August 19, 2013

Activism, Attitudes, and the Citation of Precedent in Supreme Court Opinions

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Abstract

Adherence to precedent provides a legitimizing function for judges. Recent scholarship supports this contention, demonstrating that Supreme Court justices are more likely to cite well-grounded precedent when their opinions face greater scrutiny. In this paper, I continue this line of research by examining whether citation practice varies along individual-level characteristics such as judicial ideology, a propensity for activism, judicial background, and judicial roles. I find that most individual-level factors have little or no impact on how justices ground their opinions in prior precedent, with the exception of judicial activism, which has a moderate negative impact on the centrality of the precedent cited. Individual variation in citation practice thus appears mainly idiosyncratic. However, I do uncover a strong interaction effect between ideology and activism, in which activist conservative justices write opinions with considerably less precedential centrality than other justices. This finding supports the narrative that the conservative legal framework entered a sea-change during the Burger and Rehnquist Court years.

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What makes judges cite cases? Citations have been referred to as the “currency” of the legal system, serving as the foremost method by which judges or justices can, within the context of their written opinions, demonstrate that their decisions are based in law rather than arbitrary judgment. While there is little argument that judges cite cases, the factors which drive variation in citation practice are still in question. This article expands the empirical research on citation, specifically examining whether individual-level factors such as ideological attitudes, a propensity for judicial activism, prior career background, or judicial roles systematically correlate with variation in citation. I find that case-level factors, rather than factors associated with the individual opinion author, best explain systematic variation in citation patterns. However, I do find that judicial activism, and in particular judicial activism interacted with justice ideology, has a strong and significant impact on the centrality of the precedent cited by the opinion author. Conservative, activist justices thus significantly differ from their fellows in their citation practice.

INTRODUCTION

In research on decisions on the merits by appellate courts—particularly the Supreme Court—political scientists and empirical legal scholars have consistently demonstrated that attitudes, or ideological legal policy preferences, have strong explanatory and predictive power. In doing so, adherents of the attitudinal model can claim to have falsified a “naïve legal model” in which judges simply make the best decision according to neutral legal principles. However, more

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recent research has pointed to a subtle but still important role for legal factors, one in which the law need not mechanistically constrain judges in order to impact decision-making. For example, Richards and Kritzer have found that prior precedent can constitute the grounds for debate by highlighting which facts are legally relevant, while Bartels has demonstrated that legal rules can reduce the impact of ideology on decisions without eliminating it entirely.\(^3\)

A similar dynamic runs through the empirical literature devoted to the study of citations. While one prominent, early study on *stare decisis* suggested that justices only follow precedent when they share the ideological valence of the original decision,\(^4\) more recent research finds that citation practice does not serve merely to “mask” results-oriented judging, but instead is influenced by case-level factors such as salience or legally complexity.\(^5\) Another sophisticated, relatively recent examination of precedent at the Supreme Court found that while justices did support precedent with which they were ideologically aligned and undermined precedent which they opposed, they were more likely to support or attack “vital” precedent that was substantively important and had been influential in the lower courts.\(^6\) This focus on vital precedent, the authors argue, only makes sense if justices believe that legal precedent has some ability to legitimize their decisions. Under their view, precedent serves as both a constraint on judicial decision-making as well an opportunity for increasing future support for one’s legal policy preferences.

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\(^5\) James H. Fowler & Sangick Jeon, *The Authority of Supreme Court Precedent*, 30 SOC. NETWORKS 16 (2008); Cross et al., supra note 1.

To date, then, research on precedent has attempted to answer the question of whether citation practice is primarily ideological in nature or is influenced by legal factors. However, these studies generally treat the justices as interchangeable parts, on whom legitimation pressures to cite precedent are presumed to have equal effect. There is little reason to expect this to be true. Different judges might place different values on legitimacy concerns, might have sincerely different beliefs regarding the value of stare decisis, or make different calculations about the degree to which persuasion through citation is necessary to achieve judicial policy goals. Yet we have little systematic empirical information about whether citation practices vary alongside characteristics of the opinion author. For example, we do not know whether liberal justices differ from conservative jurists in how often they cite prior precedent, or in their propensity to cite “central” precedent more deeply connected in the network of cases. Warren Court liberals, for example, were commonly attacked for their alleged disregard for stare decisis. Similarly, justices who sit further along the continuum of judicial activism—here defined as a tendency to strike down laws, reject interpretations offered by executive agencies, broaden standing doctrine to take cases, and overturn prior precedent—may differ in their citation practices from justices more likely to engage in judicial restraint. Perhaps judicial background and judicial roles—such as serving as the Chief Justice—also impact individual-level citation practices.

This study examines over fifty years of Supreme Court opinions to test how citation practices are impacted by individual-level characteristics such as background, ideology, or propensity for activism. In doing so, I hope to advance two distinct lines of inquiry. First, understanding these differences might improve our predictions of citation practice and judicial behavior as new

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8 Stefanie A. Lindquist & Frank B. Cross, Measuring Judicial Activism (Oxford University Press 2009).
9 Cross et al., supra note 1.
justices come onto the Court. Second, examining individual-level differences in citation practices will shed further light on how different categories of justices construct notions of legitimacy. Both citation and the citation of central precedent are legitimating activities: both create time and effort costs, as well as limit the advancement of policy preferences within the opinion to those outcomes which can be reasonably supported by the precedents cited. To be clear, *stare decisis* is not the only source of legitimation; one might believe prior precedent to be in error, for example, or adhere instead to the plain text of the Constitution. That said, discovering that conservative justices cite cases at higher rates than liberals, or that liberals are more likely to cite central precedent than conservatives might provide further insight on how justices construct legitimacy.

In the following section, I expand on the theoretical importance of citations and what researchers can hope to gain through their study. I do so by drawing upon the most recent and relevant empirical research on citations, which illustrates that the variation in citation is not simply idiosyncratic, but instead varies according to case characteristics. If judges believed that citations helped legitimate their opinions, for example, we would expect them to cite more cases and more central cases when their decision has greater legal policy consequences, greater visibility, or is more legally complex. Research on citations practices to date, particularly the work by Cross et al.,\(^\text{10}\) confirms this hypothesis.

In the second section, I highlight the gaps in this research, namely that we have little understanding of the impact of individual characteristics on citation practice. I consider a number of potentially relevant individual characteristics that could impact citation practice,

\(^{10}\) Cross et al., *supra* note 1.
including ideology, activism, judicial background, and judicial roles, describing my hypotheses about the predicted impact of these factors.

In the third section, I lay out the data and methodology for my empirical analysis, providing measures for my dependent, independent, and control variables. In the fourth section, I conduct this analysis, testing whether these individual variables impact both raw citations rates as well as the “precedential centrality” of Supreme Court opinions while controlling for case-level factors. I find that most individual-level factors, such as career background as a former judge or judicial ideology, have little explanatory power. Judicial activism, by contrast, has systematic, negative effects on both citation frequency and the centrality of the precedent cited in a particular opinion. Moreover, I find one particularly strong effect on the likelihood of citing central precedent: the interaction between ideology and activism. Specifically, justices who are both ideologically conservative and activist are considerably less likely to cite central precedent than other justices, while justices who are conservative but not activist cite central precedent at higher rates than any other combination of the two variables.

In the final section, I examine the implications of my findings. In concordance with the narrative offered by Thomas Keck, \textsuperscript{11} less activist conservative justices (generally those nominated to the Court between the Eisenhower and Reagan presidencies) relied more heavily on \textit{stare decisis} than those that came after. These results, I argue, support multiple inferences that are both substantively important and worth further study. One reading of this finding suggests that activist conservatives are simply less concerned with legitimating their decisions than non-activist conservatives or liberal justices. Another reading of the evidence, however, would point to how more activist conservatives have come to construct legitimacy \textit{differently}.

\textsuperscript{11} \textsc{Thomas Moylan Keck}, \textsc{The Most Activist Supreme Court in History: The Road to Modern Judicial Conservatism} (University of Chicago Press 2004).
than their predecessors, perhaps placing more value on Founding-era documents such as the Federalist Papers or the original public meaning of constitutional text. A third inference is that activist justices of all ideologies may be equally less concerned with the citation of central precedent than their less activist brethren. However, the activist liberal justice has a structural advantage over the activist conservative in that the central decisions of the past eighty years tend to support liberal legal policy positions. Regardless of which of these readings are correct, however, I argue that empirical confirmation of purported shifts in how conservative justices, and perhaps by extension, the conservative legal movement, employ prior precedent as a source of legitimation is of real-world importance.

I. LEGITIMACY-SEEKING AND CITING PRECEDENT

Legitimation is integral to most conceptions of the federal judicial role. The doctrine of judicial supremacy, for example, is inextricably intertwined with the belief that federal courts act legitimately, given that they lack more concrete manifestations of power and have no public mandate to justify their authority.\textsuperscript{12} In short, judges must convince the public and other political actors that legal reasoning and judicial decision-making is more than the naked exercise of power. The written opinions offered by courts can be seen as attempts to justify and legitimate decisions as proceeding naturally from a statute’s plain meaning, past precedent, or appropriate constitutional principles, rather than simply from the legal policy preferences of the deciding judge or the majority coalition.

Since at least the middle of the 19\textsuperscript{th} century, the Supreme Court and other courts have operated under the principle of \textit{stare decisis}, attempting to legitimate their decisions by casting

them as flowing naturally from prior cases. Under this framework, citations serve as the building blocks of written opinions, with the citation of prior precedent signaling a commitment to *stare decisis*. Clearly, the citation of prior precedent is not the only means by which a decision can be legitimated; a judge might seek legitimation from the original public meaning of a constitutional provision, its plain text, or some other authority. That said, the citation of precedent remains one of the foremost means by which judges attempt to legitimate their rulings. Under a simple “naïve legal model” of opinion writing, then, when confronted with a difficult problem, judges or justices will consult prior precedent, find those rulings which best fit the facts at hand, employ these rulings to decide the case, and then cite these legally authoritative sources to explain why the ruling was made.

Of course, even a passing familiarity with law and legal decision-making makes this formulation sound hopelessly naïve. Take, for example, *Payne v. Tennessee*, in which six members of the Rehnquist Court ruled that the Eighth Amendment did not forbid state prosecutors from offering victim impact statements during the punishment phase of capital trials. What was most noteworthy about *Payne* was not its ruling on the merits, but the fact that roughly the same legal question had been addressed by the Court just two years prior in *South Carolina v. Gathers*, and four years earlier in *Booth v. Maryland*. In those cases, the Court had rejected victim impact statements as creating a “constitutionally unacceptable risk that the jury may impose the death penalty in an arbitrary and capricious manner,” given that they were deemed

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irrelevant to the defendant’s culpability. In moving to overturn *Gathers* and *Booth* so soon after they were decided, the majority was fiercely attacked by Justice Marshall, who alleged in his dissent that the Court had put aside *stare decisis* in order to implement conservative legal policy preferences. “Neither or the facts supporting *Booth* and *Gathers* underwent any change in the last four years,” Marshall wrote. “Only the personnel of this Court did.” Responding within his concurrence, Justice Scalia noted that in other cases Marshall himself had frequently argued against an overreliance on *stare decisis*, quoting Marshall as having said that in some situations *stare decisis* can “diminish respect for the courts and for law itself.”

*Payne* is unusual in how little time had passed between the overturning and overturned Supreme Court decision. In terms of showcasing competing charges of insufficient allegiance to *stare decisis* and hypocrisy, however, its narrative is familiar. *Payne* raises the specter of a familiar cynicism: that the members of the Court primarily seek to advance their own legal policy goals and care little about *stare decisis* or finding the “right” legal answer except as disingenuous rationalizations for those goals. In this view, justices only have regard for prior precedent when it supports their preferred legal policy outcome. As such, citation is little more than the post-hoc rationalization of a decision determined by extra-legal factors such as ideology or partisanship.

This more cynical view well fits within a framework for explaining judicial behavior known as the attitudinal model, in which judicial decisions are largely guided by ideology and legal policy preferences. The attitudinal model has the most explanatory power when applied to the

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17 Id. at 503, 505-06.
18 *Payne*, 844.
19 Id. at 834.
Supreme Court, as its justices have life terms, do not seek promotion, hear close cases that rarely present clear legal questions, and choose their own docket. Given these institutional characteristics, the strong form of the attitudinal model argues Supreme Court justices are more or less free to pursue their own legal policy preferences. Over the decades since Segal and Spaeth launched their broadside against a naïve legal model, a host of research findings has provided considerable support for their hypothesis.

To a lesser extent, the attitudinal model has also been used to explain how and whether judges follow precedent. In one early attempt to ascertain whether the legal or attitudinal model better described how Supreme Court justices approached prior precedent, Segal and Spaeth offered evidence for the latter, finding that among justices who dissented in a particular case, the overwhelming majority continued to oppose that case’s rule in progeny cases, rather than shifting to support the ruling as *stare decisis* would presumably dictate. While this study’s methodology has been called into question by more recent research, it well illustrates the position of the attitudinal model towards precedent, in which legal forms merely mask attempts to implement one’s preferred outcomes.

At a basic level, the very existence of citations present a partial refutation to the strong form of the attitudinal model, under which justices simply follow their legal policy preferences without concern for public opinion or any other political or legal actors, feeling themselves, to quote Brutus, “independent of heaven itself.”\textsuperscript{25} That opinion writers employ citations \textit{at all} suggests that they believe citations to be at least instrumentally important, that they must convince others their decisions result from the analysis of authoritative legal sources even if they do not. Nevertheless, a world in which prior precedent and relevant citations are employed in the traditional legal sense is quite different from a world in which citations only serve as a “mask” for the ideological stances that actually drove the decision in question.\textsuperscript{26}

In recent years, however, the attitudinalist hegemony has weakened, as evidence has mounted that legal rules and concerns about legitimacy do affect judicial behavior. Prior precedent has been found to constitute the grounds for legal analysis, affecting which facts are given weight.\textsuperscript{27} Changes in legal rules—such as the adoption of the “content neutrality” doctrine in the First Amendment’s speech cases in the 1970s—have been found to ameliorate, though not eliminate, ideologically-driven decision making, while other research supports the contention that there is individual variation among the degree which justices are influenced by legal principles such as \textit{stare decisis}.\textsuperscript{28} More recent studies have also found that members of the Court do not simply enact their presumed legal policy preferences into action, instead strategically deferring when sincere decision-making might enrage other political actors. For example, members of the Court may limit their exercise of judicial review when facing a hostile

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\textsuperscript{25} Brutus, \textit{XV, in} The Complete Anti-Federalist (Herbert J. Storing ed. 1788).
\textsuperscript{26} Cross et al., \textit{supra} note 1, at 502-06.
\textsuperscript{27} Richards & Kritzer, \textit{supra} note 3.
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Congress,\textsuperscript{29} or be more likely to rule against an unpopular president than a popular one in separation of powers cases that involve the president’s power.\textsuperscript{30} Justices may also be affected by psychological considerations, attempting to demonstrate they are “legitimate” in some fashion in order to be liked by those individuals or groups whose opinion they value.\textsuperscript{31} Finally, it may be that in situations where justices are perceived as acting “strategically,” or making decisions contrary to their expected ideological stance, they are instead pursuing legitimacy for its own sake, following the “legal model.” The present state of the decision-making literature, then, can best be characterized as supporting a “hybrid” model that incorporates both legal and attitudinal concerns.\textsuperscript{32}

Though the empirical literature on the citation of precedent is considerably younger and smaller than that which examines decisions on the merits, here too the evidence supports a hybrid model. Hansford and Spriggs, for example, employed Shepard’s Citations—which are broken down into positive, neutral, or negative valence categories to account for the citing judge’s attitude towards the case in question—to measure the “legal vitality” of Supreme Court decisions.\textsuperscript{33} They found that opinion authors were more likely to negatively treat “vital” precedents whose rulings were ideologically distant (as measured by the median ideological score of the majority coalition that voted for the precedent in question) from their own ideology. Clearly, these findings falsify a “naïve legal model,” in which members of the Court simply seek out the “best” precedents and cite them accordingly. However, the finding that the Court was


\textsuperscript{32} A similar dynamic has been found in the Supreme Court agenda-setting literature. See, e.g. Ryan J. Owens, \textit{The Separation of Powers and Supreme Court Agenda Setting}, 54 AM. J. POL. SCI. 412 (2009).

\textsuperscript{33} HANSFORD & SPRIGGS, \textit{supra} note 6.
more likely to attack (or defend, depending on their ideological proximity to the decision in question) “vital” precedents relative to less vital ones suggests they believed that such precedents had legitimizing force.

In another recent study of citations, Fowler and Jeon used network analysis to demonstrate that Supreme Court decisions which overturn prior precedent are much better “grounded” in the network of precedent than the average decision—suggesting that the majority recognizes that overturning precedent will draw greater scrutiny and thus requires greater legitimation.34 Another study of citation patterns by the same authors uncovered similar results, finding that the justices were more likely to cite more central precedent in situations where their decisions faced greater scrutiny, such as when the Court engages in judicial review.35

Most recently, Cross et al. undertook a systematic study of Supreme Court citations, presenting both a wealth of descriptive information (e.g. the increase in citations over time) as well as examining whether particular case-level factors correlated with changes in citation practices.36 Like Fowler and Jeon, Cross and his co-authors found that justices were likely to cite more precedent and more central precedent in situations where the Court was liable to face greater scrutiny37—and thus required a stronger justification for their decision. They also found an increase in citations and in the centrality of cited cases in situations where the legal issue was more complex, or where there was a circuit conflict (suggesting a legally difficult case).38 Importantly, then, their results demonstrate that citation practice was affected not only by

36 Cross et al., supra note 1.
37 Id., at 541-544.
38 Id., at 544-550.
concerns about the legitimacy of the opinion in the eyes of other actors (and, potentially, the justices themselves), but also by concerns over legal craftsmanship and uniformity in the law.

II. INDIVIDUAL VARIATION IN CITATION PRACTICE

The research to date makes a strong case that citation practice is affected by the need to legitimate a case before other political actors, and by the need to resolve legal problems. For the most part, however, these studies treat the justices as interchangeable parts. Admittedly, it seems reasonable to assume that all justices place *some* degree of weight on the legitimizing function of citation, as no judges or justices eschew the practice of citation altogether. Moreover, the justices may face similar pressures to cite relevant and appropriate precedent to legitimate their legal reasoning, such as academic or career socialization[^39] or fulfilling widespread expectations of the judicial role.[^40]

But do justices have similar views about the utility of precedent as a legitimacy-seeking tool? Are their citation practices roughly similar? There is little reason to expect this to be true. Different judges might place different value on *stare decisis*, or make different calculations about the degree to which legitimation is necessary to achieve their judicial policy goals. Research into the systematic correlates of citation practice has shed further light on how judges construct legitimacy, but we have little systematic empirical information regarding how citation practices differ among particular justices. Cross et al. study made a brief foray into examining individual variation in citation practice, specifically testing whether including dummy variables for individual justices in their case-level model affected either raw citation counts or the network centrality of the opinion in question.[^41] While there was considerable variation among the

[^41]: Cross et al., *supra* note 1, at 555-569.
citation rates of the justices, the overall impact of the justice dummies on the model was limited, with the confidence intervals for most—though not all—of the justice coefficients being indistinguishable from zero. From this finding alone, one could infer that variation among the justices in regards to citation practice is modest and idiosyncratic.

Their analysis does not, however, assess whether citation practices systematically correlate with other individual-level factors such as ideology, activism, prior background, or judicial roles. In the past, for example, Warren Court liberal justices were attacked for ignoring precedent.42 Is it actually the case that this cohort cited less precedent, or precedent less central to the network of cases? Similarly, justices who can be labeled as “activist” according to various criteria43 may differ in citation patterns from justices more likely to engage in judicial restraint. Moreover, while every sitting Supreme Court justice has a background on the appellate courts, this was not always the case. Do justices who come to the Court from electoral politics or the executive branch differ from those who held prior judicial experience? In what follows, I discuss four groups of factors that I hypothesize may systematically impact citation, and consider their likely impact.

A. Ideology

First, citation practices may be impacted by judicial ideology. Assuming (as empirical legal studies scholarship often does) that the policy preferences of Supreme Court justices can be reasonably aligned along a single liberal-conservative axis, how might ideological valence affect citation practices? As Lupu and Fowler note, there are competing theories on whether

42 Weschler, supra note 7; Kurland, supra note 7.
43 Lindquist & Cross, supra note 8.
conservatives or liberals are more likely to value precedent as a source of judicial legitimacy.\textsuperscript{44} On the one hand, the prevailing theory of constitutional interpretation among contemporary legal conservatives is that of original public meaning, in which the public meaning of the Constitutional text at the time of its ratification takes precedence over interpretations dictated by prior precedent.\textsuperscript{45} Justices who ascribe to this theory—such as Justice Thomas, for example—might put less emphasis on grounding their opinion in the precedential network. Moreover, over the past eighty years, most of the landmark precedents decided by the Supreme Court are liberal decisions from the FDR or Warren Court eras. Given this, we might expect liberals to cite more precedent and more central precedent than conservatives, as doing so would fit the attitudinal theory that judges cite cases to bolster their own legal policy preferences. On the other hand, the creation of these important liberal precedents by more liberal courts often involved doctrinal revolutions, such as the incorporation of the criminal procedure planks of the Bill of Rights against the states or the creation of the right to privacy.\textsuperscript{46} In such periods, liberals may have deviated from past precedent to chart new doctrinal directions, with conservatives citing precedent to criticize such changes. Given the plausibility of both theories and the relative lack of prior research in this area, I make no prediction on the valence of ideological impact.

\textbf{B. Activism}

A second potential mediating variable on citation practices is judicial activism. How do I define this term? As a normative concept, activism is often held to mean that a judge has made an interpretive decision that is both wrong and guided by inappropriate (i.e. results-oriented)


motivations, or, perhaps, that a judge has inappropriately conflated “law” with “politics”.\textsuperscript{47}

However, such a standard is almost impossible to apply objectively, given the difficulty in creating reliable measures and working around the biases of those who must employ them. Evidence of this difficulty in measurement can be seen in the empty charges of “activism” politicians ritualistically apply to judges whose decisions they dislike.

Given this problem, social scientists who study the Court rely on more objective measures of activist behavior. I highlight four potential conceptions of activism that have reasonable relationships to this normative definition and are capable of measurement. First, judicial activism might entail a heightened willingness to engage in counter-majoritarian behavior, such as overturning laws or executive decisions.\textsuperscript{48} Under this view, a deferential justice should be loath to reject tenable constitutional or statutory interpretations made by democratically elected bodies. Second, judicial activism might be defined as writing legal rules and tests in such a way as to maximize the scope of judicial discretion. Sunstein defines as a “minimalist” a justice who employs justiciability doctrine to avoid taking cases where judicial involvement would lead to judicial aggrandizement, who writes opinions with a narrow scope that only apply to the instant case, and who rarely overrules precedent or acts to make broad unilateral changes.\textsuperscript{49} A “maximalist” justice, conversely, would be activist, as he or she seeks to increase the power of the Court to shape legal policy in future cases. Under this concept, the pragmatic, piecemeal decisions of Justice O’Connor are less activist than the more principled and sweeping changes in constitutional law desired by Justice Thomas.

\textsuperscript{49} CASS R. SUNSTEIN, ONE CASE AT A TIME: JUDICIAL MINIMALISM ON THE SUPREME COURT (Harvard University Press 2001).
Third, judicial activism might be viewed in the context of the separation of powers, in which the Court attempts to aggrandize its institutional power at the expense of Congress and the executive branch. Here, the Court extends its reach into issues that have heretofore been considered the province of another branch. Fourth and finally, activism has been viewed through the lens of the attitudinal model and results-oriented judging. Under this view, a justice who strikes down laws based on the Commerce Clause when they are passed by a Republican Congress but not a Democratically-controlled one would show clear evidence of activism.⁵⁰ All justices engage in some results-oriented judging, but significant variation may exist between individuals.

A common thread throughout these four conceptions of activism is a lack of deference towards other actors—the federal government, state laws, or the preferences of past Courts embodied in prior precedent. A propensity for activism, then, might result from a weakened concern for the opinions and preferences of others. Simply put, judges who tend to behave in an activist manner may put less priority on legitimacy-seeking through precedent than those who do not do so. From this supposition I offer a testable hypothesis: as a justice becomes more activist, he will be less likely to author opinions well-grounded in central precedent.⁵¹

Finally, it may be the case that it is the interaction between activism and ideology, rather than either factor individually, that drives individual variation in citation practice. For example, Thomas Keck has argued that in the wake of their defeats in the Warren Court era, legal

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⁵⁰ LINDQUIST & CROSS, supra note 8.
⁵¹ There is at least one potential counter-hypothesis: justices who behave in activist manner may actually feel a greater need to cite central precedent in order to compensate for their activism. I find this hypothesis less compelling for two reasons. First, it assumes that activist justices are aware that they are acting “inappropriately” rather than engaging in motivated reasoning, by which they might convince themselves they are not acting correctly. EILEEN BRAMAN, LAW, POLITICS, AND PERCEPTION (University of Virginia Press 2009). Second, it assumes that activist justices are simultaneously unconcerned with activism in their substantive decisions but concerned with putting on a good face for others. While both assumptions could be true, assuming otherwise seems more reasonable.
conservatives abandoned their prior commitments to judicial restraint in favor of a more muscular activist approach.\textsuperscript{52} Given this, perhaps more activist conservatives are less likely to cite central precedent than more deferential conservatives such as Harlan or Powell. Similarly, more recent conservative activist jurists such as Scalia and Thomas are more likely to self-identify as originalists,\textsuperscript{53} which may lead them to place less value on precedent as a source of legitimacy. As such, I expect to find a significant difference between the citation practices of activist and less activist conservative justices, relative to variation among liberal justices.

\textbf{C. Judicial Background}

A third group of factors that may influence citation practices are the career paths of the justices prior to their elevation to the Court. While all judges and justices cite precedent as part of the judicial role, it may be that some prior careers socialize justices to place higher value on citing precedent. Given that other studies have found relationships between judicial background and decision-making on the Court, it seems reasonable to examine potential effects along these lines.\textsuperscript{54} Here I examine two career backgrounds that might impact citation practices. First, while every current Supreme Court justice except for Kagan served on the appellate bench prior to his or her nomination, in prior decades it was common for nominees to have a background in electoral politics and lack judicial experience, as seen with Justice Warren (former governor of California), Justice Black (former Senator of Alabama), and Justice Rehnquist (former Assistant

\textsuperscript{52} KECK, supra note 11.


Attorney General). If citation is in part a function of the socialization process inherent in the judicial role in which judges learn to legitimize their opinions by reference to past precedent,\(^55\) it may be that justices with prior judicial experience put more emphasis on citing more and more central precedent as compared to justices elevated from other backgrounds.

Second and similarly, several justices worked as law professors in their prior careers. Law professors (depending on their field) normally spend a great deal of their time teaching students particular precedents and highlighting their importance within a particular legal area. Legal research similarly requires considerable attention to authorities when building an argument, often (though by no means exclusively) requiring attention to precedent. Simplistically, then, one might suspect that justices with a law school background would pay more attention to citation, or might cite more precedent relative to their colleagues.

**D. Judicial Roles**

Finally, I consider the possibility that citation practice may vary by judicial role. For the most part, Supreme Court justices are equal, with similar powers and responsibilities. I suggest three situations, however—one formal, two informal—in which particular roles might impact citation practice. First, the Chief Justice has specific responsibilities that may impact his behavior, serving as the public face of the Court, managing conference deliberations, undertaking particular administrative duties, and assigning the opinion when a member of the majority coalition.\(^56\) The Chief Justice may also shape the norms of collegiality among the other justices.

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justices, such as the frequency at which other justices write concurring or dissenting opinions.\textsuperscript{57} Given these responsibilities, the Chief may feel additional pressure to subordinate his legal policy preferences in order to promote cohesiveness on the Court, or to limit the number of closely divided cases in order to reduce the perception that the Court’s decisions simply split along ideological lines. There some evidence for this proposition, albeit modest in nature, in the career of Chief Justice Rehnquist, as Cross and Lindquist found that Rehnquist was less likely to issue a separate opinion—which one would assume would contain his true legal policy preferences—as Chief then he was as an associate justice.\textsuperscript{58} Along the same lines, then, the mantle of Chief Justice might also heighten a concern for the legitimacy and craftsmanship of the opinions the Chief writes, leading to additional or more central citation.

Two other informal roles might affect citation behavior. First, new judges often behave differently than their more experienced fellows, being less likely, for example, to write dissenting or concurring opinions in their first two years on the bench.\textsuperscript{59} Perhaps freshman justices also behave differently in their citation practices, working harder to justify their opinions. Or, by contrast, if citation practice is impacted by judicial socialization, perhaps newer justices cite fewer cases and fewer central cases, increasing their citation rates as they accumulate experience. Second, I investigate whether serving as the median justice in a given term impacts the author’s citation practice. While any justice could, theoretically, serve as the swing vote on an evenly divided court in a particular case, in most terms there is a justice whose


\textsuperscript{58} Cross & Lindquist, \textit{supra} note 56.

\textsuperscript{59} Virginia A. Hettinger et al., \textit{Acclimation Effects and Separate Opinion Writing in the US Courts of Appeals}, 84 SOC. SCI. Q. 792 (2003).
ideological leanings mark them as the middle, or median justice in a plurality of cases.\textsuperscript{60} The median justice is understood have more power and influence relative to other members of the Court, as his or her vote is the most crucial for building a majority. Though the justices may not be familiar with the specific empirical scoring methods that political scientists and empirical legal scholars use to identify the median justice, they may be aware of whether they themselves are the most common swing vote within a particular term or natural court. It may be, then, that as the opinion author, the median justice feels less pressure to legitimate his opinion, as he knows that his status as the swing vote creates some leeway in crafting the opinion. On the other hand, the median justice often gets to write important decisions on a closely divided court. Perhaps being in the position of frequently deciding such cases leads to additional concern for legal craftsmanship and well-grounded opinions.

III. MODEL VARIABLES AND DATA

A. Dependent Variables and Data

Examining the relationship between these individual factors and citation practices in a systematic manner requires a dependent variable that operationalizes the citation of precedent. Given that citation primarily serves as a legitimacy-enhancing tool—either sincerely, as a mask to justify the advancement of legal policy goals, or both—such a measure would, ideally, incorporate some sense of the quality or centrality of the precedent cited. The simplest such measure is a straight citation count. If citing cases is a legitimacy-enhancing activity, then in crude terms, additional citations serve as an indicator of increasing concern for grounding a case in prior precedent. While citation counts have been employed in empirical studies of

\textsuperscript{60} Andrew D. Martin et al., \textit{The Median Justice on the United States Supreme Court} 83 N. C. L. REV. 1275 (2005). More recent research has made the case that the median member of the majority coalition may have more power to influence opinion content, e.g. Clifford J. Carrubba et al., \textit{Who Controls the Content of Supreme Court Opinions?}, 56 AM. J. POL. SCI. 400 (2011).
precedent, the measure suffers from validity problems, the most obvious and important of which is that “more” does not necessarily mean “better” or “more relevant.” Citation counts punish justices who are relatively frugal in their citations but nevertheless work to incorporate the most central, relevant, or important cases. A better measure of citation practice would more directly incorporate the quality, legal influence, or centrality of the cases cited.

Given this, I follow Cross et al. and employ a measure generated using the network analysis of Supreme Court citations, referred to by its authors as “precedential centrality.” Using techniques similar to those which assess the impact of scholarly articles through the frequency of their citation, Fowler and his co-authors treat Supreme Court cases as nodes in a network, and citations as a link between those nodes. They simultaneously estimate the degree to which opinions are cited by other cases, or what they call “inward relevance,” and the degree to which opinions cites cases that are cited by other cases, or “outward relevance.” To paraphrase, inward relevance measures legal influence, while outward relevance measures whether cases are “well-founded in the law.” Cross et al. offer a more precise description of the outward relevance measure: “[outward relevance] measures the legal centrality of a precedent as a weighted function of the number of citations in that case, where each of those citations to a precedent is weighted by how legally influential that cited case is in the network of law.” In other words, the outward relevance measure does not simply track the number of direct connections (citations) a particular case possesses, but also examines its importance or centrality. For example, a case which cites ten cases more “embedded” within the network of Supreme Court precedent might

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62 Fowler et al., supra note 35.
63 Id, at 331.
64 Cross et al., supra note 1, at 524.
have a higher outward relevance score than a case which cites twenty cases on the fringe of the network. Outward relevance, or precedential centrality, thus appears better suited than pure citation counts for exploring the legitimacy-seeking aspect of citation.

Fowler et al. generate raw outward relevance scores for each Supreme Court decision in each year; however, it is unclear whether the raw scores, rather than the ranks of those scores within the network, are substantively meaningful. As such, I employ the percentile rank of the outward relevance measure for each Supreme Court opinion in the year it was decided. As a robustness check, and also following Cross et al., I examine the effects of these individual-level factors on the total citation count.

As the primary dependent variable measures the centrality of all citations within the majority opinion and the secondary dependent variable counts the total number of citations, I select single-authored majority opinions from the United States Supreme Court database as the unit of analysis, ranging from the 1953 to 2004 terms. Merging these selected cases with the outward relevance data, and dropping the 210 opinions written by those justices who decided too few cases to be assigned an activism score by Lindquist and Cross, I compile a total of 5,176 separate majority opinions, with the opinions serving as the unit of analysis. The combined

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65 Fowler et al., supra note 35, at 331-32. The 2007 study and the 2008 study—see Fowler and Jeon, supra note 5—use similar methods to generate inward and outward relevance scores, but employ a slightly different set of cases to do so. The 2007 piece uses the U.S. Supreme Court’s “Case Citation Finder” to draw signed or per curiam opinions published in the United States Reports between 1791 and 2005. This approach has the virtue of only including nodes in the precedential network that meet the layman’s understanding of a “case,” excluding decisions not authored by a Supreme Court justice, in-chambers opinions, and per curiam opinions that were not subject to oral arguments. Given that during certain periods of history the United States Reports published every final disposition, the 2007 approach provides a more suitable base for the generation of its scores.

66 Cross et al., supra note 1.

67 Harold Spaeth et al., The Supreme Court Database (Judicial Research Initiative 2010). I first select full case citations using the legacy variable ANALU (= 0), and then select opinions authored by a single, named Supreme Court justice.

68 See Fowler et al., supra note 35.

69 Lindquist & Cross, supra note 8. For more information see infra note 75.
Fowler-Spaeth database did not have figures for the total citation count for the 2004 term; as such, only 5,112 opinions were employed for the models using this dependent variable.

B. Independent Variables

1. Ideology

To measure the ideology of the opinion authors, I use Judicial Common Space (JCS) scores, which place justices, members of Congress, and presidents along the same one-dimensional liberal-conservative ideological scale.70 While it sounds unreasonable at first blush that Supreme Court decisions could be meaningfully placed on a single preference dimension, attempts to decompose the set of decision outcomes support this assumption,71 and prediction models using this assumption have outperformed the composite predictions of law school faculty.72 JCS scores increase along with increasing judicial conservatism, and vary from term to term (accounting for either “drift” in judicial ideology over time73 or year to year changes in the issue areas of cases on the docket). I also reserve the JCS score of the median member of the majority coalition as an alternative measure, accounting for the disagreement regarding whether the opinion author or the median member has more control over opinion content.74

2. Activism

For the activism variable, I employ a measure developed by Lindquist and Cross, who generate a cumulative activism score for the majority of Supreme Court justices who served in

72 Andrew D. Martin et al., Competing Approaches to Predicting Supreme Court Decision Making, 2 PERSP. ON POL. 761 (2004).
73 Epstein et al., supra note 22.
74 Carrubba et al., supra note 59; Chris W. Bonneau et al., Agenda Control, the Median Justice, and the Majority Opinion on the US Supreme Court, 51 AM. J. POL. SCI. 890 (2007).
the Warren, Burger, and Rehnquist Courts. Lindquist and Cross consider the degree to which these justices (1) struck down federal, state and local laws, (2) deferred to executive agencies, (3) broadened standing doctrine to take additional cases, and (4) overturned prior precedent. Furthermore, in each of these four areas they measure results-oriented or ideological activism, calculating how often individual justices favored conservative or liberal legal litigants (as determined by the Spaeth codings in the Supreme Court database). For example, a justice who believes the Court should dramatically broaden standing doctrine might have a high degree of institutional activism, given that he wants to expand the power of the Court at the expense of other actors. However, a justice who only broadens access for litigants espousing liberal positions would be additionally engaging in ideological activism. Lindquist and Cross thus have separate institutional and ideological activism measures for each justice in each of their four major dimensions. Their composite measure sums these eight items, creating a separate activism score for each justice.

[Figure 1 about here]

As shown in Figure 1, Lindquist and Cross’s cumulative rankings well match popular and scholarly understandings of which justices were or are activist: Warren Court liberals lead the way, followed by both conservatives and liberals within the Rehnquist Court, which itself has been viewed as highly activist. The activism measure for this study simply takes the Lindquist and Cross cumulative activism score for the author of the majority opinion.

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75 Lindquist and Cross exclude Justices Reed, Jackson, Burton, Minton, Whittaker, Goldberg, and Fortas from their analysis, on the grounds that these justices participated in too few cases to make reliable assessments of their behavior. As such, opinions written by these justices are excluded from my data (n= 210). See LINDQUIST & CROSS, supra note 8.
76 Spaeth et al., supra note 67.
77 KEC, supra note 11.
3. Judicial Background

For the judicial background variables, namely prior judicial experience and prior service in the law professoriate, I employ dummy variables for each, with 1 indicating such experience and 0 otherwise. I code the background variables for each opinion author using the Federal Judicial Center’s online Biographical Director of Federal Judges,\textsuperscript{78} cross-checked against Epstein et al.’s U.S. Supreme Court Justices Database.\textsuperscript{79}

4. Judicial Roles

Like the background variables, the role measures consist of dummy variables. Hettinger et al. argue that justices should be considered “freshman” for their first two terms in office, and I adopt their standards, using a dummy variable coded 1 for opinions written in a justice’s first two terms, and 0 otherwise.\textsuperscript{80} The Chief Justice dummy is easily coded, with 1 for opinions authored by a current chief, and 0 otherwise. Finally, I identify the median justice in each term by taking the median JCS score, cross-checked against Martin and Quinn’s estimates.\textsuperscript{81} I code this variable as 1 when the term’s median justice is the opinion author and 0 otherwise.

C. Control Variables

Given that prior research indicates the importance of case-level factors as determinants of citation behavior, I also control for a number of relevant case characteristics. Cross et al. find that majority opinion authors were more likely to cite more cases and more central cases (as measured by the same outward relevance variable included in this model) in situations where

\textsuperscript{78} Federal Judicial Center, Biographical Directory of Federal Judges, \url{http://www.fjc.gov/public/home.nsf/hisj}.

\textsuperscript{79} Lee Epstein et al., The U.S. Supreme Court Justices Database (Chicago, IL: Northwestern University School of Law 2010).

\textsuperscript{80} See Hettinger, \textit{supra} note 58.

\textsuperscript{81} Andrew D. Martin & Kevin M. Quinn, \textit{Dynamic Ideal Point Estimation via Markov Chain Monte Carlo for the U.S. Supreme Court, 1953-1999}, 10 POL. ANALYSIS 134 (2002). The data can be found at \url{http://mqscores.wustl.edu/measures.php}. 
legal elites or the public were more likely to be paying attention, specifically “salient” cases, cases that overturned precedent, or cases which engaged in judicial review. Given this finding, some attempt must be made to control for decisions where legitimation pressures are stronger, as this might affect citation. Controlling for overturning precedent or judicial review is problematic, as the activism variable already incorporates these variables. Controlling for salience, however, does not raise this problem. In quantitative studies of judicial behavior, salience is often captured through a dummy variable scored as 1 if a judicial decision makes the front page of the New York Times the following day, and 0 otherwise. Here, however, I follow an approach which incorporates additional information into the salience measure by also including cases recognized as significant by the most recent iteration of Congressional Quarterly’s Guide to the US Supreme Court. The resulting salience measure is an ordinal scale coded as 2 if a case satisfies both the New York Times measure and makes the Congressional Quarterly list, 1 if it only meets one of these criteria and 0 if it meets neither. When present, salience should have a positive impact on the centrality of an opinion’s citations.

In another study, Lupu and Fowler use precedential centrality scores to test competing models of agenda control. While doing so, they find that higher levels of precedential centrality positively correlate with more concurrences. This finding is intuitive: the presence of concurrences suggests that one or more justices on the Court who support the outcome

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83 DAVID SAVAGE, GUIDE TO THE U.S. SUPREME COURT (CQ Press 5th ed. 2010). Congressional Quarterly’s list of important cases is not consistent throughout each edition of the reference; a few cases deemed important enough to reference by earlier versions do not appear in the most recent (5th) edition.
84 Admittedly, this measure of salience is a post-decision variable, and thus technically inappropriate. However, it is highly likely that the salience the measure captures is already fixed prior to the creation of the majority opinion. Citizens United, for example, would have been a salient case regardless of how the majority opinion read. Citizens United v. Federal Election Commission, 558 U.S. 310 (2010). Moreover, the possibility that either the New York Times’s coverage of the issue or Congressional Quarterly’s decision to include the case in their list would depend on the author’s specific citation of precedent seems unlikely.
85 Lupu & Fowler, supra note 44.
nevertheless have problems with its reasoning. The majority opinion author might be willing to write off critiques from dissenter's, but critiques from those who support the ruling may be harder to dismiss, given that such justices can more credibly threaten to defect. As such, the knowledge that other justices are writing concurrences may push the author to further justify and legitimize the majority opinion. This control also has the salutary effect of controlling for legal complexity, as the probability of concurrences being issued likely correlates with the number and complexity of the legal issues present. Here I simply count the number of regular concurrences for each decision. Given Lupu and Fowler’s results, I expect a positive correlation between case centrality and the number of concurrences.

I also add a separation of powers control to the model. In the context of precedential centrality, opinion authors might feel additional pressure to seek legitimacy for their decision when the majority coalition is ideologically distant from the other federal branches. Such pressure should be particularly potent when the majority’s position is an ideological outlier relative to both houses of Congress and the president, while such pressure should be weaker or absent when at least one other federal institution can be presumed to support the opinion content. This should be true regardless of whether the Court truly fears or respects the positions of the other branches, or simply uses congressional outcry as a signal that audiences whose opinion they value are likely to be paying more attention. I control for this scenario by examining the median JCS scores for the House and Senate, as well as the current president’s ideology, and comparing the ideological range of these scores with the ideology of the median member of the majority coalition. If the judicial JCS score is bounded by the JCS scores of the other branches, I code the separation of powers variable as 0, on the grounds that pressures to further legitimate an opinion will dissipate if at least one of the other federal branches is more ideologically extreme.
than the coalition median. If, by contrast, the median member lies outside the ideological outward boundary (in either direction) of all three institutional scores, I assign the separation of powers variable the absolute value of the distance between the ideological score of the median justice within the majority coalition and the closest outward boundary. I expect these measures to correlate positively with the dependent variable.

I then include three additional case-specific variables previously found to affect judicial centrality. First, I include a control for amicus interest in the case. Just as salience or other indicators of increased attention to a Supreme Court decision might spur a justice to build more central precedent into her opinion, increased amicus attention might also affect citation practices. To account for this possibility, I log the total number of amicus briefs for each case, relying on data compiled by Paul Collins. I expect amicus participation to correlate positively with the dependent variable. Second, I control for the ideological dispersion of the majority coalition. Prior research has found that as the ideological heterogeneity of the majority coalition increases, the legal relevance of the majority opinion decreases, an effect attributed to the difficulty of coherently incorporating increasingly diverse positions on the proper scope and nature of the opinion’s content. Similarly, a more heterogeneous coalition might require the opinion author to cite more precedent in an attempt to bring divergent views into a single opinion (or alternatively, cite less precedent in order to do the same). For this variable, I employ the standard deviation of the JCS scores of the justices who make up the majority coalition.

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86 Since a substantial number of cases have no amicus briefs, I add one to the number of briefs in each case prior to taking the log. Collins’ data is current through 2001; the remaining cases I updated myself, using his methodology. PAUL M. COLLINS JR, FRIENDS OF THE SUPREME COURT: INTEREST GROUPS AND JUDICIAL DECISION MAKING 187 (Oxford University Press 2008).
88 Cross et al., supra note 1; Lupu & Fowler, supra note 44.
Third, I control for whether the case involves statutory or constitutional interpretation. Given that statutory cases may be *sui generis*, involve narrow interpretive issues regarding a single statute, or have a rather limited precedential history, one would expect statutory opinions to require fewer citations and perhaps cite less central precedent than cases involving constitutional interpretation. Here I use a dummy variable coded as 1 when a case involves statutory interpretation and 0 otherwise. I anticipate a negative relationship between this variable and precedential centrality.89

Fourth and finally, I include four controls for case issue areas. A quick perusal of the Fowler rankings shows that cases in certain issue areas are both more central and more legally relevant than others.90 In particular, civil rights and civil liberties cases have come to dominate the contemporary rankings, with First Amendment decisions lying at the heart of the modern network. Given this, I include four dummy variables for case areas where I expect the prior precedent to be disproportionately central, namely First Amendment, criminal procedure, civil rights, and right to privacy cases.91 I expect positive correlations between each of these dummies and the precedential centrality of the given opinion.

D. Model

The dependent variables in this study are the percentile rank of the Fowler outward relevance score and the total citation count. Given the nature of the dependent variables, I follow Cross et al. and use ordinary least squares (OLS) with robust standard errors for the network centrality

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89 I also examined whether the size of the precedential network affected the citation results, given that the Fowler method of generating centrality scores means that all scores may decline over time as the size of the network grows. See Fowler & Jeon, *supra* note 5; Lupu & Fowler, *supra* note 44. Inclusion of a variable which counts the number of cases in the network per term did not alter the sign or significance of any model coefficient, and had a very limited impact of their size.

90 Fowler & Jeon, *supra* note 5; Fowler et al., *supra* note 35.

91 These dummies are drawn from the United States Supreme Court database’s VALUE variable, using values 3, 1, 2, and 5 respectively. Spaeth et al., *supra* note 67.
model, and negative binomial regression for the count variable. I run two alternative estimation models as additional robustness checks on the network centrality tests. In the first alternative model, I employ a dependent variable with a normal distribution that better fits OLS assumptions, specifically taking the standardized z-scores of the raw precedential centrality scores for each case. In the second alternative model, I address the left-censored nature of outward relevance scores (which have both a leftward boundary of nearly zero and a sizable number of cases clustered at or near that boundary) by employing Tobit regression. Neither alternative specification changes the sign, significance, or relative impact of the original model variables. These comparisons can be found in the appendix.

IV. INDIVIDUAL VARIATION AND THE EFFECT OF INDIVIDUAL CHARACTERISTICS ON CITATION PRACTICES

A. Individual Variation and Model Results

1. Individual Variation

First, I present the centrality score—as measured by the mean percentile rank of all their written opinions in the dataset—for each justice in the dataset in Figure 2.

[Figure 2 about here]

As the figure shows, there is a fair amount of variation among the individual justices. At first glance, the ranking of the scores appears idiosyncratic. At the top, perhaps, one can see a similarity between Powell, Rehnquist, Burger, and Stewart—all relatively conservative justices appointed in a similar time frame. At the bottom, one notes the presence of Justices Thomas and

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92 Cross et al., supra note 1, at 538.
Breyer, both of whom claim to follow methods of interpretation that may put less weight on precedent as a legitimizing source. For the most part, though, the rank ordering does not suggest obvious factors that correlate with the propensity for greater citation of central precedent.

2. Ideology

Next I examine the main effects model, looking at the impact of the individual-level factors discussed above. The model itself performs well, presenting an R-squared of almost .4. First, I turn to judicial ideology.

[Table 1 about here]

Standing alone, ideology does systematically vary with network centrality, with more conservative justices being more likely to write opinions with greater network centrality. After controlling for other variables, however, Table 1 shows that the impact of ideology is small and statistically insignificant. Similarly, without controlling for other variables, conservative justices cite more cases than do liberal ones. In the full model, however, the impact again changes, with conservatives actually citing slightly fewer cases by a small and statistically significant margin. Replacing the author’s ideology score with the JCS score for the median member of the majority coalition leads to somewhat different results ($x = 0.022$, $se = 0.015$, $p < z = 0.136$ in the centrality model; $x = 0.14$, $se = 0.050$, $p < z = 0.005$ in the citation count model). Under this alternative specification, the impact of ideology is small in both models, and is only statistically significant in the citation count model. The coefficient also shifts from negative to positive under the alternative specification, further muddying the waters and making it less likely any consistent effect can be inferred from the model. Overall, the impact of personal ideology on citation practices is ephemeral. Neither ideological camp can claim that its justices tend to write opinions better grounded in precedent.
3. Activism

In contrast to ideology, judicial activism has a consistent, statistically significant and negative impact on the network centrality and citation count of the authored opinion. Justices with high activism scores cite less central precedent and make fewer citations than do justices with lower activism scores. While the effect is a moderate one (even accounting for the fact that a one point change in the Lindquist and Cross activism scale is inconsequential, explaining the small coefficient), activism has by far the largest impact of the individual-level variables examined in the main model.

4. Judicial Background

The chosen judicial background variables have limited impact on the dependent variables. The positive direction of the coefficients for prior judicial experience matches expectations, although the impact is modest for total citations and extremely small as well as statistically insignificant for network centrality. Prior experience as a law professor, by contrast, correlates with a small and statistically significant decrease in both network centrality (dropping opinions about two percentile ranks on average) and in the total number of citations. This is an interesting result: though the impact is small, the fact that experience in the legal academy has a negative impact on the centrality of opinions authored is counterintuitive. On the one hand, perhaps this indicates that time spent in the legal academy encourages justices to rely on sources of legitimacy other than precedent. On the other hand, given the relatively small impact of such background, perhaps the safest course of action is draw no inference at all.
5. **Judicial Roles**

Similar to the judicial background variables, the impact of judicial roles on citation behavior is small and inconsistent. Only one of the three variables—status as a freshman justice—has a consistent impact on judicial citation. Freshman justices write opinions with lower network centrality and fewer citations than justices with greater experience, although the impact is a small one. Justices who serve as the median justice in a particular term do author opinions with lower network centrality; however, the coefficient for the median justice variable in the citation count model is not statistically significant (using either the primary or alternate measure). Again, given the modest size of the centrality coefficient and the lack of significance in the other coefficient, it seems inappropriate to draw an inference of meaningful relationships from these results. Finally, there is no evidence that serving as the Chief Justice has any discernable impact on either network centrality or citation rates.

6. **Control Variables**

Most of the control variables perform as expected and support prior findings.

[Table 2 about here]

Salience correlates with greater precedential centrality and greater rates of overall citation, confirming prior analyses. Precedential centrality and citation counts also increase as the number of regular concurrences and amicus briefs rise, again reinforcing that justices are sensitive to conditions of greater scrutiny and adjust their citation practice accordingly. As expected, opinions which interpret or address statutes have lower network centrality and cite fewer cases than those addressing constitutional issues. Also unsurprisingly, the case area dummies correlate with higher network centrality relative to the baseline categories, though not
always higher citation counts. Cases involving First Amendment issues are on average twenty-one percentile ranks higher in centrality compared to other cases, while opinions in either criminal procedure or civil rights average roughly ten and seven percentile ranks higher, respectively. The right-to-privacy issue area had the smallest effect at less than five percentile ranks added. Case areas, note, strongly affect the network centrality of the opinion in question, but not always the number of cases cited.

The two remaining control variables defied expectations. The ideological heterogeneity of the majority coalition did present a strong, significant relationship to precedential centrality, but in a negative direction (meaning increased heterogeneity correlated with decreased centrality and fewer citations), contrary to prior research. Lupu and Fowler, for example, found a strong positive impact on network centrality, while Cross et al. found a small positive effect. The negative result does seem plausible: the most ideologically heterogeneous cases are unanimous decisions, and being less controversial or less legally difficult, unanimous cases may contain fewer citations and fewer central citations. Rerunning the network centrality model with a dummy variable for unanimous cases confirms this intuition ($x = -.074, se = 0.007, p > t = 0.000$).

Finally, the separation of powers coefficient, while in the expected positive direction, is small and statistically insignificant in the network centrality model. Even in situations where the majority coalition’s median member is a clear ideological outlier in relation to the other federal branches, there is no evidence that justices cite more central precedent (outlier status does correlate with a slight, significant increase in total citations). This finding suggests that justices may not make “strategic” calculations when citing precedent within an opinion, that the primary

94 Lupu & Fowler, supra note 44 at 27; Cross et al., supra note 1, at 552.
audience for justification through precedent are legal elites rather than politicians, or that other indicators of salience are better proxies for cases that raise legitimacy concerns.

7. Interpreting Results Using CLARIFY

Model coefficients can be difficult to interpret, particularly when the independent variables have arbitrary values (such as the activism and ideological scores). To better illustrate the effects of the statistically significant independent variables on network centrality and citation counts, I employ CLARIFY, a Stata module that generates predicted probabilities using Monte Carlo simulations drawn from the original model.\(^95\) Setting the other model variables at their means (modes for dummy variables), I simulate the change in the expected value of the dependent variables when the independent variable of interest is at its minimum and maximum level. Taking the absolute value of the difference between these two expected values gives one a better sense of the impact of the model variables.

[Table 3 about here]

The CLARIFY results confirm the overall modest nature of the impact that individual level differences have on citation practices. Activism has the biggest impact—the most activist justice on the Lindquist and Fowler scale will, on average, author opinions eight and one half percentile ranks lower in network centrality than the least activist justice, as well as use about nine fewer citations per opinion. While the effect is not an outsized one, it demonstrates clearly that a propensity for judicial activism affects citation practices. The other variables, even when statistically significant, have much smaller effects. Background as a law professor shifts network centrality by only two percentile ranks, while playing the role of either a freshman

\(^95\) Michael Tomz et al., CLARIFY: Software for Interpreting and Presenting Statistical Results (Harvard University 2.0 ed. 2001). Given that CLARIFY simulates probabilities each time it is run, replications will generate similar but not identical predicted probabilities.
justice or serving as the median justice reduces the average centrality of one’s opinions by about two and one-half percentile ranks. Freshman status also leads to about one and one-half fewer citations per opinion. Prior judicial experience creates about two extra citations on average, while prior experience as a law professor leads to about one and one-half fewer citations. The most conservative justice employs about three and one half fewer citations than the most liberal justice, although ideology has no discernible impact on the network centrality of those opinions. Activism aside, and in comparison to the control variables, it seems clear that individual-level factors have a limited effect on citation practices. Case-level factors, by contrast, have much more impact.

**B. Interaction Effects**

As is sometimes the case, however, it is the interaction between independent variables which produces the most substantively interesting results.

For the most part, tests for interactions between the independent variables did not reveal any statistically significant reactions. The impact of the interaction between activism and ideology scores on centrality scores, by contrast, emerged as a clear exception (this interaction did not have a statistically significant impact on total citation counts). Liberal activist justices did not differ significantly in their citation practices from less activist liberal justices. Activist conservatives, by contrast, differed *dramatically* from their less activist colleagues. In a revised model using mean-centered versions of the ideology and activism measures, the interaction coefficient is statistically significant ($x = -.0004, se = .0001, p > t = .000$). Given the difficulty

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96 Specifically, the interactions tested included: ideology * activism, ideology * prior judicial experience, ideology * law professor experience, ideology * freshman status, ideology * salience, activism * prior judicial experience, activism * law professor experience, activism * freshman status, activism * role as median justice, activism * salience, prior judicial experience * law professor experience, prior judicial experience * freshman status, prior judicial experience * role as median justice, law professor experience * freshman status, law professor experience * role as median justice, and freshman status * role as median justice.
of interpreting interaction coefficients, particularly the conditional impact of one continuous variable on another continuous variable, I again employ CLARIFY to generate predicted probabilities. Setting all other model variables at their mean or modes as before, I simulate the effect of increasing activism on the network centrality of opinions authored by three hypothetical justices: a highly liberal justice, an ideological moderate, and a highly conservative justice. These changes in predicted probability are illustrated in Figure 3.

[Figure 3 about here]

Clearly, the impact of judicial activism on precedential centrality is mediated by the ideology of the opinion author. In the main effects model, judicial activism had a moderate negative impact on network centrality. The illustration of the interaction effects, however, shows how ideology varies systematically with activism. For the liberal justice, increasing activism correlates with a mild positive effect on the centrality of his opinions. The effect of activism on the moderate justice mirrors the effect in the main model, with a drop of almost ten percentile ranks proceeding from minimum to maximum activism. It is the conservative justice, however, who is the most strongly affected by judicial activism. A highly conservative justice with minimal activism writes, on average, opinions of greater network centrality than a justice with any other combination of ideology and activism. A highly conservative, highly activist justice, conversely, writes opinions of much lower centrality than any other combination. The negative slope is much steeper than for liberals or even moderates, with a drop of over twenty-nine percentile ranks as the activism score rises to its dataset maximum. With the exception of the

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97 The liberal and conservative justices are at their respective ends of the mean-centered JCS scale, while the moderate is at the mean (zero).

98 To account for the possibility that an outlier such as Justice Thomas drives these results, I ran the model with the interaction term while sequentially excluding each of the five most activist conservative justices, recalculating the predicted probabilities seen in Figure 3. Each exclusion had a slight impact on the slope of the regression lines, but none changed the significance of the term itself or the model’s ability to distinguish marginal effects.
measure for ideological dispersion of the majority coalition, no other model variable (either case-
level or individual) has this degree of impact. Clearly, there is something about the combination
of conservative ideology and a propensity for activism that causes such justices to cite quite
differently than their fellows within the timeframe of this data.

Two other interactions reached statistical significance in the network centrality model. The
first such interaction was between judicial ideology and prior judicial experience. Opinion
authors with prior judicial experience tend to write opinions with lower network centrality as
ideological conservatism increases; by contrast, justices without such experience write opinions
with higher network centrality as their ideology becomes more conservative. The second
interaction involves prior judicial experience and activism. Justices with and without prior
judicial experience author opinions with decreasing network centrality as their activism scores
increase. However, prior judicial experience somewhat mitigates the downward pressure on
network centrality for more activist justices. This said, caution should be taken in making much
of these two findings. Again using CLARIFY, one can generate expected values for the network
centrality of justices with and without prior judicial experience at similar levels of activism and
ideology. For both of these interactions, the 95% confidence intervals overlap for almost every
set of values, making it difficult to see a clear effect for most values of the independent variables
in question.

C. Individual Justice Response to Legitimacy-Enhancing Scenarios

Finally, I examine whether the legitimacy-enhancing scenarios that Cross et al. found to
increase the likelihood of greater citation and greater citation of central precedent differently
impacts individual justices. In other words, when Justice Thomas overturns a statute, does his propensity to cite additional precedent change to roughly the same degree as Justice Stevens? Or are there substantial differences among the justices? Using the main model discussed above, I run individual regression analyses on precedential centrality for the set of opinions authored by that justice alone (omitting the individual-level variables). In Figure 4, I present the point estimates and confidence intervals for the impact of salient decisions, decisions that overturn prior precedent, and decisions that strike down a law as unconstitutional on the precedential centrality of the relevant opinion.

[Figure 4 about here]

In their aggregate model, Cross et al. found that each of these scenarios correlated with opinions better grounded in central precedent. The results in Figure 4 confirm a positive coefficient in each of these situations for almost all of the justices, as well as showcase a reasonable degree of variation in how these various factors impact individual justices. For many justices, these scenarios do not create a statistically significant impact on the citation of central precedent, although the smaller sample size and the subsequent lower statistical power of the test may account for some of these outcomes. Furthermore, the variation appears largely idiosyncratic; there is little or no correlation between the coefficients for the three factors, and no obvious reason, for example, why Justices Harlan, Scalia, Douglas write opinions with higher precedential centrality when they vote to overturn a statute but Justices O’Connor, Powell, and Breyer do not.

99 Cross et al., supra note 1, at 541.  
100 Id.
V. DISCUSSION

The power of federal courts rests on their legitimacy, and the citation of precedent is one of the most important ways in which a judge can signal that legitimacy. Prior research indicates that justices work harder to legitimate their opinions—citing both more cases and cases more central to the precedential network—in situations where their decisions will face greater scrutiny. In this study, I move this line of research forward by examining whether individual variation in the propensity to cite cases or cite central precedent varies systematically alongside individual-level factors that have been found to have explanatory power in other areas of judicial decision-making.

Generally, my findings demonstrate that case-level factors have much more power in explaining citation practice than do individual level factors such as ideology or judicial background. Many of these factors had no discernable impact on citation practices; after controlling for other variables, for example, liberal and conservative justices do not appear to significantly vary in their citation practice. When individual-level factors did produce statistically significant effects, such as background as a law professor or status as a freshman justice, these effects tended to be small. Judicial activism emerges as an exception to this trend, producing a moderate negative effect on both the network centrality and total citation counts within opinions. For the most part, however, this study suggests that individual variation among the justices is idiosyncratic, and that more meaningful changes in citation practice occur as a response to the scrutiny of others, rather than resulting from individual characteristics.

There is one other exception to the general theme of these findings, and it too relates to judicial activism. An examination of the interactions between the independent variables found that the impact of activism was greatly mediated by the ideology of the justice in question.
Specifically, conservative justices with low activism scores wrote opinions with the greatest network centrality, while conservative justices with high activism scores wrote opinions with the lowest network centrality. Liberal justices, by contrast, did not differ significantly in their citation practices as their activism levels increased. What lesson should be drawn from this particular and important finding?

To begin, I resist conflating a lower propensity for seeking legitimacy through citations with a lower concern for judicial legitimacy overall. While *stare decisis* is among the foremost means by which justices can attempt to signal the legitimacy of their decisions, it is certainly not the only one. Given this, it seems unwarranted to use these findings to suggest that activist conservatives simply care less about legitimacy than their fellows. Beyond this, the difference between activist conservatives and non-activist conservatives, as well as between activist conservatives and all other justices, lends itself to two distinct but non-exclusive narratives.

First, the interaction results here may be primarily situational and time-bound. Under this interpretation, and as the attitudinal model would suggest, both liberal and conservative justices pursue their policy preferences, with activist justices being less inclined to signal legitimacy through citation while doing so. However, given that the center of the modern precedential framework is largely populated by liberal decisions from the FDR or Warren Court eras, liberal justices will have a broader selection of precedents that can reasonably the outcomes they prefer. Under this narrative, in a counterfactual world where conservatives, rather than liberals, had written the most important decisions in the past eighty years, we would see activism scores mediate the citation practices of liberal justices rather than conservative ones.

The second narrative instead focuses on a sea-change in conservative legal thought and the views and behavior of conservative justices over the past thirty years. If one peruses Lindquist
and Cross’s activism scores in Figure 1, liberal justices (with the exceptions of Frankfurter and Blackmun, neither one a stereotypical liberal justice) are concentrated at the top half of the activism rankings. Conservatives, by contrast, lie both at the upper end of the scale (e.g. Thomas) and the bottom (e.g. Harlan and Burger). Moreover, these differences among conservatives can be grouped chronologically, with pre-Reagan conservatives tending towards restraint and post-Reagan conservatives holding higher activism scores. This division, supported by the interaction results illustrated in Figure 3, reinforces the narrative offered by Thomas Keck, who argues that during the 1970s and 1980s, much of the conservative legal movement abandoned the deferential stance favored by Bickel or Kurland for the more combative legal conservatism of interest groups like the Pacific Legal Foundation. Along similar lines, Pamela Karlan has recently argued that the Rehnquist Court was more suspicious of Congress and congressional power, and thus more willing to strike down federal laws. The findings here provide further support for this argument.

The switch from a legal conservatism based on deference to one more grounded in activism may have also correlated with changes in what interpretive methods conservative justices used to legitimize their decisions. For example, Justice Thomas employs a theory of original public meaning when interpreting the Constitution. An originalist would, by definition, place less weight on prior precedent he feels runs contrary to that meaning. Prior research supports this notion as well: Corley et al. found increasing citation of the Federalist Papers during the Burger

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102 Pamela S. Karlan, Democracy and Disdain, 126 Harv. L. Rev. 1 (2012). The data supports this view: the Rehnquist Court, for example, struck down federal laws at a higher rate than did the Warren Court (even as it struck down many fewer state laws). See Lee Epstein, et al., The Supreme Court Compendium: Data, Decisions, and Developments (4th ed., Congress Quarterly, Inc. 2006).
and Rehnquist Courts, with conservatives being more likely cite to them than liberals.\textsuperscript{103} Similarly, the conservative interest groups, lawyers, and other audiences whose opinions such justices value might also put a lower weight on central precedent relative to other sources of legitimacy. A concern for relevant judicial audiences may thus reinforce personal beliefs.

Of course, these two interpretations are not mutually exclusive—it seems reasonable to suggest both that activist conservative justices cite less central precedent because there is less conservative central precedent to cite, and because contemporary conservative justices put less weight on prior precedent relative to other authorities. The latter interpretation, I submit, has greater implications for the future of the Supreme Court. Given the current dominance of original public meaning in conservative legal discourse and the contemporary Republican Party’s current preference for justices in the mold of Scalia and Thomas, the relative weight accorded to prior precedent may decrease over time. \textit{Stare decisis} is one historically contingent principle among many, not an immutable facet of judicial decision-making. The nomination of additional conservative justices, then, may contribute to a decline in support for \textit{stare decisis} as a legitimating principle. Whether this is a good or bad thing, of course, depends on one’s own legal policy preferences and the weight one gives to following past precedent as an important judicial norm.

Much of the interesting work on judicial behavior in recent years has moved beyond looking at patterns of decision outcomes to examining components of written opinions, hoping to better comprehend judicial thought processes and motivations. Understanding not only what justices do but why they do it will require rigorous examination of amorphous concepts such as activism.

\textsuperscript{103} Pamela C. Corley et al., \textit{The Supreme Court and Opinion Content: The Use of the Federalist Papers}, 58 POL. RES. Q. 329 (2005).
and judicial legitimacy within the context of the opinions that justices write. This study is another building block towards that end.
Table 1: Impact of Independent Variables on Precedential Centrality and Citation Counts

<table>
<thead>
<tr>
<th></th>
<th>Precedential Centrality, Percentile Rank</th>
<th>Citation Count</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ideology of Majority</td>
<td>-0.018</td>
<td>-0.108**</td>
</tr>
<tr>
<td>Opinion Author (Conservative)</td>
<td>(0.010)</td>
<td>(0.036)</td>
</tr>
<tr>
<td>Activism</td>
<td>-0.0001***</td>
<td>-0.001***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Prior Judicial Experience</td>
<td>0.008</td>
<td>0.088***</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td>(0.025)</td>
</tr>
<tr>
<td>Law Professor</td>
<td>-0.018*</td>
<td>-0.076**</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td>(.0025)</td>
</tr>
<tr>
<td>Freshman Justice</td>
<td>-0.026*</td>
<td>-0.077*</td>
</tr>
<tr>
<td></td>
<td>(0.011)</td>
<td>(0.036)</td>
</tr>
<tr>
<td>Chief Justice</td>
<td>0.016</td>
<td>0.029</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
<td>(0.032)</td>
</tr>
<tr>
<td>Median Justice for Term</td>
<td>-0.023*</td>
<td>-0.064</td>
</tr>
<tr>
<td>(estimated)</td>
<td>(0.10)</td>
<td>(0.033)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.710***</td>
<td>3.60***</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.075)</td>
</tr>
<tr>
<td>alpha</td>
<td></td>
<td>.415</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.010)</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.376</td>
<td>--</td>
</tr>
<tr>
<td>N</td>
<td>5176</td>
<td>5112</td>
</tr>
</tbody>
</table>

Robust standard errors in parentheses. The full model can be seen in the Appendix.

* p < 0.05, ** p < 0.01, *** p < 0.001
Table 2: Impact of Control Variables on Precedential Centrality and Citation Counts

<table>
<thead>
<tr>
<th></th>
<th>Precedential Centrality, Percentile Rank</th>
<th>Citation Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salient Case</td>
<td>0.065*** (0.006)</td>
<td>0.208*** (0.021)</td>
</tr>
<tr>
<td>Number of Regular Concurrences</td>
<td>0.035*** (0.004)</td>
<td>0.122*** (0.012)</td>
</tr>
<tr>
<td>Court is Ideological Outlier</td>
<td>0.012 (0.016)</td>
<td>0.105* (0.053)</td>
</tr>
<tr>
<td>Amicus Briefs (Logged)</td>
<td>0.100*** (0.009)</td>
<td>0.446*** (0.029)</td>
</tr>
<tr>
<td>Standard Deviation of Ideology, Majority Coalition</td>
<td>-0.386*** (0.034)</td>
<td>-1.346*** (0.115)</td>
</tr>
<tr>
<td>Statutory Case</td>
<td>-0.181*** (0.007)</td>
<td>-0.298*** (0.022)</td>
</tr>
<tr>
<td>First Amendment Case</td>
<td>0.227*** (0.012)</td>
<td>0.173* (0.039)</td>
</tr>
<tr>
<td>Criminal Law or Procedure Case</td>
<td>0.097*** (0.008)</td>
<td>0.100* (0.026)</td>
</tr>
<tr>
<td>Civil Rights Case</td>
<td>0.079*** (0.009)</td>
<td>0.042 (0.030)</td>
</tr>
<tr>
<td>Right to Privacy Case</td>
<td>0.052* (0.022)</td>
<td>-0.060 (0.072)</td>
</tr>
<tr>
<td>Constant</td>
<td>0.710*** (0.022)</td>
<td>3.60*** (0.075)</td>
</tr>
<tr>
<td>alpha</td>
<td>.415 (0.010)</td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.376</td>
<td>--</td>
</tr>
<tr>
<td>N</td>
<td>5176</td>
<td>5112</td>
</tr>
</tbody>
</table>

Robust standard errors in parentheses. The full model can be seen in the Appendix.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Table 3: Simulating Expected Values Using CLARIFY

<table>
<thead>
<tr>
<th></th>
<th>Minimum Value of ( x ), Precedential Centrality</th>
<th>Maximum of Value of ( x ), Precedential Centrality</th>
<th>Total Swing, Precedential Centrality</th>
<th>Minimum Value of ( x ), Citation Count</th>
<th>Maximum of Value of ( x ), Citation Count</th>
<th>Total Swing, Citation Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideology</td>
<td>n.s.</td>
<td>n.s</td>
<td>n.s</td>
<td>23.300</td>
<td>19.788</td>
<td>- 3.512</td>
</tr>
<tr>
<td>Activism</td>
<td>.595</td>
<td>.511</td>
<td>- .084</td>
<td>25.524</td>
<td>16.488</td>
<td>- 9.036</td>
</tr>
<tr>
<td>Prior Judicial Experience</td>
<td>n.s</td>
<td>n.s</td>
<td>n.s</td>
<td>19.645</td>
<td>21.470</td>
<td>+ 1.826</td>
</tr>
<tr>
<td>Law Professor</td>
<td>.562</td>
<td>.543</td>
<td>- .018</td>
<td>21.470</td>
<td>19.881</td>
<td>- 1.589</td>
</tr>
<tr>
<td>Freshman Justice</td>
<td>.562</td>
<td>.536</td>
<td>- .026</td>
<td>21.470</td>
<td>19.896</td>
<td>- 1.574</td>
</tr>
<tr>
<td>Median Justice for Term</td>
<td>.562</td>
<td>.539</td>
<td>- .023</td>
<td>n.s</td>
<td>n.s</td>
<td>n.s</td>
</tr>
</tbody>
</table>

“n.s.” means the model variable did not achieve statistical significance for the model in question. Centrality is measured in percentile ranks, e.g. .610 = the 61st percentile.
This figure presents Lindquist and Cross’s cumulative activism measure for recent Supreme Court justices. STEFANIE A. LINDQUIST & FRANK B. CROSS, MEASURING JUDICIAL ACTIVISM (Oxford University Press 2009), at 138. The measure incorporates the propensity to (1) strike down federal, state and local statutes, (2) defer to federal agencies, (3) expand standing and justiciability doctrine, and (4) overrule prior precedent. The rankings also incorporate the degree to which the justice displays ideological favoritism. The authors did not rank Justices Reed, Jackson, Burton, Minton, Whittaker, Goldberg, and Fortas, as these justices took part in too few cases to be reliably assessed.
This figure presents the mean precedential centrality for selected Supreme Court justices, as measured by the percentile rank of that score. Precedential centrality, or outward relevance, is a network measure of Supreme Court opinions that assesses the degree to which they cite precedent that are themselves central to the network. See James H. Fowler et al., Network Analysis and the Law: Measuring the Legal Importance of Precedents at the U.S. Supreme Court, 15 POL. ANALYSIS 324 (2007).
Figure 3: Interaction Effect of the Opinion Author’s Ideology and Activism on Precedential Centrality, 1953-2004 Terms

This figure illustrates the predicted probabilities for the precedential centrality (measured by percentile rank) of a majority opinion written by a hypothetical liberal, moderate, and conservative Supreme Court justice along varying levels of judicial activism. This figure was generated using CLARIFY, which generates point estimates of predicted probabilities for a given model using Monte Carlo simulation; the 95% confidence interval for each predicted probability is indicated by the shaded area. All other model variables are set at their mean or modal values. See Michael Tomz et al., CLARIFY: Software for Interpreting and Presenting Statistical Results (Harvard University 2.0 ed. 2001).
This figure illustrates the coefficients (points) and 95% confidence intervals (lines) for three variables in a series of regression analyses on precedential centrality for individual Supreme Court justices. Specifically, the regressions test the impact of three conditions (considered simultaneously) found to affect legitimacy-seeking on the precedential centrality of the judicial opinion, while also controlling for other variables. Three justices in the dataset did not write a majority opinion that overturned prior precedent, and as such were excluded from the relevant figure.
## Appendix: Main Model and Alternate Specifications of Precedential Centrality Model

<table>
<thead>
<tr>
<th></th>
<th>(1) Network Centrality, Percentile Rank</th>
<th>(2) Normal Score of Raw Outward Relevance</th>
<th>(3) Tobit Regression Using Percentile Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideology of Majority</td>
<td>-0.018</td>
<td>-0.067*</td>
<td>-0.018</td>
</tr>
<tr>
<td>Opinion Author (Conservative)</td>
<td>(0.010)</td>
<td>(0.033)</td>
<td>(0.010)</td>
</tr>
<tr>
<td>Activism Score</td>
<td>-0.00001***</td>
<td>-0.001***</td>
<td>-0.00001***</td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Prior Judicial Experience</td>
<td>0.008</td>
<td>0.030</td>
<td>0.008</td>
</tr>
<tr>
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<td>(0.007)</td>
<td>(0.024)</td>
<td>(0.007)</td>
</tr>
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<td>Law Professor</td>
<td>-0.018*</td>
<td>-0.064*</td>
<td>-0.018*</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td>(0.024)</td>
<td>(0.007)</td>
</tr>
<tr>
<td>Freshman Justice</td>
<td>-0.026*</td>
<td>-0.073*</td>
<td>-0.025*</td>
</tr>
<tr>
<td></td>
<td>(0.011)</td>
<td>(0.037)</td>
<td>(0.012)</td>
</tr>
<tr>
<td>Chief Justice</td>
<td>0.016</td>
<td>0.034</td>
<td>0.016</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
<td>(0.031)</td>
<td>(0.010)</td>
</tr>
<tr>
<td>Median Justice</td>
<td>-0.023*</td>
<td>-0.074*</td>
<td>-0.024*</td>
</tr>
<tr>
<td></td>
<td>(0.010)</td>
<td>(0.033)</td>
<td>(0.010)</td>
</tr>
<tr>
<td>Salient Case</td>
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<td>0.247***</td>
<td>0.065***</td>
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<td>(0.022)</td>
<td>(0.006)</td>
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<tr>
<td>Number of Regular Concurrences</td>
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<td>0.122***</td>
<td>0.035***</td>
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<td>(0.004)</td>
<td>(0.013)</td>
<td>(0.004)</td>
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<tr>
<td>Court is Ideological Outlier</td>
<td>0.012</td>
<td>0.030</td>
<td>0.012</td>
</tr>
<tr>
<td></td>
<td>(0.016)</td>
<td>(0.050)</td>
<td>(0.016)</td>
</tr>
<tr>
<td>Amicus Briefs (Logged)</td>
<td>0.100***</td>
<td>0.318***</td>
<td>0.101***</td>
</tr>
<tr>
<td></td>
<td>(0.009)</td>
<td>(0.029)</td>
<td>(0.009)</td>
</tr>
<tr>
<td>Standard Deviation of Ideology,</td>
<td>-0.386***</td>
<td>-1.250***</td>
<td>-0.385***</td>
</tr>
<tr>
<td>Majority Coalition</td>
<td>(0.034)</td>
<td>(0.112)</td>
<td>(0.035)</td>
</tr>
<tr>
<td>Statutory Case</td>
<td>-0.181***</td>
<td>-0.573***</td>
<td>-0.183***</td>
</tr>
<tr>
<td></td>
<td>(0.007)</td>
<td>(0.022)</td>
<td>(0.007)</td>
</tr>
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<td>0.698***</td>
<td>0.710***</td>
</tr>
<tr>
<td></td>
<td>(0.022)</td>
<td>(0.071)</td>
<td>(0.022)</td>
</tr>
<tr>
<td>(N)</td>
<td>5176</td>
<td>5176</td>
<td>5176</td>
</tr>
</tbody>
</table>

Robust standard errors in parentheses; issue area dummies dropped to conserve space.

* \(p < 0.05\), ** \(p < 0.01\), *** \(p < 0.001\)