding that women litigating before the Supreme Court came from more prestigious law schools and were more likely to have participated in law review as compared to similarly situated men).

[150] Szmer, Sarver, & Kaheny, *supra* note 114 at 2921. Incidentally, women are also less likely to be represented in Supreme Court clerkships. David H. Kaye & Joseph L. Gastwirth, *Where Have all the Women Gone? The Gender Gap in Supreme Court Clerkships*, 49 JURIMETRICS 411, 422–423 (2008). If previous clerkship experience is one factor influencing an attorney's delegation to orally argue a case, this clerkship disparity could also contribute to the gender gap in argument assignment.

There is some variation in the percentage of women present in the dataset by circuit. Table 1 reports circuit-level descriptive statistics about the gender composition of both judge and attorney appearances. Just one of the twelve unique judges on the Eighth Circuit is a woman—Judge Jane Kelly—and she shows up twice in the dataset. On the D.C. Circuit, a majority of both judge instances and unique judges are women. There is also variation in the percentage of attorney instances that are women, which doesn't necessarily track onto the percentage of women judges for each circuit. For example, nearly half the judges on the Eleventh Circuit are women, but less than 20% of the attorneys that argued before them are women in the dataset. Conversely, the Fifth Circuit boasts a relatively high percentage of women attorneys and a lower percentage of women judges.

Table 1: Gender Compositions by Circuit

circuit	% women attorney appearances	% women judge appearances	% unique women judges	average # women judges on panel
Second Cir.	24%	36%	43%	1.1
Third Cir.	16%	11%	17%	0.33
Fourth Cir.	29%	24%	33%	0.71
Fifth Cir.	34%	22%	25%	0.71
Sixth Cir.	23%	20%	29%	0.67
Seventh Cir.	32%	44%	38%	1.21
Eighth Cir.	22%	9%	14%	0.29
Ninth Cir.	28%	26%	30%	0.83
Tenth Cir.	30%	34%	31%	1.08
Eleventh Cir.	19%	49%	54%	1.42
D.C. Cir.	24%	48%	47%	1.42

D. Control Variables

The relationship between gender and interruption behavior can be analyzed using simple differences in means and bivariate Ordinary-Least Squares ("OLS") regressions. However, I also consider whether there might be other variables that could correlate both with an individual's gender and their propensity to interrupt. As such, models testing the first hypothesis include covariates for: (1) *speaker instances*; (2) *district judge status*; (3) *previous speaker's gender*; (4) *previous speaking duration*; and (5) *argument-fixed effects*.

The most important control to implement is one that can proxy a judge's desire to speak in the first place. Judges that are less talkative are simply going to be less likely to engage in an interruption. Further, gender studies intimate that women may

be deterred from speaking up in gender heterogenous groups. And, in fact, my data bears out that women judges have fewer instances of speech during an argument.[151] I control for this by using the total number of *speaker instances* for a given judge during a given argument. On average, a case contains about 108 total speaking instances (ranging from 7 to 577), with each speaker responsible for about 19 of these instances (ranging from 0 to 183).

The binary control for *district judge status* takes a value of "1" if the speaker is a district court judge at the time of the argument and a "0" otherwise. District court judges may be called upon to sit as a guest on a circuit for various reasons, and the presence of this relative "outsider" may shape speaking behavior at oral argument, though it is unclear in which direction this might cut. Because district court judges are not sitting with daily colleagues, they may feel less bound to conversational norms and thus interrupt more frequently than the appellate judges they sit with. Conversely, because district court judges sit lower in the federal judicial hierarchy, they may feel bound by heightened norms that discourage interruptions. About 5% of judge speakers in the dataset are visiting from district courts.

In addition, there may be factors about a given speaker that make it more likely for someone to interrupt them. Research has found that women attorneys are more likely to be interrupted than men.[152] Thus, I control for the *previous speaker's gender*. A speaker may also be more likely to be interrupted the longer they speak. This calls for the implementation of a control for the *previous speaking duration*. I measure duration using a simple word count. Including *argument-fixed effects* allows the models to account for the variety of other factors that might shape the deliberation environment during oral argument. Such factors include, but are not limited to, circuit norms, the issue area involved, the time allotted for the argument, and the number of women present on the panel.

For my models predicting panel effects, I include controls for: (1) *total speaking instances*; (2) *district court presence*; and (3) *ideological disagreement*. Total number of speaking instances is now controlled for at the case level rather than the level of an individual speaker. The district court presence control remains binary, now taking a value of 1 if there is a visiting district court judge on the panel and a 0 otherwise. Finally, I control for ideological disagreement as conflict may be exacerbated and thus the presence of interruptions heightened when panel members are ideologically distant from one another. This variable is calculated using the Judicial Common Space ("JCS") scores for each individual judge. These scores

[151] Exact descriptives for gender differentials in judicial talkativeness are discussed *infra* Section V-A.

[152] Patton & Smith, *supra* note 6 at 345.

average the NOMINATE scores of the judge's home state senators and nominating president.[153] Negative JCS scores represent more liberal judges while positive scores represent more conservative judges (as rescaled from -1–1).[154] I then compute the standard deviation of JCS scores among a panel, with higher standard deviations indicating greater ideological disagreement.

V. EMPIRICAL RESULTS

In general, my findings indicate that men and women in the courtroom differ in their speech patterns at oral argument. Descriptive evidence indicates that women judges talk slightly less than men, both in terms of speaker instance and in terms of the number of words used per speaker instance. Accounting for this disparity in speech, gender does not appear to have an impact on a judge's inclination to interrupt on the whole. However, there are substantial gender differentials in interruption tone, and women attorneys are both less likely to engage in interruptions and more likely to use a positive tone when they do interrupt. I also present subsidiary results pertaining to apology behavior and ideology- and circuit-based heterogeneity.

A. Initial Descriptive Statistics

Before diving into the results, it is worth briefly discussing the general speech patterns of judges at oral argument on the U.S. Courts of Appeals. On average, a given judge speaks about as often as a given attorney, averaging about 19 speaker instances per argument compared to about 22 speaker instances by an attorney.[155]

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[153] Epstein et al., *The Judicial Common Space*, 23 J.L. ECON & ORG. 303, 306–08 (2007). NOMINATE scores are calculated by monitoring a senator's roll-call voting behavior (or the presidential-support roll-call votes for presidents). Keith T. Poole & Howard Rosenthal, *D-Nominate after 10 Years: A Comparative Update to Congress: A Political-Economic History of Roll-Call Voting*, 26 LEG. STUD. Q. 5, 8–10 (2001).

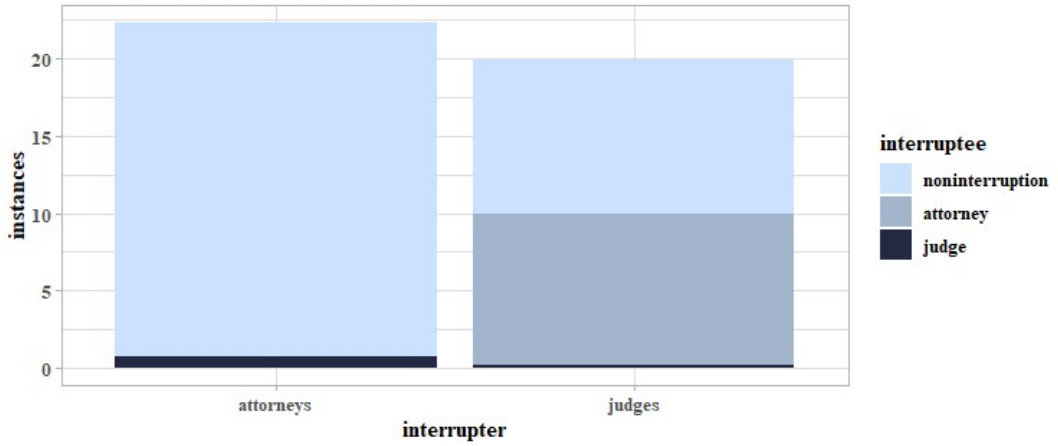
[154] While there are other measures of ideology that could be used—such as Clerk-Based Ideology ("CBI") and Database on Ideology, Money in Politics, and Elections ("DIME") scores—I utilize JCS scores because they are available for nearly all judges in my dataset, whereas there is substantial missingness on other metrics. All three scores tend to be highly correlated with each other. JCS scores were merged in using 2024 data from Epstein et al. as well as 2022 data from Christina Boyd applying the Epstein et al. methods to calculate JCS scores for district court judges. *See* Boyd, Christina L. 2015. "Federal District Court Judge Ideology Data." Available at http://cLboyd.net/. Ideology data is not available for bankruptcy judges or judges sitting on the Court of International Trade.

[155] I exclude from this calculation 43 judges who sat on a panel at oral argument but did not speak at all. Including these judges would bring the average speaker instance for judges slightly down to about 18.

This indicates that oral argument proceeds through somewhat conversational turn taking, with not infrequent back-and-forth among judges in the gaps of an attorney's argument. Male attorneys tend to average a slightly greater number of speaker instances than their female counterparts. Controlling for the number of women judges/attorneys and total speaking instances in a given oral argument, women judges speak about 6.5 fewer times than peer men and women attorneys speak about 1.4 fewer times than their male colleagues.[156]

Interruptions are a frequent occurrence at this level of oral argument, which was expected from the format. Attorneys are much less likely to be responsible for interruptions, accounting for just 4% of all attorney speaking instances. Judges interrupt just over 47% of the time that they choose to speak. Figure 2 displays the average number of speaking instances for judges and attorneys, and the average breakup of speaking instances by type of interruptee. Note that the vast majority of attorney speaking instances (left) are non-interruptive. Further, attorneys do not have the opportunity to interrupt other attorneys given the format of oral argument. However, judges may either interrupt other judges or attorneys. Still, likely because of high levels of collegiality on the court, the vast majority of interruptions by judges are directed at attorneys, with just about 1.4% of judicial interruptions aimed at fellows on the panel.

Figure 2: Average Speaking Instances by Interrupter and Interruptee

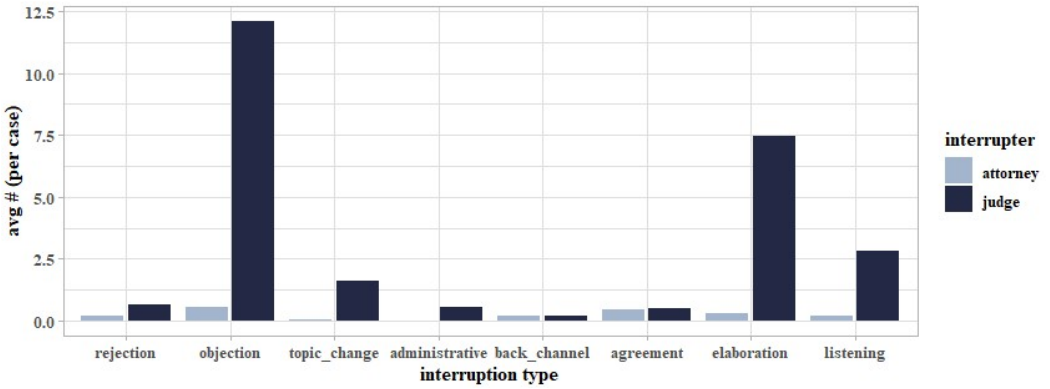


A majority of judicial interruptions (~55%) are negative, though positive interruptions are not a rare occurrence (~41%). Almost half of all interruptions (and ~84% of negative interruptions) are classified as objections. Oral argument is

[156] The OLS regressions testing these relationships both return a coefficient with $p < 0.001$.

necessarily somewhat combative, so it is not surprising that interjections frequently take the form of making some sort of objection to the previous speaker's argument. About 29% of interruptions (and ~69% of positive interruptions) involve the interrupter soliciting elaboration or clarification from the interrupted speaker and about 11% of judicial interruptions involve active listening. Among attorneys, about 48% of interruptions are positive and about 39% are negative. Over a quarter of attorney interruptions express some form of objection, though attorneys interjections also frequently express agreement with judges (~22% of attorney interruptions). Figure 3 presents case-level average interruptions by type and interrupter. Note that attorneys never interrupt for administrative reasons.

Figure 3: Average Case-Level Interruption Type by Interrupter

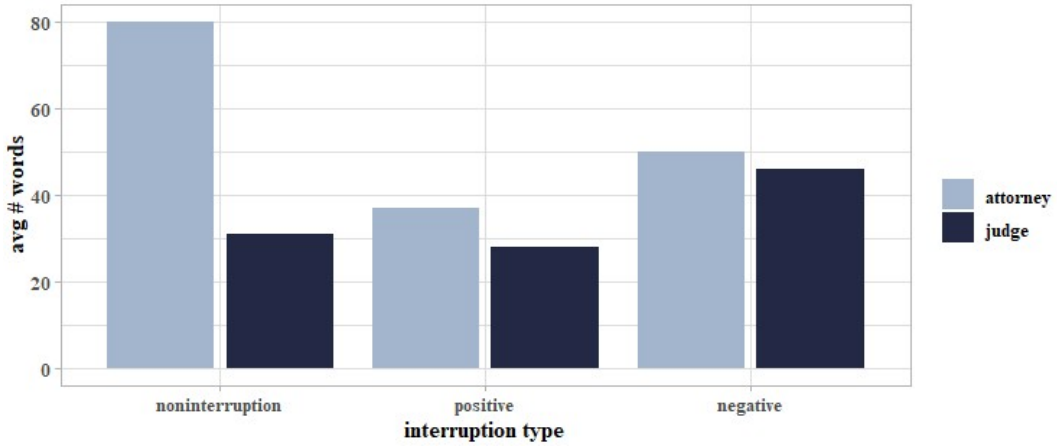


Attorneys tend to use more words during a given speaker instance as compared to judges, talking for about 78 words compared to about 34 words for judges.[157] Figure 4 presents the average length of both interruptive and non-interruptive speaking instances by speaker type. For both attorneys and judges, positive interruptive speech tends to contain the fewest words whereas negative interruptive speech tends to be about 11-18 words more verbose. However, attorneys are permitted to talk for much longer during non-interruptive speaking instances (about 80 words), whereas judges keep non-interruptive speech relatively short (about 31 words). These differences in the length of interruptive and non-interruptive speech persist regardless of speaker gender.[158]

[157] Both men and women judges average about 34 words per speaking instance; male attorneys average about 80 words and female attorneys average about 75 words. A T-test run on the gender difference for attorneys attains traditional levels of statistical significance ($p < 0.05$).

[158] T-tests on these two differences in means return highly statistically significant results. Women judges average ~30 words for non-interruptive speech and ~38 words during interruptive speech;

Figure 4: Average # Words per Speaking Instance by Speaker and Interruption



B. Judicial Interruptions

My first hypothesis investigates the impact of a judge's gender on their propensity to interrupt whatsoever, with the expectation that women would be less likely to engage in interruptions. A simple difference in means finds that men judges interrupt about 47.3% of the time that they speak and women judges interrupt about 46.2% of the time that they speak, though this difference does not attain statistical significance.[159] Table 2 below reports the multivariate OLS results testing the relationship between judge gender and interruption propensity. The coefficient on Woman Judge is negative—the expected direction—though quite small, indicating that women are about 1% less likely than men to engage in an interruption during a given speaking instance. So, in an oral argument where both men and women speak about 20 times (and all factors other than gender are held equal), 8.6 of those instances are predicted to be interruptive for men and 8.4 of those instances are predicted to be interruptive for women. The coefficient on speaker instances is positive, small, and quite statistically significant, indicating that speakers are more likely to interrupt as they speak more frequently. The other highly significant

men average ~31 words for non-interruptive speech and ~37 during interruptive speech. Women attorneys average ~76 words for non-interruptive speech and ~36 words for interruptive speech; male attorneys average ~81 words during non-interruptive speech and ~39 words for interruptive speech.

[159] T-tests return a p-value of 0.25. A bivariate model returns a coefficient of approximately -0.01 with p-value 0.25. Women judges interrupt their peers on the bench at a rate of ~13.5% compared a rate of ~13.9% among men, a difference that is statistically indistinguishable from 0 (p = 0.91).

control is that of previous speaking duration ("Lagged Length"), indicating that a speaker is more likely to be interrupted the longer they continue to speak.

Table 2: Multivariate Relationship between Gender and Interruption Propensity

	Interruption Propensity	
Woman Judge	−0.010	−0.020
	(0.010)	(0.013)
Speaker Instances	0.0007***	0.001***
	(0.0001)	(0.0003)
Follows Woman	−0.013	0.013
	(0.009)	(0.013)
District Judge	0.024	0.026
	(0.056)	(0.059)
Lagged Length	0.0003***	0.0003***
	(0.00003)	(0.0004)
Constant	0.430***	0.315***
	(0.009)	(0.082)
Case-Fixed Effects	*N*	*Y*
Observations	14,568	14,303
Adjusted R^2	0.006	0.079
F Statistic	16.79***	4***
Note:	*p<0.1; **p<0.05; ***p<0.01	

These results suggest that any gender difference in interruption propensity is small, though in the expected direction. The data provide similar support for my second prediction that women use a higher proportion of positive interruptions while men use a higher proportion of negative ones. About 43% of women's interruptions are positive compared to about 41% of men's interruptions. Conversely, about 56% of men's interruptions are negative compared to about 54% of women's

interruptions.[160] Table 3 presents the bivariate results for these two relationships. Similarly to the raw means, the models predict that about 1.9% more of women's interruptions are positive and about 2.1% fewer are negative.[161] Thus, in an oral argument where each judge engages in 10 interruptions, the model predicts that 4.1 of those interruptions will be positive for men compared to about 4.3 for women. In the same hypothetical argument, 5.58 of men's interruptions are expected to be positive compared to 5.37 for women.[162]

Table 3: Bivariate Relationship between Gender and Interruption Type

	% Positive Interruptions	*% Negative Interruptions*
Woman Judge	0.019	−0.021
	(0.014)	(0.014)
Constant	0.410***	0.558***
	(0.007)	(0.007)
Observations	6,854	6,854
Adjusted R^2	0.0003	0.0003
F Statistic	1.919	2.184
Note:	*p<0.1; **p<0.05; ***p<0.01	

[160] T-tests returned p-values at about 0.15 for both differences in means as did bivariate regressions on this relationship. Subsetting to judge-on-judge interruptions provides findings that men engage in both a higher proportion of positive interruptions (~49% compared to ~46% among women) and a higher percentage of negative interruptions (43% compared to 42% among women). This is because women interrupt other judges at a higher rate for true neutral/administrative reasons. However, these differences in means do not achieve statistical significance and the number of judge-on judge interruptions is so small (n = 95) that it is hard to draw any conclusions from this. Judge Harry T. Edwards is responsible for more than 10% of all judge-on-judge interruptions in the dataset.

[161] The coefficient on gender retains signage in models that include case-fixed effects.

[162] A slightly higher proportion of women's interruptions (~3.2%) fall into the true neutral category (administrative interruptions and back-channel responses) as compared to men (~3.1%). Presiding judges tend to take on the bulk of administrative interruptions (~76%) and men preside over arguments at a higher rate than women. Among non-presiding judges, women's interruptions are slightly more likely to be administrative in tone (~1%) as compared to men's interruptions (~0.9%).

C. Attorney Interruptions

Although attorneys are much less likely to be responsible for interruptions at oral argument as compared to judges, attorney interruptions do occasionally occur. I anticipated that women attorneys would be less likely to be responsible for such interruptions but that, when they were, they would mostly engage in positive interruptions while male attorneys might use more negative interruptions. My results support these expectations. On average, women attorneys interrupt about 2.6% of all speaker instances compared to about 3.7% among men.[163] Given the floor effects, this difference is somewhat substantial, with women attorneys interjecting about a third of the time less than men. Of attorney interruptions, men are more likely than women to use a negative tone (~48% of interruptions compared with ~32% for women).[164] Women also use a higher proportion of positive interruptions as compared to men (~68% compared to ~51% for men).[165]

Men attorneys interrupt male judges about 3.6% of the time and female judges about 4.0% of the time; women attorneys interrupt male judges about 2.6% of the time and female judges about 2.6% of the time.[166] Interruption tone reflects possible in-group gender bias. Figure 5 reports interruption behavior of men attorneys, who use more negative interruptions against women and more positive interruptions against fellow men. Figure 6 reports the interruption behavior of women attorneys. While women attorneys use overwhelmingly positive interruptions regardless of judge gender, they still use a slightly higher proportion of positive interruptions with other women as compared to with men.

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[163] I exclude back channel responses from analyses in this section that consider attorney interruptions of judges. This difference in means is highly statistically significant ($p < 0.01$). Bivariates return a negative coefficient of on gender significant at the 0.01 level and a multivariate model controlling for speaker instances, previous speaker's gender, and previous speaking duration returns a coefficient in the expected direction with $p < 0.05$.

[164] T-test is significant at the highest threshold; bivariate model returns a negative coefficient of about -0.16 with $p < 0.01$. Model implementing fixed effects retains direction and strengthens substance of coefficient of approximately -0.28, with $p < 0.01$.

[165] T-test is significant at the highest threshold; bivariate model returns a positive coefficient of about 0.17 with $p < 0.01$. Model implementing fixed effects retains direction and strengthens substance of coefficient of approximately 0.28, with $p < 0.05$.

[166] T-tests are not statistically significant for either gender.

Figure 5: Men Attorneys Interruption of Judges by Tone and Judge Gender

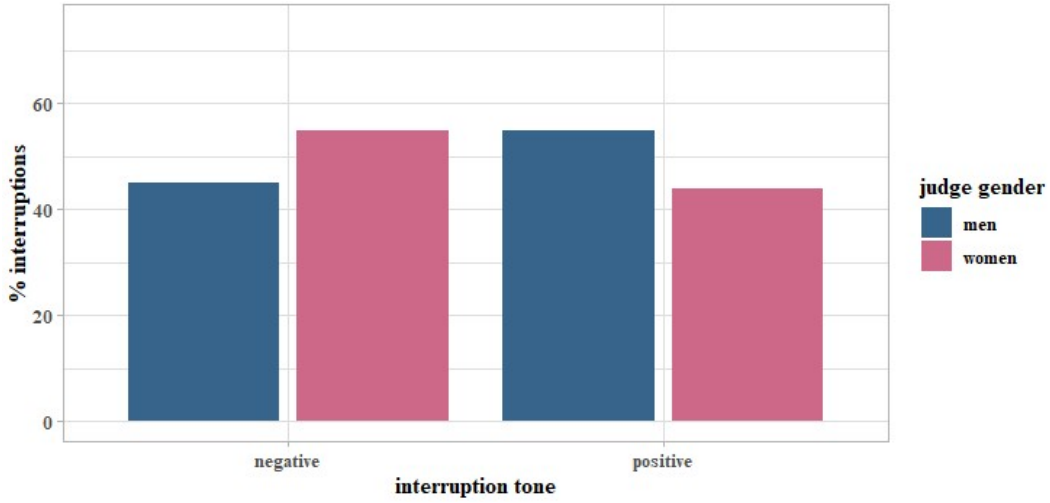
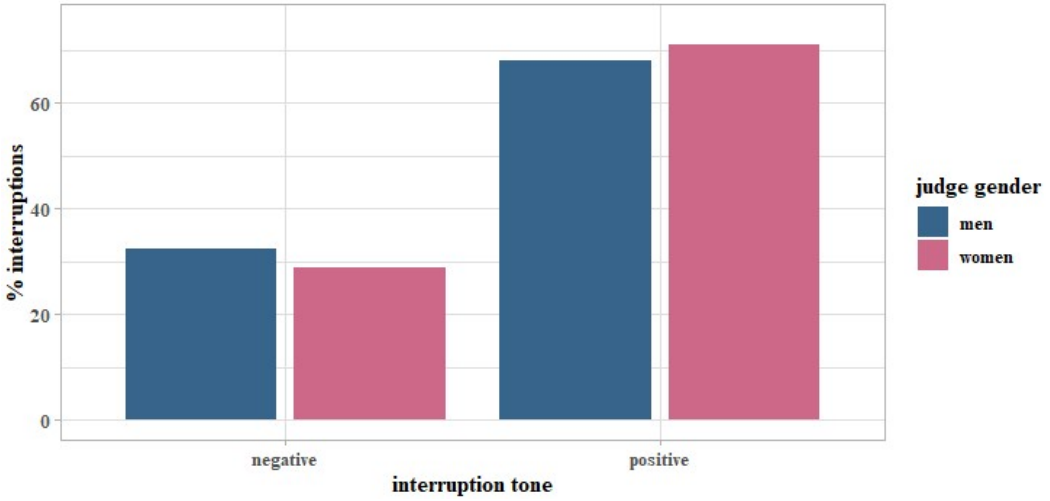


Figure 6: Women Attorneys Interruption of Judges by Tone and Judge Gender



Interestingly, these findings are not reflected in the behavior of judges. While men on the bench interrupt women and men attorneys at rates that are statistically indistinguishable (~48% and ~49%, respectively), women judges interrupt male attorneys at a much higher rate (~50%) than female attorneys (~43%).[167] However, the tonal differences in interruptions indicate that judges may be harsher toward in-group gender attorneys. Figure 7 shows interruption behavior for men on the bench, who are more likely to use negative interruptions against other men than they are

[167] T-test highly statistically significant.

against women. Figure 8 displays the interruption behavior of women judges, who use a much higher proportion of negative interruptions against other women as compared to men.

Figure 7: Men Judges Interruption of Attorneys by Tone and Judge Gender

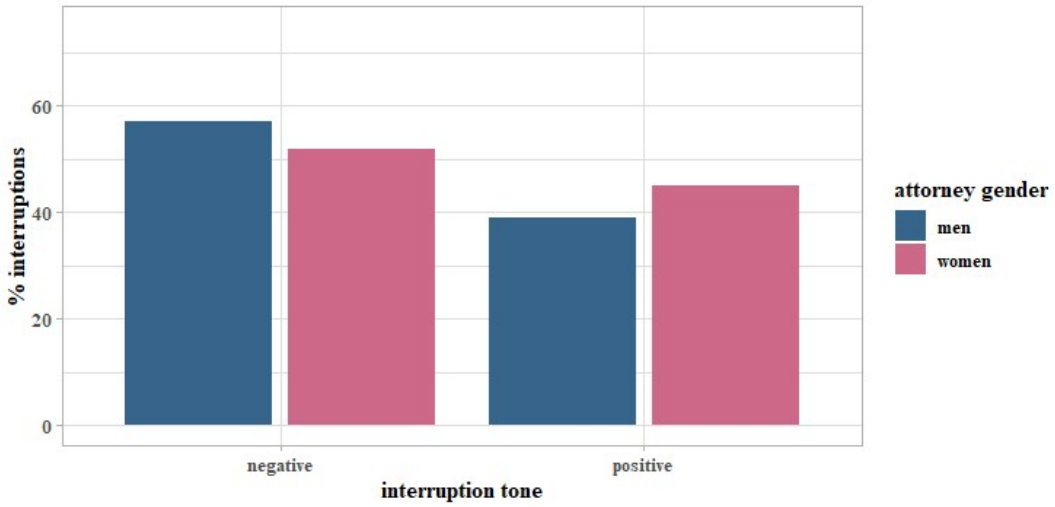
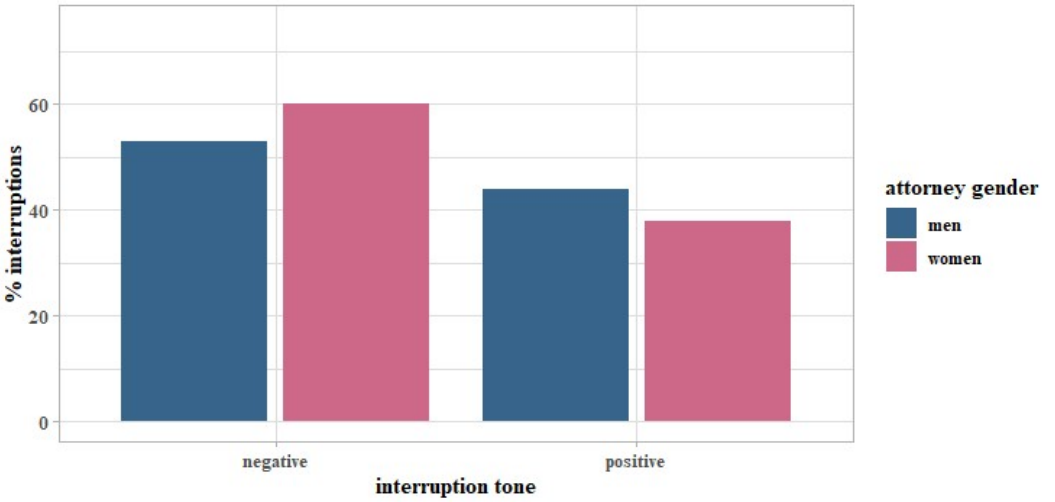


Figure 8: Women Judges Interruption of Attorneys by Tone and Judge Gender



D. Group Composition Effects

Next, I consider the effect of a group's gender composition on interruption behavior. First, I examine an average speaker's propensity to interrupt based on the percentage of speakers in the room that are women. Hypothesis 3 posits that the

proportion of interruptions at oral argument will decrease as the percentage of women in a room increases. The data support this proposition. However, in analyzing whether this aggregate effect is heterogenous based on the gender of the interrupter, the finding appears to be mostly driven by women. Table 4 presents the results from models testing the relationship or group composition on propensity to interrupt both on the whole and by the gender of the speaker. As expected, adding more women to a group decreases the propensity to interrupt during an oral argument. However, while women become less likely to interrupt as more women join their midst, men are predicted to interrupt at a higher rate as the proportion of women in a room increases. Take a case that includes 200 speaking instances. Shifting the composition of the group from 25% women to 50% women is predicted to decrease women's interruptions by about 3.7 (from ~49.9 to ~46.2) and increase men's interruptions by about 2.6 (from ~53.6 to ~56.2).

Table 4: Effect of Group Composition on Propensity to Interrupt

	All Speakers	*Women*	*% Men*
# Women	−0.014	−0.074***	0.052***
	(0.013)	(0.026)	(0.017)
Constant	0.263***	0.268***	0.255***
	(0.005)	(0.012)	(0.005)
Observations	28,427	7,687	20,737
Adjusted R^2	0.00004	0.001	0.0005
F Statistic	1.24	8.355***	9.513***
Note:		*p<0.1; **p<0.05; ***p<0.01	

Increasing the proportion of women speakers at an oral argument is also associated with a decrease in negative interruptions and an increase in positive interruptions, though neither relationship attains statistical significance.[168]

[168] OLS bivariate regressions return a coefficient of about 0.040 on gender proportion for positive interruptions (p = 0.185) and a coefficient of about -0.023 on gender proportion for negative interruptions (p = 0.445).

E. Apology Usage

While my findings are somewhat mixed, they clearly indicate that women tend to use more positive interruptions as compared to men. Because this may indicate women's general tendency toward more affiliative speech, I also consider whether women are more likely to apologize when interrupting. Interruptions are technically a violation of conversational turn-taking norms.[169] Thus, socialization should encourage any interrupter to apologize for their transgression. However, we know that women are more apologetic than men in general,[170] and thus ought to be more likely to apologize when interrupting. While interruptions are expected in the forum of oral argument, even judges were likely socialized at one point to try not to interrupt others. Interruptions tend to be aimed at repairing relationships,[171] which may affect both the collegial environment of the court and the extent to which an attorney feels their argument is heard and supported. An interruption is coded as containing an apology in the data if the judge used some variant of "excuse me," "I apologize," or "sorry," relatively early on in their interjection.

Apologies are somewhat rare in this venue, occurring for less than 2% of all interruptions. Still, the results indicate that women are more likely than men to apologize for interrupting. Differences in means indicate than women judges apologize during about 3.3% of interruptions compared to about 1.3% for men.[172] Similarly, women attorneys apologized during about 4.0% of their interruptions whereas men attorneys apologized during about 1.6% of their non-back-channel interruptions, though given the relatively small number of attorney interruptions, this latter difference does not quite attain traditional levels of statistical significance. Interestingly, judges rarely apologize for interrupting each other. The data includes 95 instances of judge-on-judge interruptions, only 4 of which include apologies to their fellows on the bench.[173]

There are also differences in apology behavior based on the gender of the speaker being interrupted. Figure 9 displays apology rates for women judges and attorneys

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[169] Smith-Lovin & Brody, *supra* note 8 at 427.

[170] Holmes, *supra* note 56 at 209.

[171] Holmes, *supra* note 70 at 195–196.

[172] T-tests return highly statistically significant results.

[173] Judge Roger Gregory apologizes for interrupting another man (Judge J. Harvie Wilkinson); Judge David Tatel apologizes for interrupting peer woman Judge Cornelia Pillard; Judge Wendy Berger apologizes for interrupting Judge Robert Luck; and Judge Patricia Millett apologizes for interrupting fellow woman Judge Judith Rogers.

based on the gender of the person they interrupt. This figure shows that women apologize more frequently when interrupting men. In fact, although women attorneys sometimes interrupt other women, they never apologize for doing so. Figure 10 exhibits the corollary analysis for men. As with women, men apologize at higher rates when interrupting other men, though this difference is so small it is nearly indistinguishable among men judges.

Figure 9: Apology Rates for Women by Status and Interruptee Gender

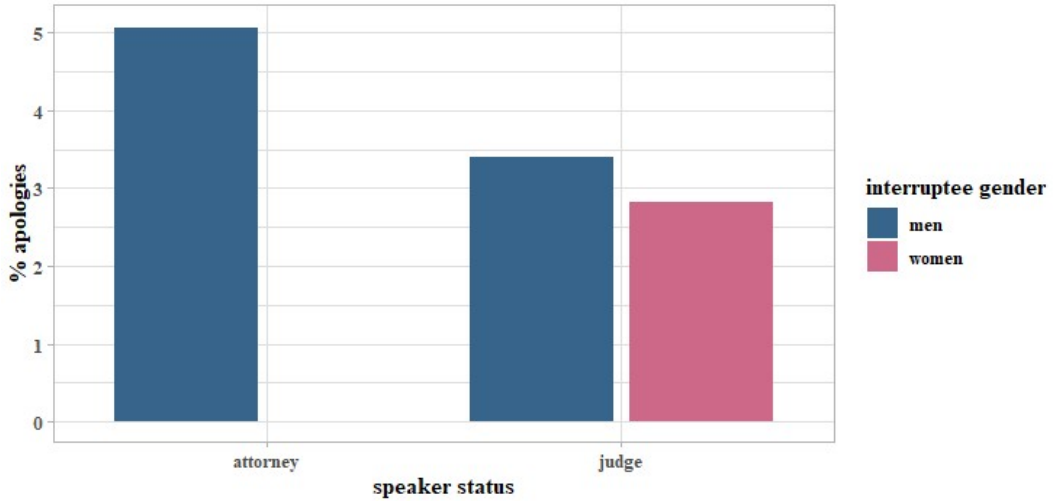
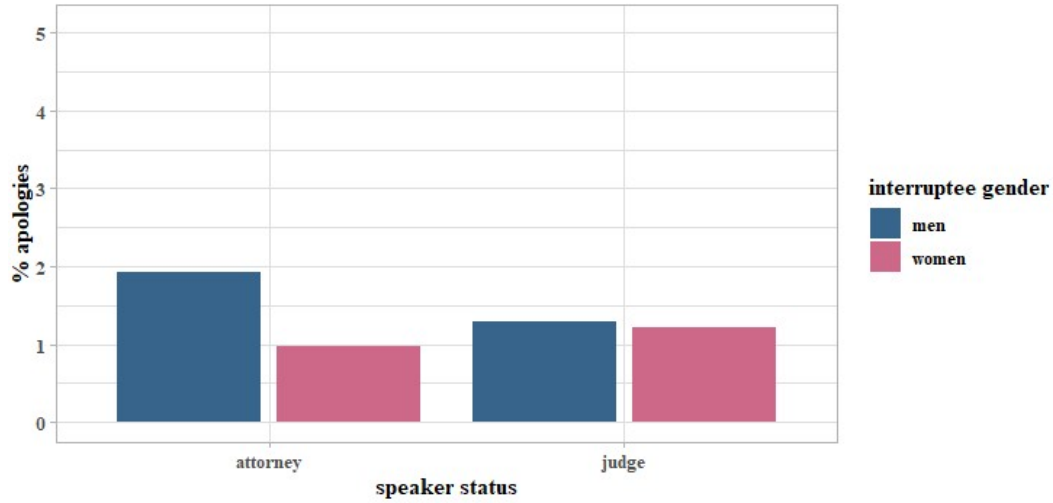


Figure 10: Apology Rates for Men by Status and Interruptee Gender



F. Ideology Effects

On average, men judges in the dataset tend to be slightly more conservative than peer women.[174] Thus, a natural question might be how much of this is an ideology story—perhaps liberal judges are simply more relational and so tend to use more positive interruptions. On average, conservative judges tend to be less talkative than liberal judges, both in terms of the number of times they speak during oral argument and in terms of the number of words spoken during each instance (compare ~18 instances with ~33 words per instance to ~20.5 instances with ~35 words per instance). Regardless, conservative judges interrupt at a slightly higher rate than liberal judges. About 48.4% of speaking instances for conservatives result in an interruption compared to about 45.8% among liberals.[175]

However, there is heterogeneity in these figures based on gender. Table 5 presents descriptive statistics for talkativeness and interruption propensity by both gender and ideology subgroup. Both conservative and liberal women tend to be responsible for fewer speaker instances compared to men, regardless of ideological persuasion. Conservative women also use the lowest number of words per speaking instance, on average. Liberal women, on the other hand, average a higher number of words per speaking instance as compared to both liberal and conservative men. Finally, conservative men interrupt at the highest rate while conservative women interrupt at the lowest rate. Liberal women are more likely than liberal men to engage in an interruption and interrupt almost at almost the same rate as conservative men.

Table 5: Average Talkativeness and Interruption Propensity by Gender and Ideology Subgroup

	# speaker instances	*# words per instance*	*% interruptions per instance*
Conservative Women (n = 91)	14.8	29.2	42.5%
Conservative Men (n = 371)	19.3	33.9	49.4%
Liberal Women (n = 143)	18.0	36.4	48.1%
Liberal Men (n = 177)	22.5	33.8	44.3%

[174] I code a judges as "conservative" if they have a JCS above 0 and "liberal" otherwise. The average JCS score for men is about 0.22 and the corollary for women is about -0.02.

[175] T-test returns a p-value of 0.002.

Interestingly, there is little difference in tonal breakup of interruptions for conservative and liberal judges in the aggregate. Excluding true neutral interruptions, both types of judges use about 57% negative interruptions and about 43% positive interruptions. While gender patterns exist within ideology, they virtually mirror each other. Table 6 displays interruption tone breakup by gender and ideology subgroup. Women of both ideologies exhibit the highest proportion of positive interruptions and the lowest proportion of negative interruptions. Conservative men are the least likely to use true neutral interruptions.

Table 6: Interruption Tone by Gender and Ideology Subgroup

	Positive Interruptions	*Negative Interruptions*	*Neutral Interruptions*
Conservative Women (n = 91)	44.2%	52.4%	3.4%
Conservative Men (n = 371)	41.6%	55.7%	2.7%
Liberal Women (n = 143)	42.3%	54.4%	3.1%
Liberal Men (n = 177)	40.4%	55.6%	3.7%

Liberal judges are more likely to engage in apologies (~2.4%) as compared to conservative judges (~1.3%) when interrupting.[176] This difference is mostly driven by women, with liberal women apologizing in about 3.9% of all interruptions and conservative women apologizing at a rate of about 1.8%. Liberal men are only slightly more apologetic (~1.4%) than their conservative counterparts (~1.3%).

G. Circuit-Level Effects

Of course, differences in circuit norms and the number of women judges in each circuit could lead to some heterogeneity in results. Figure 11 displays the coefficients and 95% confidence intervals for models predicting the effect of gender on interruption propensity in each circuit. Positive coefficients indicate that women are more interruptive than men and negative coefficients indicate the opposite. However, when the tails of the 95% confidence intervals surrounding the coefficients cross 0, it signifies that the relationship is not statistically significant at the 0.05 level. In the majority of circuits, women are less likely than men to engage in interruption behavior; this relationship is statistically significant in the Second,

[176] T-test returns a p-value of 0.001.

Sixth, and Eleventh Circuits. Perhaps unsurprisingly, the Sixth and the Eleventh Circuits have some of the highest proportions of conservative judges in the dataset (~75% and ~73%, respectively).[177] In the Fourth, Ninth, and D.C. Circuits, women are more likely than men to engage in interruption behavior, at a statistically significant level. The Ninth and D.C. Circuits have some of the highest proportions of liberal judges (61% and 65%, respectively).[178]

Figure 11: Circuit-Level Coefficient Plot for Gendered Interruption Propensity

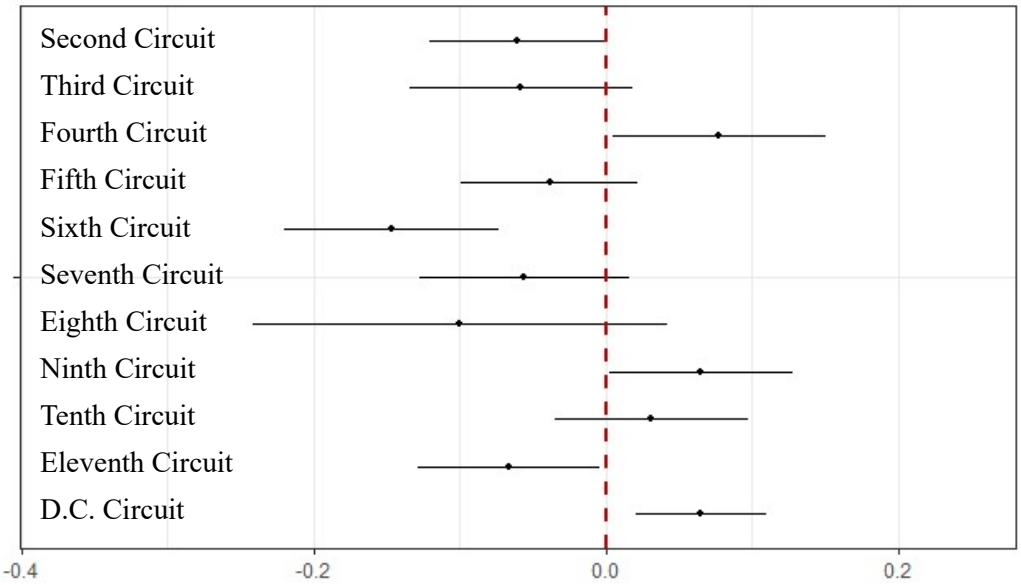


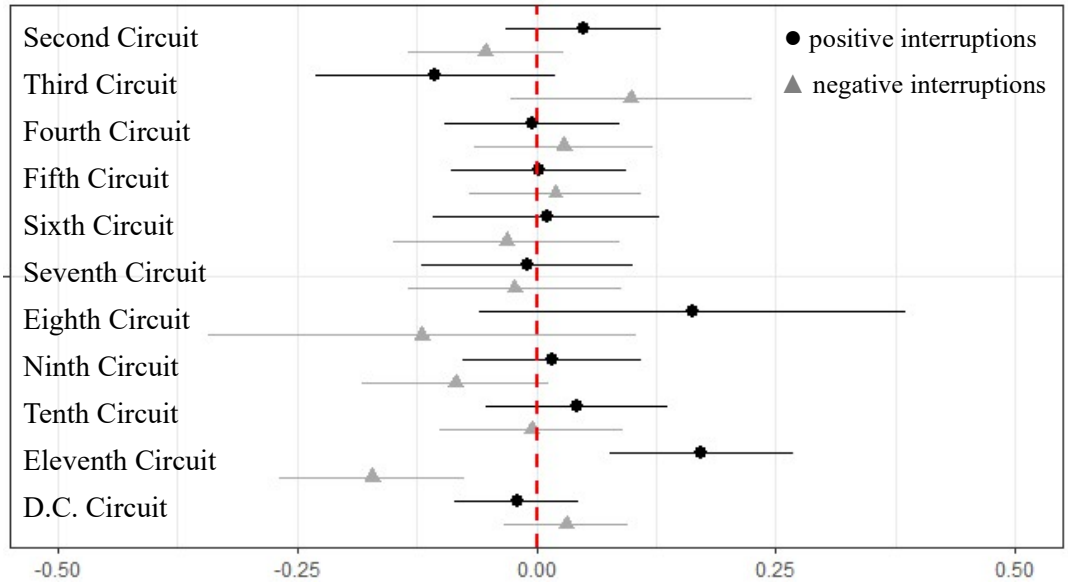
Figure 12 shows the circuit-level coefficients for the relationship between gender and proportion of positive/negative interruptions. In 7 out of 11 circuits, women judges use a higher proportion of positive interruptions as compared to men. The coefficient for this model is statistically significant at for the Eleventh Circuit only.

[177] The Second Circuit judges in the dataset are ~57% conservative. The Eighth Circuit has the highest proportion of conservative judges in the dataset (~86%) and also has a highly negative coefficient. That coefficient is insignificant likely in part due to the small sample size of women on the court. Appendix D provides descriptive statistice on the percent of conservative judges, percent of women, and average JCS scores by circuit. 6 of the 11 circuits have an average JCS score close to 0, though the Fifth, Sixth, Seventh, Eighth, and Eleventh Circuits have somewhat conservative averages. The Eleventh Circuit even boasts an average score for women more conservative than that of men.

[178] The Fourth Circuit judges in the dataset are 50% liberal. The Seventh Circuit has the highest proportion of liberal judges in the dataset (~69%) though, so it's interesting that the coefficient for this court is negative.

This may be due in part to the fact that the Eleventh Circuit has the highest number of unique woman judges on the court, which may stem from this court's practice of frequently including visiting district court judges in oral arguments. The Eleventh Circuit also possesses the only statistically significant coefficient on the relationship for negative interruptions, though the models for 7 of 11 circuits provide a negative coefficient.

Figure 12: Circuit-Level Coefficient Plot for Gendered Interruption Tone



VI. IMPLICATIONS

In general, my findings somewhat support my initial hypotheses that women are less likely to use interruptions and use a higher proportion of positive interruptions as compared to peer men, though the results tend not to be statistically significant among judges. It is possible that these findings lack strength simply due to sample size. However, it could also be the case that women judges simply don't behave all that differently from men when it comes to interruption behavior. This would be in tension with the literature on interruptions in laymen conversation. However, there are several possible explanations as to why this might be the case. First, although women judges have been socialized to be less interruptive than men, perhaps they sometimes must interrupt to have their voices heard, leading them to interrupt at about an equal rate as men. This argument is somewhat supported by the evidence that male judges in my sample tended to be more talkative as compared to peer

women, both in the number of instances they spoke during a given argument and in the number of words used in each speaking instance.

Second, given that women tend to be less likely to interrupt in other conversational settings, the equal interruption rate found here may signify that there is simply something different about women judges. Perhaps, for example, they are not as sensitive to conversational turn-taking norms and thus, even if they are less talkative than men overall, express a similar propensity to interrupt. Women who are judges are certainly different from an average laywoman in at least some respects. Although women in general tend to achieve higher levels of education than men, women judges are part of an even more elite group of women who have achieved a professional degree. These women may have been socialized at some point during law school, their early legal career, or their tenure on the bench to function differently than laywomen during group deliberation to be slightly more aggressive when it comes to interruption behavior.

Relatedly, interruptions may just be thought of differently on the bench—at least in the setting of oral argument. After all, the norms of oral argument are those of interruption, which readily leads to this conclusion. An attorney is likely to continue arguing their case via monologue were they never stopped by a judge with a question. Further, judges may be desensitized to the negative aspects of disagreement given the adversarial nature of the litigation they witness on a daily basis. Conflict is a necessary part of judging that must be experienced with some cordiality. As one judge describes her early days on the bench, "I learned to disagree without disliking colleagues and without being disliked."[179] Thus, perhaps interruptions for judges are not the conversational faux pas they are for the general public. This would explain why even women judges sensitive to conversational norms would be just as interruptive as men during oral argument. This may also explain the lack of strong tonal differences among judicial interruptions.

For attorneys, however, the tonal findings directly support my expectations. As with women in other settings, it appears that women attorneys tend to be more affiliative as compared to men and thus use more collaborative speech when they find it necessary to interrupt at oral argument. This relationship is supported by the heightened propensity of women to use apologies when interrupting. The subsidiary fact that women judges tend to also interrupt more for administrative purposes

[179] *Transcript of Interview with Mary M. Schroeder*, AMERICAN BAR ASSOCIATION WOMEN TRAILBLAZER'S PROJECT (Aug. 30, 2006; Sept. 16, 2006; Oct. 13, 2006; Jan. 3, 2007), https://purl.stanford.edu/gs081gj6455.

(even and especially when they are not the presiding judge on a case) is further suggestive of women's desire to build rapport during case deliberation, ensuring counsel knows how much time they have left in their argument. Conversely, the results that men use more negative interruptions is indicative of more competitive speech styles aimed at taking the floor and potentially asserting dominance over the conversation.

It is worth noting here that pipeline effects may be mitigating my results, at least with respect to the use of negative interruptions. In other settings, the women that reach positions of relative power tend to be overqualified for their positions, in part because of the institutional barriers that more harshly scrutinize women candidates.[180] Consequently, any results suggesting gender bias against elite women are likely an underestimate of true gender bias. We know that at least women nominees to the Supreme Court are over-scrutinized at their confirmation hearings—receiving more questions than men about their judicial philosophy and competency to serve.[181] Thus, the women that are confirmed to serve on federal appellate courts are likely exceptional among women.[182] And the same may be true for women attorneys arguing in front of these courts. If men use more negative interruptions in part due to gender bias—and the fact that men judges somewhat over-interrupt women attorneys indicates that this could be one explanatory factor—the small effect sizes here could be the result of the excellence among women in the courtroom.

This Article also presented evidence that women become less likely to interrupt as a higher proportion of women join the group while men become more likely to interrupt under the same conditions. This indicates that groups with more women find woman judges more likely to support other speakers while men become more likely to undermine them. If men also engage in a higher proportion of interruptions that shift the topic, it may be the case that men tend to drive the topic of conversation at oral argument more so when there are more women in the room.

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[180] *See*, *e.g.*, Nichole M. Bauer, *Shifting Standards: How Voters Evaluate the Qualifications of Female and Male Candidates*, 82 J. POL. 1, 9 (2019); Sarah A. Fulton, *Running Backwards and in High Heels: The Gendered Quality Gap and Incumbent Electoral Success*, 65 POL. RSCH. Q. 303, 310–11 (2012).

[181] BOYD, COLLINS, & RINGHAND, *supra* note 99 at 117.

[182] *But see* Maya Sen, *Diversity, Qualifications, and Ideology: How Female and Minority Judges Have Changed, or Not Changed, over Time*, 2017 WIS. L. REV. 367, 385–386 (2017) (arguing that women judges may be somewhat underqualified as compared to peer men since opportunities in the legal field were closed off to women until somewhat recently).

This is especially likely given that women judges speak much less than men to begin with, both looking at the number of speaker instances in an argument and the length of each speaker instance. Further, studies in other contexts have found that women tend to be more likely to keep a group deliberation on topic and minimize shifts.[183] As judges behave more like advocates than arbiters at oral argument, the space they take up at argument likely matters to case outcomes. If men drive the deliberation at this stage, they could have a disproportionate impact on which side wins as well as what key issues are the focus of the ultimate opinion.

As far as attorneys go, recall that their arguments do have the potential to persuade a judge to rule in favor of their client.[184] The fact that judges use a higher proportion of negative interruptions against attorneys in their gender group has the potential to stymy the effectiveness of those attorneys' arguments. Anecdotally, some attorneys may give their best arguments when they feel supported by the panel and others may instead prefer to rise to the challenge of judges that interject to wholly reject their perspective on the case. But cases are complicated, and attorneys may want to focus only on the subset of issues that they can provide the strongest arguments for. While this might require judges to change the topic to cover all key issues during oral argument, it is likely also frustrating for attorneys to have to contend with the greater proportion of topic-shift interruptions by male judges. Attorneys preparing for oral argument may wish to think closely about the gender composition of their panel and be ready for heightened interruptions in certain cases.

As already noted, gendered differences in the interruption behavior of judges and attorneys at oral argument have the potential to impact the issues discussed and the success of attorney arguments. And, since interruptions have the capacity to change the topic and dynamic of a conversation, they may even alter the group's final decision. Interestingly, at least in this data, judges wound up interrupting attorneys that ultimately won their case more than those that ultimately lost (at rates of ~52% and ~42%, respectively), though this finding is not statistically significant.[185] Eventual winners also receive both a higher rate of positive interruptions (~43% compared to ~33%) and a slightly higher rate of negative interruptions (~54%

[183] Ban et al., *supra* note 127 at 382 (finding that, as more women attend committee hearings, the committee is more likely to stay on topic).

[184] Johnson, Wahlbeck, & Spriggs, *supra* note 4 at 101.

[185] P-value = 0.3402. I exclude neutral interruptions from the analyses in this section.

compared to ~55%), though these differences in means are not statistically significant.[186]

In the rare case of judges interrupting other judges, it is probably more conducive to collegial norms that the majority of these interruptions remain positive and affiliative. Further, recent research indicates that interruptions during oral argument are correlated with disagreements during voting down the line as a given case approaches disposition.[187] While this work considers justices interrupting each other, and does not consider the tone of these interruptions, it is possible that negative interruptions could be more likely to engender conflict than positive ones, even if those negative interruptions are primarily aimed at counsel rather than colleagues on the panel. In my dataset, cases that are ultimately decided unanimously receive about 2% fewer interruptions at oral argument.[188] Unanimous cases also receive a slightly lower rate of positive interruptions and a slightly higher rate of negative interruptions, though these differences are not statistically significant.[189] Judges who ultimately wind up authoring separate opinions interrupt about 8% more frequently and with about 10% more negativity than those in the majority.[190]

Looking at individual judge votes on a case,[191] women judges appear to speak indiscriminately, interrupting attorneys they vote for about 44% of the time and interrupting those they vote against at a rate of about 43%. Women also use a

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[186] These results do not attain traditional levels of statistical significance.

[187] Jacobi & Rozema, *supra* note 104 at 2311.

[188] Compare ~27% to ~25% ($p = 0.08$). Just two of the cases in my dataset did not ultimately reach a disposition (one had the parties withdraw appeals and the other was held in abeyance pending the disposition of a related case and has still not been resumed as of this writing). Of the 262 cases decided, ~86% were decided unanimously; ~5% incurred a concurrence; ~9% concurred a dissent; ~0.8% incurred two separate opinions in addition to the majority. For cases involving concurrences and partial dissents, I read the separate opinions to ascertain individual judge preferences. Women wrote separate opinions at a slightly lower rate than men (~4% compared to ~5%).

[189] For positive interruptions, compare ~43% rate to ~44% rate ($p = 0.86$); for negative interruptions, compare ~57% rate to ~56% rate ($p = 0.86$).

[190] Compare ~64% interruption rate (~40% negativity) among separate opinion authors with ~56% interruption rate (~30% negativity) for other judges.

[191] Votes were coded to be in favor of the respondent if the judge would have: (1) affirmed the ruling below; (2) dismissed the petition; or (3) denied the appeal. Votes were coded to be in favor of the respondent if they: (1) reversed the ruling below; (2) vacated the ruling below; or (3) remanded to the lower court/administrative body. Votes were coded as "mixed" if they ruled partially in favor of the respondent and partially in favor of the petitioner.

slightly higher proportion of positive interruptions (~3%) and lower proportion of negative interruptions (~1%) with attorneys they ultimately vote against, though none of these differences are statistically significant. On the other hand, men are about 5% more likely to interrupt the attorneys they ultimately vote for.[192] They also use about 19% more positivity and about 10% less negativity when interrupting attorneys that they later vote for.[193] However, further research is needed to bolster these final findings and uncover the mechanism that underlies the impact of interruption on attorney success and case outcomes.

CONCLUSION

Oral argument is the surest venue to observe intra-judge dynamics at play as panels deliberate and attempt to come to a conclusion in a given case. Importantly, it also allows for an examination of the role gender plays on shaping the judicial deliberation environment. To date, research on judicial interruptions has been confined to studying the raw number of interruptions used during Supreme Court arguments. The instant Article expanded upon this research by considering behavior on the lower U.S. Court of Appeals, by scrutinizing interrupter behavior, and by examining the type of interruptions use at this level. My findings suggest that, while women and men judges do not differ much in their propensity to interrupt, they do differ in the tone of the interruptions they use. Specifically, women judges may use slightly more positive interruptions and administrative interruptions whereas men may use slightly more negative interruptions. Further, women judges are slightly more inclined to apologize when interrupting as compared to men. These effects are even stronger among attorneys. Taken as a whole, this may be indicative of women's predilection toward affiliative and supportive speech during group deliberation and men's predisposition for more assertive and conflict-driven argument.

This Article is one of the first to systematically analyze the behavior of courtroom actors during oral argument on the U.S. Courts of Appeals. In general, the results suggest that a substantial number of interruptions occur at oral argument, with judges interrupting nearly half the time that they speak. This is probably not surprising for observers of the court, but the fact that judges behave distinctly from one another in the course of this deliberation is worth unpacking in much more

[192] Compare ~50% interruption rate to ~45% interruption rate ($p = 0.40$).

[193] For positive interruptions, compare ~52% rate to ~33% rate ($p = 0.01$); for negative interruptions, compare ~42% rate to ~52% rate ($p = 0.21$).

depth. Further work is also needed to truly understand the implications of judicial speech behavior on the success of attorney arguments. Overall, this Article makes progress toward a greater understanding of judicial deliberation, especially as to any gender differences that might persist among men and women judges. As the federal judiciary begins to approach gender parity, it will be all the more critical to understand the behavior of women on the courts.

APPENDIX A

Table A.1: Summary of Internal Operating Procedures by Circuit

circuit	*oral argument*	*panel assignment*	*case assignment*	*opinion assignment*
1[i]	always unless unanimous panel invokes FRAP 34	randomization on death penalty cases	randomization, with some exceptions	
2[ii]	always unless unanimous panel invokes FRAP 34	randomization on death penalty cases	randomization on death penalty cases	
3[iii]	if requested by 1+ panel judge	randomization on death penalty cases	"generally" randomized	PJ or seniormost in majority assigns after case conference
4[iv]	always unless unanimous panel invokes FRAP 34	semi-random, normalize judge permutations	"total" randomization	Chief judge (presiding referral if CJ not on panel) assigns
5[v]	always unless unanimous panel invokes FRAP 34	semi-random, normalize judge permutations	clerk schedules, with categorical prioritization	Presiding judge assigns after case conference (no specialization)
6[vi]	always unless unanimous panel invokes FRAP 34	double randomization	clerk assigns to dates pre-panel randomization	Presiding judge assigns after case conference
7[vii]	always unless unanimous panel invokes FRAP 34	semi-random, normalize judge permutations		Presiding judge assigns after case conference
8[viii]	panel may agree not to hear case	computerized randomization	computerized randomization	Presiding judge assigns after case conference

9[ix]	always unless unanimous panel invokes FRAP 34	semi-random, normalize judge permutations	clerk schedules by categorical prioritization	Presiding judge assigns after case conference
10*[x]	if requested by 1+ panel judge		randomization	PJ--if in majority--assigns after case conference
11[xi]	always unless unanimous panel invokes FRAP 34	randomization from a matrix	clerk schedules by case category, normalization + "first-in-first-out"	PJ--if in majority--assigns after case conference (no specialization)
Fed.[xii]	always unless unanimous panel invokes FRAP 34	computerized randomization based on schedule availability	semi-randomized, case category normalized	PJ or seniormost in majority assigns after case conference
D.C.[xiii]	always unless unanimous panel invokes FRAP 34	semi-random, normalize judge permutations	computerized by case category, normalization + "first-in-first-out"	PJ or seniormost in majority assigns after case conference

Table A.2: Predicted and True Probabilities of Gendered Panel Composition
*panel-judge data contains ~29% women; note this is still an imperfect calculation because it does not account for circuit-level limitations

# women on panel	*predicted probability that panel will contain x number of women*		*true percentage*
0	0.71*0.71*0.71 =	**~36%**	~35%
1	3(0.29*0.71*0.71) =	**~44%**	~44%
2	3(0.29*0.29*0.71) =	**~18%**	~19%
3	0.29*0.29*0.29 =	**~2%**	~2%

APPENDIX B

Table B.1: Audio File Availability by Circuit

circuit	*type*	*n (2023)*	*years*
1[xiv]	audio only	0	most recent few cases only
2[xv]	audio only	745	2016–present
3[xvi]	audio only	199	2007–present
4[xvii]	audio only	368	2011–present
5[xviii]	audio only	123	2008–present
6[xix]	audio only	293	2013–present
7[xx]	audio only	443	2002–present
8[xxi]	audio only	346	2000–present
9[xxii]	audio/video	1,180	2003–present
10[xxiii]	audio only	272	2018–present
11[xxiv]	audio only	332	2017–present
Fed.[xxv]	audio only	200	2003–present
D.C.[xxvi]	audio only	403	2007–present

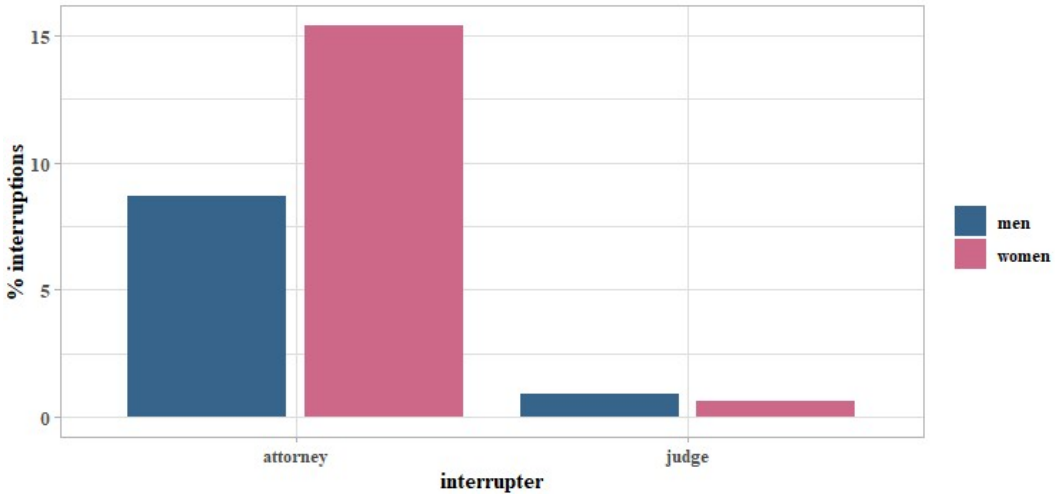
* The First Circuit has CD format arguments that they can mail out at $35 per argument.

Table B.2: Oral Argument Workload by Circuit

circuit	*average oral argument length (in minutes, 2020–2023)*	*average # cases heard per year (2020–2023)*	*# allotted judgeships*
First Cir.	-	-	-
Second Cir.	~30.48	705	13
Third Cir.	~47.42	~182	14
Fourth Cir.	~43.15	~321	15
Fifth Cir.	~44.27	~113	17
Sixth Cir.	~33.57	~330	16
Seventh Cir.	~30.48	~470	11
Eighth Cir.	~30.23	~379	11
Ninth Cir.	~34.14	~1250	29
Tenth Cir.	~33.65	286	12
Eleventh Cir.	~36.65	~372	12
D.C. Cir.	~52.77	~216	11
*At the date of this writing, the Third Circuit has two vacant judgeships (i.e., 12 active judges)			

APPENDIX C

Figure C.1: Proportion of Back-Channel Interruptions by Interrupter Gender



APPENDIX D

Table D.1: Circuit-Level Ideology Means

circuit	*mean JCS, all judges*	*mean JCS, women*	*mean JCS, men*	*% conserv judges*	*% women judges*
Second Cir.	-0.01	-0.20	0.12	57%	43%
Third Cir.	0.07	-0.29	0.16	45%	17%
Fourth Cir.	0.07	-0.18	0.21	50%	33%
Fifth Cir.	0.28	0.22	0.29	70%	25%
Sixth Cir.	0.31	0.15	0.38	75%	29%
Seventh Cir.	0.21	0.07	0.30	31%	38%
Eighth Cir.	0.31	-0.35	0.41	86%	14%
Ninth Cir.	0.004	-0.15	0.07	39%	30%
Tenth Cir.	0.02	-0.19	0.11	50%	31%
Eleventh Cir.	0.31	0.33	0.29	73%	54%
D.C. Cir.	-0.06	-0.17	0.04	35%	52%

[i] https://www.ca1.uscourts.gov/sites/ca1/files/rulebook.pdf

[ii] https://www.ca2.uscourts.gov/clerk/case_filing/rules/pdf/LRs_IOCs_appendices_rev_2022.pdf

[iii] https://www2.ca3.uscourts.gov/legacyfiles/IOPs.pdf

[iv] https://www.ca4.uscourts.gov/docs/rules/LocalRules.pdf?sfvrsn=e9c8fd71_60

[v] https://www.ca5.uscourts.gov/docs/default-source/forms-and-documents---clerks-office/rules/5thcir-iop

[vi] https://www.ca6.uscourts.gov/sites/ca6/files/documents/rules_procedures/Full%20Rules%20w%20FRAP_0.pdf

[vii] https://www.ca7.uscourts.gov/forms/Seventh_Circuit_Operating_Procedures.pdf

[viii] http://media.ca8.uscourts.gov/newrules/coa/iops06-19update.pdf

[ix] https://cdn.ca9.uscourts.gov/datastore/uploads/rules/frap.pdf

[x] https://www.ca10.uscourts.gov/sites/ca10/files/documents/downloads/2023PracGuideUpdate-13thEdition.pdf

[xi] https://www.ca11.uscourts.gov/sites/default/files/courtdocs/clk/RulesAUG14.pdf

[xii] https://cafc.uscourts.gov/wp-content/uploads/RulesProceduresAndForms/InternalOperatingProcedures/InternalOperatingProcedures.pdf

[xiii] https://www.cadc.uscourts.gov/internet/home.nsf/Content/VL%20-%20RPP%20-%20Handbook%202006%20Rev%202007/$FILE/Handbook20210316.pdf

[xiv] https://www.ca1.uscourts.gov/oralargsrss

[xv] https://ww3.ca2.uscourts.gov/oral_arguments.html

[xvi] https://www.ca3.uscourts.gov/oral-argument-recordings

[xvii] https://www.ca4.uscourts.gov/oral-argument/listen-to-oral-arguments

[xviii] https://www.ca5.uscourts.gov/oral-argument-information/oral-argument-recordings
[xix] https://www.ca6.uscourts.gov/audio-files-completed-arguments
[xx] https://media.ca7.uscourts.gov/oralArguments/oar.jsp?caseyear=&casenumber=&amonth=10%2F2001&aMonth=List+case%28s%29
[xxi] https://www.ca8.uscourts.gov/court-session
[xxii] https://www.ca9.uscourts.gov/media/
[xxiii] https://www.ca10.uscourts.gov/oralargument/search
[xxiv] https://www.ca11.uscourts.gov/oral-argument-recordings
[xxv] https://cafc.uscourts.gov/home/oral-argument/listen-to-oral-arguments/
[xxvi] https://www.cadc.uscourts.gov/recordings/recordings.nsf/DocsByRDate?OpenView&count=100