

# Justices and Legal Clarity: Analyzing the Complexity of Supreme Court Opinions\*

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## Abstract

Legal clarity is important to understand and measure because of its connection to the rule of law. We provide the first systematic examination of the clarity of Supreme Court opinions and discover five important results. First, certain justices systematically craft clearer opinions than others. Justices Scalia and Breyer write the clearest opinions while Justice Ginsburg consistently writes the most complex opinions. Second, ideology does not predict clarity. Third, all justices write clearer dissents than majority opinions, while minimum winning coalitions produce the clearest majority opinions. Fourth, justices across the board write clearer opinions in criminal procedure cases than in any other issue area. Finally, opinions that formally alter Court precedent render less clear law, potentially leading to a cycle of legal ambiguity.

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## 1 INTRODUCTION

The Supreme Court’s decision in *Bush v. Gore*, 531 U.S. 98 (2000) did more than halt the recount of votes across the state of Florida and thereby end the contested 2000 presidential election. It also exposed a broader debate among the legal community over legal clarity (Overton 2002). As most readers will recall, the Court struck down the “clear intent” standard imposed by the Florida Supreme Court on the recount of undervotes.<sup>1</sup> In the majority’s opinion, the clear intent standard did “not satisfy the minimum requirements for non-arbitrary treatment of voters necessary to secure the fundamental right” to vote and would lead to “arbitrary and disparate treatment of voters.” *Bush*, 531 U.S. at 98. Instead, the majority wanted a well-specified and clear rule that would lead to consistent interpretation of undervotes. The dissent, for its part, believed the clear intent standard was perfectly appropriate and, at minimum, was no less clear than the “reasonable doubt” standard employed by lower courts on a daily basis. *Bush*, 531 U.S. at 126 (Stevens, J. dissenting). Each side, it would seem, had its own perspective on the amount of legal clarity necessary to achieve an appropriate recount.

Our goal here is not to take a normative position in the debate whether *Bush v. Gore* was correctly decided. Nor is our goal to fashion a position on how clear the Court’s rulings should be—we leave those important questions to others (Korobkin 2000; Barnett 1999; Bork 1997; Posner 1997; Gillette 1996; Sunstein 1995; Bassham 1992; Faigman 1992; Kaplow 1992; Sullivan 1992; Schauer 1991; Radin 1989; Scalia 1989; Kay 1988; Schlag 1985; Berger 1977; Kennedy 1973). Instead, our aim is narrower; we seek to examine empirically the clarity of Supreme Court opinions. That is, we pursue two goals: First, we analyze which justices craft the clearest opinions. Second, we examine the conditions under which justices write such opinions. To accomplish these goals, we employ linguistic software designed to parse the

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<sup>1</sup>The Florida court determined that canvassing boards must count a vote if there was a clear indication of the intent of the voter on the ballot (Overton 2002, 69).

complexity of words and cognitive thought. Our approach expands on the growing trend in empirical legal scholarship to employ content analysis (Corley 2008; Wright and Hall 2008; Evans et al. 2006) and capitalizes on advancements in social psychology, which show how words reflect cognitive complexity and clarity (*see, e.g.*, Tausczik and Pennebaker 2010).

We observe five results. First, certain justices systematically author the clearest opinions, while others tend to write the most complex. Justices Scalia and Breyer consistently write the clearest majority opinions while Ginsburg writes the most complex. Second, ideology does not predict opinion clarity. Conservative and liberal justices are equally likely to author clear opinions. Third, all justices write clearer dissents than majority opinions. This finding, of course, is likely due to majority opinion writers' needs to accommodate justices to secure their votes. Fourth, Court majorities write the clearest opinions in criminal procedure cases. And, finally, justices write more complex opinions when the size of the majority opinion increases and when the Court alters one of its precedents.

We begin, in Part II, by briefly discussing scholarship on the importance of legal clarity. We analyze studies which posit the need for clarity if the rule of law is to survive. In Part III, we theorize the conditions under which justices will write clear legal opinions. Certainly, there are a host of factors that may lead to a clear versus complex opinion, and we address a handful of them. Chiefly, we believe that justices will write clearer opinions as the size of the majority coalition increases, when they write in dissent, and when they write opinions in criminal procedure cases. Conversely, we expect them to write more complex opinions when they overrule precedent and when they exercise judicial review. In Part IV, we discuss how we empirically examine the complexity of legal opinions. We rely on recent software advances in social psychology to examine the cognitive complexity of Supreme Court opinions. In Part V, we present a summary review of the data, focusing on which justices write the clearest opinions, whether ideology influences clarity, whether coalitional status matters, and whether issue area affects opinion clarity. In Part VI, we employ a more rigorous multivariate model to examine the conditions under which justices write clear

opinions. Finally, Part VII concludes with a discussion of our findings and their broader ramifications.

## 2 THE IMPORTANCE OF LEGAL CLARITY

One of the key functions of law is to ensure stability in society. Law's role, in large part, is to determine the rules of the game and inform actors of those rules so that they can best seek out their potential within the confines of the law. Law structures economic, social, and political interactions. It sets up referents to guide actors, create incentives, and impose punishment. It thus provides information for acceptable and unacceptable behavior in society writ large. Stated simply, law channels outcomes and allows decision makers to anticipate likely outcomes and thereby predict the consequences of their actions (Hansford and Spriggs 2006, 3).

Clarity is strongly connected to the rule of law. In *The Morality of Law*, Lon Fuller argues that the rule of law constitutes an "internal" morality of law (Fuller 1964). His discussion of the hypothetical King Rex, who failed to live up to the rule of law, focuses on eight attributes that make law possible. Law, he argues, must be generalizable and not *ad hoc*. Otherwise, people could not plan their behavior. Fuller then discusses seven further requirements that further are associated with the inner morality of law, all of which deal with the *capability* of following law (Radin 1989).<sup>2</sup> These seven requirements, taken together, focus on individuals' ability to know what the law is and to be able to comply reasonably

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<sup>2</sup>Radin (1989) condenses these seven rules down to the "capability" categorization. Fuller's categories are: publicity (those who follow the law must be able to determine what it is); prospectivity (the law must exist prior to the occurrence of the behavior they regulate); clarity (the law must be understandable); non-contradiction (the law cannot punish *X* and *not-X* at the same time); conformability (people must be able to change their behavior to follow the law); stability (law cannot change so frequently as to make adherence thereto impossible); and congruence (the law must be able to be administered) (Fuller 1964).

with it. In short, Fuller’s focus rests largely on how clear law should be.<sup>3</sup>

Legal clarity, of course, also adds to the Court’s legitimacy while it enhances the rule of law. The Supreme Court lacks the power to enforce its decisions. Instead, it must rely on citizens’ and policymakers’ belief in its legitimacy. The Court acquires this legitimacy by rendering clear, principled, and unbiased decisions. Scholars of institutional legitimacy find strong evidence that the Court has broad “diffuse support” (Gibson, Caldeira and Baird 1998) brought about no doubt, by the clarity of its pronouncements. As Justice Frankfurter stated in *Baker v. Carr* (1962), the Court’s authority “ultimately rests on sustained public confidence in its moral sanction.” Building clear law is likely to lend to the Court’s legitimacy.

Indeed, the debate among legal scholars today over whether rules or standards are more appropriate largely turns on a debate over how clear law should be. Rules, on one hand, “establish legal boundaries based on the presence or absence of well-specified triggering facts” (Korobkin 2000, 25). They are thus more predictable and can be applied more consistently than standards, making them, according to their supporters, superior.<sup>4</sup> At the other end of the spectrum, standards require judges to consider the facts specific to each case, and make decisions on a case-by-case basis. While some see this as a virtue—standards are flexible and can adapt over time (Sullivan 1992, 66)—others believe that such indeterminacy leads to inefficient outcomes, such as a greater likelihood of litigation (Korobkin 2000, 56).<sup>5</sup> Rules,

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<sup>3</sup>Fuller, of course, is not the only legal scholar to consider the value of clarity. For other important works, *See* Dworkin (1986), Dworkin (1985), Dworkin (1978), Hart (1963), Hart (1961).

<sup>4</sup>Rules also, it is claimed, reduce the amount of needless litigation (Korobkin 2000, 56). With their clear language, rules make it easier for both parties in a dispute to know with relative certainty on which side the court will decide.

<sup>5</sup>With heightened uncertainty as to the correct legal outcome in a case, parties to litigation may believe that a judge or jury will rule in their favor and litigate when they should not (Priest and Klein 1984).

then, are clear and favored, while standards are less clear and, for many, less desirable.

The U.S. legal system has adopted a host of features that enhance legal clarity, chief of which is the adoption of stare decisis. “Precedents convey information that allows decision makers to predict (within certain bounds) the likely legal consequences of different choices and infer the possible range of outcomes of potential disputes” (Hansford and Spriggs 2006, 5). Consider, for example, Justice Rehnquist’s majority opinion in *Dickerson v. United States*, 530 U.S. 428, 443 (2000) in which he stated: “Whether or not we would agree with *Miranda’s* reasoning and its results rule, were we addressing the issue in the first instance, the principles of stare decisis weigh heavily against overruling it now. . . *Miranda* has become embedded in routine police practices to the point where the warnings have become part of our natural culture.” More systematic empirical analyses find similar evidence to suggest that justices often talk about the importance of precedent, largely for reasons of stability and clarity (Gates and Phelps 1996). Indeed, Phelps and Gates (1991) find that Justice Brennan and Chief Justice Rehnquist—Justices who advocated completely opposite ideological and jurisprudential prospectives—focused on precedent in their decisions far more than any other legal rationale. And, since stare decisis is so important to legal clarity, we can infer that these justices, while orthogonal on policy views, valued legal clarity.

Judicial impact studies additionally show the importance of legal clarity. For example, Spriggs (1996) examines the conditions under which the Supreme Court is able to secure implementation of its decisions by federal administrative agencies. His analysis compares: (a) agency decisions later reviewed by the Supreme Court against (b) the subsequent agency decision that implements the Court’s opinion. The results show that legal clarity matters dearly. Unclear Court opinions resulted in major policy change in a mere 3.4% of agency responses. On the other hand, a very clear Supreme Court opinion secured major policy change in 95.5% of agency responses (see also Rosenberg 1991; Dolbeare and Hammond 1971; Sorauf 1959).

In short, numerous studies across a wide range of perspectives highlight the impor-

tance of legal clarity. Nevertheless, with the exception of a handful of studies which largely do not generalize beyond their immediate topics of study, scholars have not empirically measured the clarity of legal opinions or examined the conditions under which justices write clear versus complex opinions.<sup>6</sup> This deficit is unfortunate, as empirical work has much to offer scholars taking a normative stand in the debate over how much clarity is needed to make good law. We seek to fill this void by estimating legal clarity and empirically examining when justices write clear opinions. As such we now theorize the *conditions* under which justices will write clear versus complex opinions.

### **3 THEORIZING THE CONDITIONS UNDER WHICH JUSTICES WRITE CLEAR OPINIONS**

We seek to understand which justices write the clearest legal opinions and the conditions under which they do so. In this part, we theorize the factors that we believe will explain opinion clarity: we believe that majority opinion writers will craft clearer opinions as the size of the majority coalition decreases. We also believe that justices will assemble clearer opinions when writing in dissent and when writing in criminal procedure cases. Conversely, we believe that justices will write more complex opinions when they overrule Court precedent and exercise judicial review.

#### **3.1 Majority Coalition Size, Majority Status and Legal Clarity**

We posit that the size of the majority coalition will influence how clear the opinion is, with larger coalitions creating less clear (i.e., more complex) opinions. Our argument that majority coalition size will influence jurisprudential outcomes follows from a host of empirical studies examining Court opinions and coalition size. Take, first, Staudt, Friedman

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<sup>6</sup>For an interesting game theoretic examination of the separation of powers conditions under which the Court might choose to write ambiguous opinions (*see* Staton and Vanberg 2008).

and Epstein (2008), who analyze the conditions under which the Court renders consequential legal opinions. Those authors find that as majority coalition size increases, the Court renders less consequential decisions (*see also* Epstein, Friedman and Staudt 2008). As they put it, “as each additional Justice agrees to sign on, each presumably with his or her preferences, the decision becomes more and more diluted and thus produces less of an impact than could be achieved by five simpatico Justices” (372). Other studies also discuss the importance of coalition size in Supreme Court opinions. For example, borrowing from Axelrod’s (1970) theory of conflict, Rohde (1972) argues that opinion coalitions tend to form among justices with the fewest ideological conflicts. The more ideological dispersion (*i.e.* lack of ideological “connectivity”) among the members of the proposed coalition, the less likely it is to form. The reason, according to Rohde, is that justices want to achieve their policy goals, and each additional justice added to the majority coalition adds more demands which lead to an ideologically diluted opinion. Analyses of decisions such as *Brown v. Board of Education*, 349 U.S. 294 (1955) and *Romer v. Evans*, 517 U.S. 620 (1996) similarly highlight the costs, in terms of legal clarity, that attach to forging agreements among diverse justices (Staton and Vanberg 2008; Sunstein 1996; Cray 1997; Schwartz 1983).

Indeed, a host of empirical studies show that justices bargain and negotiate to create binding precedent (Maltzman, Spriggs and Wahlbeck 2000) and that larger majority coalitions might in fact contain ideologically distracting language as more justices join. Take, for example, a majority opinion writer’s decision to accommodate her colleagues’ suggestions. Opinion drafters accommodate their colleagues’ requests in 61.8% of unanimous conference coalitions (Maltzman, Spriggs and Wahlbeck 2000). In other words, there is a substantial amount of behind-the-scenes activity that transpires and, in the process, ideological potency and legal clarity may lose out. As Chief Justice Rehnquist once stated: “There must be an effort to get an opinion for at least a majority of the Court in every case where that is possible. . . To accomplish this, some give and take is inevitable, and doctrinal purity may be muddied in the process” (Rehnquist 1992, 270). In short, we hypothesize that as the size of

the majority coalition increases, majority opinions are likely to become less clear.

For similar reasons, we believe that justices will write clearer opinions when in dissent than when in the majority. Here, we take our cue from Rubin (2008), who examined two recent cases—one in which Justice Scalia wrote the majority opinion<sup>7</sup> and the other in which he dissented<sup>8</sup>—to argue that Scalia employs “distinctly different rhetorical styles depending on whether he is in the majority or dissent (Rubin 2008, 1130). “When he has a majority, Justice Scalia speaks as a neutral technician, purposefully ignoring the realities of the case. . . .” (Rubin 2008, 1130). When he is in dissent, however, Scalia “becomes strident and contentious, appealing to popular political sentiments that lie beyond the boundaries of the case at issue” (Rubin 2008, 1130). Of course, Rubin was not the first to argue that justices in dissent might author different opinions than when they write for a majority (*see, e.g.*, Murphy 1964). Gruenfeld (1995) argued that dissenters will focus on single issues to illustrate more clearly the perceived problems with the majority opinion. That is, dissenters are free to state exactly what they desire, without the moderating encumbrances of coalition building.

Justice Douglas, in particular, was well known for enjoying the ability to throw off the yoke of coalition building and let loose with a sharp dissent. Indeed, former Chief Justice Rehnquist once stated: “at the Court conferences we sometimes had the impression that [Justice Douglas] was disappointed to have other people agree with this views in a particular case, because he would therefore be unable to write a stinging dissent” (Rehnquist 1987, 225-226). Douglas himself once stated that dissent was the only thing that made being an appellate judge tolerable (Douglas 1960). Naturally, Douglas was not alone in praising the freedom that stems from such a unitary opinion. Justice Scalia similarly commented that dissent:

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<sup>7</sup>*District of Columbia v. Heller*, 128 S. Ct. 2783 (2008).

<sup>8</sup>*Boumediene v. Bush*, 128 S. Ct. 2229 (2008).

“makes the practice of one’s profession as a judge more satisfying. To be able to write an opinion solely for oneself, without the need to accommodate, to any degree whatever, the more-or-less-differing views of one’s colleagues; to address precisely the points of law that one considers important and no others; to express precisely the degree of quibble, or foreboding, or disbelief, or indignation that one believes the majority’s disposition should engender—that is indeed an unparalleled pleasure” (Scalia 1998, 22-23).

We hypothesize, then, that dissents will be clearer than majority opinions.

### 3.2 Overruling Precedent, Judicial Review, and Legal Clarity

To be sure, majority coalition size and dissenting status are likely to matter dearly. Still, we have reason to expect that two other features influence legal clarity as well. When the Court overrules one of its precedents or strikes down a law as unconstitutional, the majority opinion bears a significant burden of persuasion, a burden that is likely to make the opinion less clear.

*Overruling Precedent.* Consider the decision to overrule a precedent. As we discussed above, one of the key elements of legal stability is stare decisis. When cases with similar facts appear before them, judges should apply the law in the previous case to the principal case. When confronted with a case whose facts are similar to previous cases, justices are expected to reason by analogy and apply the base principles of the prior cases. Indeed, as Hansford and Spriggs (2006) state: “The norm of stare decisis is central to our legal system, and adherence to precedents yields a variety of benefits, including clarity, stability, and predictability in the law” (78).

So strong is the desire for stability that stare decisis is considered to be a legal norm that constrains justices. For example, Knight and Epstein (1996) argue that justices follow precedent to maintain predictability and thereby allow private actors to pursue their goals with planning. They also follow precedent because the community believes they ought to. That is, since the Court requires institutional legitimacy to survive, it must largely follow the demands of the public. Failure to do so could strip it of public support and prevent justices

from achieving their policy goals. To support their theory, Epstein and Knight examine, among other features, justices' internal, private deliberations over the merits of cases. They discover that even when justices are out of the public light, they discuss with one another the confining nature of past decisions. Why, they wondered rhetorically, would justices talk in private as though constrained by precedent, if stare decisis was simply a ploy to fool the unsuspecting public? The answer, they said, was clear. Justices follow precedent—even behind closed doors—because the systematic failure to do could be catastrophic to the Court's legitimacy.

Accordingly, opinions that detach from existing precedent bear the burden of *explaining* that deviation (Hansford and Spriggs 2006). Surely, justices can find competing precedent to support desired outcomes and can, at times, distinguish precedent so as to evade it (Segal and Spaeth 2002). Still, the decision to *break* from and cast down existing precedent takes a tremendous amount of explanation. The opinion must not only explain why the old rule was wrongly decided; it must also justify the new rule. And justices must do so in the written opinion itself. As Judge Patricia Wald of the D.C. Circuit Court of Appeals once stated: “One of the few ways we have to justify our power to decide matters important to our fellow citizens is to explain why we decide as we do” (Wald 1995, 1372). We believe that when it breaks from legal tradition, the Court must justify more strongly its work, but, at the same time, will be less likely to hit the bulls eye with their opinions. In other words, we hypothesize that when a majority opinion overrules precedent, it will be more complex (i.e., less clear) than opinions which do not overrule past decisions.

*Judicial Review.* Relatedly, we believe that justices will pen less clear majority opinions when they exercise judicial review. When the Court exercises judicial review, it analyzes a statute, compares it to the US constitution and, if a majority of the justices believe the statute conflicts with the constitution, invalidates it. As Justice Owen Roberts once claimed: “When an Act of Congress is appropriately challenged in the courts as not conforming to the constitutional mandate, the [Supreme Court] has only one duty—to lay the article of the

Constitution which is invoked beside the statute which is challenged and to decide whether the latter squares with the former.” *United States v. Butler*, 297 U.S. 1, 62-63 (1936).

Though Justice Roberts’ description of judicial review makes it appear peaceable, its application has nearly always vexed political elites and scholars (Friedman 2002). It has been called a power used by unelected justices to make an end-run around the legislative process and prevent majorities from accomplishing their policy aims. “The root difficulty is that judicial review is a counter-majoritarian force in our system. . . [W]hen the Supreme Court declares unconstitutional a legislative act or the action of an elected executive, it thwarts the will of representatives of the actual people of the here and now; it exercises control, not in behalf of the prevailing majority, but against it” (Bickel 1962, 16-17). Even when judicial review is called for, some scholars argue that it still harms the principle of self-government by stripping majorities of their policymaking obligations (Thayer 1901).

Because justices rely on institutional legitimacy and the acquiescence of other branches to execute their decisions, we might expect that when they strike down legislation, justices will craft opinions so as to minimize the threat of negative repercussions. Recent theoretical scholarship argues that the separation of powers precludes justices from exercising judicial review in a counter-majoritarian fashion (Spiller and Gely 1992; Bergara, Richman and Spiller 2003; Harvey and Friedman 2006; Epstein and Knight 1998). According to these scholars, if a justice perceives that by voting for her most preferred alternative she will create policy out of step with key policymakers, she will moderate her vote to make policy that is more favorable to them.<sup>9</sup> Influence from the elected branches, they argue, forces the Court into majoritarian compliance (*but see* Owens 2010; Segal 1997; Sala and Spriggs 2004).

If these studies are correct, we might expect to see opinions that “protect the Court

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<sup>9</sup>These studies argue that Congress and the president have a host of tools they can use to punish a wayward Court, such as legislative overrides, budgetary restrictions, enforcement delay, and raising public ire.

against open institutional challenges while still striking down [policies] to which [justices] object” (Staton and Vanberg 2008, 507). That is, to combat potential legislative hostility, justices will add layers of complexity to the opinion so as to drive up ambiguity and make outright defiance thereof difficult to accomplish while, at the same time, hiding from the public any defiance by the political branches (Id.). Justices might write less clear opinions to lessen the likelihood of congressional rebuke. We hypothesize, in brief, that majority opinions will be less clear (and more complex) when they exercise judicial review.<sup>10</sup>

*Clarity By Issue Area.* We believe that the issue involved in the case is likely to influence whether the opinion is clear or complex. We expect opinions in criminal procedure cases to be clearer than those written in other issue areas. Various rules and norms suggest that criminal law should be clearer than any other type of law. “In a free society, there must be clarity about what behavior is subject to criminal sanction. It is impossible to have a principled criminal justice system without precise definition of the basis for criminal liability...” (Dickey, Schultz and Fullin 1989). Other scholars agree. Smith (1989), for example, argues that “although the common law process permits changes in legal doctrine, in cases affecting the criminal justice system there are special reasons to establish clear, predictable rules” (120). Indeed, legal canons like the Rule of Lenity strongly impose on policymakers a demand that criminal behavior be clearly spelled out. As such, we believe that criminal procedure cases will yield the clearest opinions.

### **3.3 Other Factors That May Lead to Clear or Complex Opinions**

Other factors may also lead to clear or complex opinions. One feature that may influence whether a justice writes a clear opinion turns on learning effects and tenure in

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<sup>10</sup>Our theory involves any use of judicial review, whether it be over federal or state laws. In the model we estimate below, we examine this version of judicial review. The results are substantively similar when we employ a version that includes only judicial review exercised over federal legislation.

office. Some scholars argue that new justices face a steep learning curve during which time their calculations are imprecise and their policy preferences are unstable (Hagle 1993; Brenner 1983; Heck and Hall 1981). As Howard (1968, 45) put it: “it is not uncommon for a new justice to undergo a period of adjustment. . . before his voting behavior stabilizes into observable, not to mention predictable, patterns.” This period on the Court is referred to as the “freshman” period. Empirical evidence suggests that justices early in their terms behave differently than justices later in their careers. Hurwitz and Stefko (2004), for example, find that justices adhere to precedent less as they serve on the Court longer. Hagle (1993) found that the vast majority of justices he studied voted more liberally or conservatively later in their terms—evidence, he claimed, of an acclimation effect. Given the possibility that these new justices remain unsure of themselves, we might expect a high degree of tentativeness and vacillating in their opinions. That is, we might expect them to author less clear opinions while freshman.

The number of legal provisions in a case may also influence opinion clarity. Authors writing opinions with multiple legal issues may need to balance competing claims across issues to justify a holding or appease varying constituencies on the Court. With one controlling legal issue, however, an opinion writer may be able to focus more clearly on that well-defined issue. Additionally, we control for the political salience of the case and ideology of the justice. We are agnostic as to whether justices will write more or less clear in salient cases and whether conservatives or liberals will write clearer opinions.

#### **4 ASSESSING THE CLARITY OF SUPREME COURT OPINIONS**

Our approach to measuring opinion clarity is to examine the cognitive complexity of Supreme Court opinions. Our argument is that as opinions become more cognitively complex, they become less clear. That is, as the cognitive complexity of an opinion increases, its clarity will decrease. To support our supposition, we first explain how scholars analyze cognitive complexity, and then discuss how it applies to our study.

Scholars conceptualize cognitive complexity as being composed of two elements: differentiation and integration. Differentiation represents the degree to which an individual acknowledges multiple perspectives or dimensions behind an issue. In other words, differentiation examines whether an individual perceives and explains events in black and white, or whether she sees the world in shades of gray. Integration, on the other hand, represents the degree to which a person recognizes relationships and connections among these perspectives or dimensions. It represents how an individual structures his or her thoughts and organizes decision-relevant information. These two features collapse into a uni-dimensional cognitive complexity score which ranges from least complex to most complex. Language that scores as least complex relies on “one-dimensional, evaluative rules in interpreting events” in which actors make decisions “on the basis of only a few salient items of information” (Gruenfeld 1995, 5). On the other hand, language scored as more complex tends to “interpret events in multidimensional terms and to integrate a variety of evidence in arriving at decisions” (Tetlock, Bernzweig and Gallant 1985, 1228).

We use the insight of cognitive complexity to estimate the clarity of legal opinions. While not a perfect measure, cognitive complexity offers important insight into language and the clarity of purpose. Less cognitive complexity may highlight an “ability to penetrate to the essence of key issues” while, conversely, increasing levels of cognitive complexity may represent “muddled, confused, and vacillating thought” (Tetlock, Bernzweig and Gallant 1985, 1238).<sup>11</sup> Other studies employ these measures to similar ends. For example, Tetlock, Bernzweig and Gallant (1985) examine how liberal, moderate, and conservative justices interpret policy issues. Gruenfeld (1995) does the same, while controlling for majority coalition status. Later work by Gruenfeld and Preston (2000) argues that justices upholding precedent

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<sup>11</sup>We do not mean to imply that less cognitive complexity is normatively better (or worse); rather, we simply believe that as opinions take on more cognitive complexity, they are likely to become less piercing and harder to understand.

interpret the law with more complexity than justices overturning precedent.<sup>12</sup> Simply put, the notion of cognitive complexity is a reasonable tool, we believe, to employ as an estimate of opinion clarity.

To measure the cognitive complexity of each opinion—and, thereby, the clarity of the opinion—we employed the content analysis program, “Linguistic Inquiry and Word Count” (LIWC). LIWC is a textual analysis software package that examines how people use words—their cognitive complexity. It analyzes “attentional focus, emotionality, social relationships, thinking styles” and other features of language that combine to measure cognitive complexity (Tausczik and Pennebaker 2010, 24).<sup>13</sup> LIWC estimates cognitive complexity by employing a word count strategy that searches whatever text is under review for over 2,300 words (or word stems) using specific dictionaries.<sup>14</sup> That is, the analyst specifies a particular corpus of material she would like the software to examine. After the analyst uploads the text, the software searches it to determine whether the words or word stems in its dictionary appear in the text. More specifically, LIWC assigns each word in a text to one of 70 predefined dimensions that have been categorized by independent examiners to measure the thinking styles of individuals. The dictionaries were developed with the idea that language “provides important clues as to how people process... information and interpret it to make sense of their environment” (Tausczik and Pennebaker 2010, 19). The program then tallies up the

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<sup>12</sup>Scholars have employed similar measures elsewhere. Tetlock (1981*a*) and Tetlock (1984) examine legislators, while others analyze presidents and revolutionary leaders (Suedfeld and Rank. 1976; Tetlock 1981*b*). Pennebaker and Lay (2002) analyzed whether Rudy Giuliani’s governing style and personality changed over the course of his tenure as mayor of New York by examining the words he used throughout his press conferences. Pennebaker, Slachter and Chung (N.d.) examined the words John Kerry, John Edwards, and Al Gore.

<sup>13</sup>LIWC can be found at: <http://www.liwc.net>.

<sup>14</sup>The internal and external validity of LIWC has been established in a series of publications (*see, e.g.* Tausczik and Pennebaker 2010; Pennebaker and King 1999).

words used in each dimension and provides a descriptive output of their use, namely a percentage of words in the text that belong in each dimension.

We employ ten LIWC indicators that are directly connected with cognitive complexity: *causation, insight, discrepancy, inhibition, tentative, certainty, inclusiveness, exclusiveness, negations, and the percentage of words containing six or more letters*. (For a discussion of these dimensions and the words they include, see the attached Appendix.) We then collapsed these ten indicators into one quantity of interest, which is justifiable based on a separate factor analysis that revealed only one factor. The mean complexity score of our opinions is 0, with a standard deviation of 3.79. The range extends from a minimum of -21.5 to a maximum of 20.11, though 95 percent of the data lies within the range from -7.6 to +7.6.

To illustrate the face validity of our measure, we highlight a few Court opinions. Consider, first, *Kaiser Aluminum & Chemical Corp. v. Bonjorno*, 494 U.S. 827 (1990) in which the Court examined whether, in a case where Congress amended a statute after the lower court rendered its judgment but before the circuit court rendered judgment, the courts should apply the law in effect at the time of judgment or the law passed during the appeal. Justice O'Connor's majority opinion employed a broad standard: courts should apply the law in effect at the time it renders its decision (here, the revised law) unless retrospective application would "result in manifest injustice to one of the parties or where there is clear congressional intent to the contrary." 494 U.S. at 837. The opinion failed to provide clear guidance as to when "manifest injustice" would result or how the Court might go about interpreting legislative intent. In concurrence, Justice Scalia demanded a clear rule stating that "the operation of nonpenal legislation is prospective only." 494 U.S. at 841 (Scalia, J., concurring). O'Connor's opinion (a standard) received a complexity score of 5.53, which indicates a very complex opinion, while Scalia's concurrence (a rule) scored a -2.00, which indicates a very clear opinion.

Consider further Justice Blackmun's majority opinion in *Garcia v. San Antonio Metro*

*Transit Authority*, 469 U.S. 528 (1985), in which the Court rejected as unworkable the “traditional governmental function” standard adopted in *National League of Cities v. Usery*, 426 U.S. 833 (1976). *Garcia* received a complexity score of 6.13. Justice Powell’s opinion in *Batson v. Kentucky*, 476 U.S. 79 (1986), the seminal case in which the Court prohibited discrimination in the prosecution’s use of peremptory challenges, was also complex (5.67). On the clearer end of the spectrum (-8.03) is *Wyoming v. Houghton*, 526 U.S. 295 (1999) in which Justice Scalia’s majority opinion held that police officers with probable cause to search a car can inspect passengers’ belongings when those passengers are capable of concealing the object of the search.

Once we had our measurement strategy in hand, we were in a position to analyze Supreme Court opinions. We examined all formally decided full opinions and judgments of the Court written between the 1983 and 2007 terms.<sup>15</sup> Our unit of analysis was each written opinion per case. That is, if a case observed one majority opinion, we treated that opinion as an observation. If the case observed a majority opinion, a concurrence, and a dissent, we treated each of the three opinions as unique observations. Our data contain 2,735 cases and 5,799 opinions, spread out over our 25 Supreme Court terms.<sup>16</sup>

Our variables are largely self-explanatory. *Majority Coalition Size* counts the number of justices who joined the final majority coalition in the case. We treated justices who wrote or joined regular concurrences as part of the majority coalition. Dissenting justices and justices filing special concurrences were treated as dissenters. We analyzed whether the

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<sup>15</sup>We selected our cases from the United States Supreme Court Database (Spaeth 2008a). Our “Decision Type” equals 1 or 7 while the Spaeth unit of analysis equals 0.

<sup>16</sup>There are five opinion types in the dataset: (1) majority opinions; (2) judgments; (3) concurrences; (4) separate opinions that concur in part and dissent in part; and (5) dissents. We treat opinions that concur and dissent in part, which are but 6% (n=331/5799) of the sample, as dissents. We also excluded three opinions that the Court classified as “statements” and three opinions that were partly majority opinion and partly dissent.

Court struck down a law as unconstitutional or overturned one of its precedents by referring to Spaeth (2008*b*). We also employed Spaeth (2008*b*) to measure the issue area of the case and whether it involved *Multiple Legal Provisions*. We determined whether a justice was a *Freshman* by following the standard in the literature (Maltzman, Spriggs and Wahlbeck 2000) and treating the justice as a freshman if she served less than two full terms when the opinion came down. To measure *Political Salience*, we examined whether the case received front page treatment on the New York Times (Epstein and Segal 2000; Baird 2004; Collins 2008). To measure *Justice Ideology*, we employ Martin-Quinn scores (Martin and Quinn 2002).

## 5 RESULTS

Before proceeding to our multivariate model, we begin by inspecting the descriptive data on legal clarity. We look, first, at the average complexity scores for opinions written by all the justices in our sample. We then look at how those opinions vary in clarity by issue area. Finally, we examine the descriptive data on whether dissenters or majority opinion writers compose clearer opinions.

### 5.1 A Descriptive Examination of Opinion Clarity

*Opinion Clarity By Justice.* Which justices write the clearest opinions? Figure 1 illustrates. The *y*-axis provides the name of each justice in our sample, while the *x*-axis shows the clarity of his or her opinions. Clearer opinions (i.e., less complex opinions) are reflected by negative numbers and fall to the left on the *x*-axis, while more complex opinions are reflected by positive numbers falling on the right on the *x*-axis. As Figure 1 shows, Justice Ginsburg consistently authored the most complex opinions while Justices Scalia and Breyer wrote the clearest.

On the one hand, these results are somewhat startling. Justice Ginsburg, not commonly known for writing particularly verbose or unclear opinions, consistently ranks as the

most ambiguous opinion writer. Among all the justices in our sample, Justice Ginsburg's opinions were, by a significant margin, the most complex. Indeed, her average complexity score of 3.28 is over twice that of the mean justice (Brennan=1.43), and roughly four times greater than Justices Scalia and Breyer. Of course, while Ginsburg sits atop the complexity scale, she is not alone. As Figure 1 shows, Justice Marshall sits nearby (score of 2.38), as do a handful of other justices, including Justices O'Connor (1.86), Thomas (1.76), and Kennedy (1.76). Still, Ginsburg's astonishingly high complexity score comes as a surprise. Equally surprising is that Justice Breyer, not known for agreeing with Justice Scalia, tends to write similar majority opinions, at least in terms of their clarity.

While the immediate findings related to Justices Ginsburg and Breyer come as a surprise, we cannot say the same for the results for some of the other justices, namely Justices O'Connor and Scalia. By nearly all accounts, Justice O'Connor is associated with standards-based (and often ambiguous) jurisprudence (Faigman 1992; Anders 1992). As one writer complained: "[O'Connor] often avoids adopting bright-line rules and opts instead for what has been termed contextual or individualized decision making" (Oakes 1992, 537). O'Connor's "narrow opinions have the effect of preserving her ability to change her mind in future cases... [she] prefers vague standards to clear rules... by [refusing] to commit herself to consistent principles, O'Connor forces the court and those who follow it to engage in a guessing game about her wishes in case after case" (Rosen June 3, 2001, 32). On the other hand, Justice Scalia is most consistently associated with rules (Anders 1992), a position he favors precisely for their purported clarity.

**[Figure 1 about here]**

What Figure 1 also shows—or perhaps fails to show—is the lack of correlation between ideology and opinion clarity. Among the names of those writing the most complex opinions can be found Ginsburg and Marshall, as well as O'Connor, Thomas, and Burger. Similarly, counted among authors of clear opinions are Breyer and Souter, as well as Scalia and Alito.

These findings thus agree, in part, with Gruenfeld (1995), who found no correlation between opinion complexity and ideology.

*Opinion Clarity by Issue Area.* Just as interesting are the patterns that emerge from Figure 2, which represents the clarity of each justice’s majority opinions across issue areas.<sup>17</sup> Figure 2 shows that justices tend to write similar opinions across issue areas. Focusing on criminal procedure, we learn that Justices Scalia and Souter wrote the clearest majority opinions. Conversely, Justice Ginsburg penned the most complex majority opinions, followed by Justices Blackmun and O’Connor. Seven of the justices (Kennedy, Marshall, Rehnquist, Burger, Brennan, Stevens, and Thomas) all wrote with a surprisingly similar degree of clarity, all close to 0.5. Among civil rights cases, Justices Ginsburg and Scalia again anchored the tails of complexity, with Ginsburg writing complex opinions and both Scalia and Breyer writing clearer, less complex opinions. Strangely, while Blackmun and O’Connor were among the most complex writers in criminal procedure cases, they were in the middle of the pack in civil liberties cases. Among cases addressing economic activity and judicial power, respectively, we see again that Justices Ginsburg and O’Connor consistently author among the most complex opinions while Justices Souter, Breyer and Scalia write the clearest. Simply put, the overall trend of opinion clarity that we observed in Figure 1 holds across the major issue areas addressed by the Court.

[Figure 2 about here]

Another story emerging from Figure 2 is the systematically lower complexity scores for all justices in criminal procedure cases. Among all the issues we examined, Justice Ginsburg’s clearest opinions occurred when she wrote majority opinions in criminal procedure cases. The

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<sup>17</sup>Fully 25% of the Court’s cases (N=580) during the terms in our sample turned on issues of criminal procedure. Economic activity cases constituted 19% of the Court’s docket (N=442). Civil rights cases took up 15% (N=352) while cases dealing with judicial power amounted to 12% (N=274). For a definition of these issue areas, *see* (Spaeth 2008a).

same holds true for justices anchoring the other extremes as well. Indeed, across our sample, justices' complexity scores in criminal procedure cases nearly always paled in comparison to their scores in other issue areas, just as we hypothesized. Justices write their clearest opinions in criminal procedure cases.

*Opinion Clarity and Majority Opinion Status.* As we discussed above, Rubin (2008) accuses Justice Scalia of authoring different styles of opinion depending on whether he is in the majority or dissent. Figure 3 examines the accuracy of Rubin's claims. It contains two illustrations. The top half plots the mean level of cognitive complexity for each justice's majority and dissenting opinions. The bottom half graphs the statistical significance of the *difference* between the majority and dissenting opinions. As Figure 3 shows, Rubin's assertion is largely correct, but contains one important caveat; *every* justice in our sample, even those often considered great (Epstein et al. 2007), authored clearer dissents than majority opinions. All justices in recent history presented their opinions differently when in dissent—and the difference is large for many justices. Look first, at Justice Scalia. Clearly, the results in Figure 3 show the contrast is large between his majority opinions and dissents. When he authors a majority opinion, Scalia's complexity score is -0.099 [-0.464, 0.267].<sup>18</sup> When he authors a dissent, however, his complexity score drops to -2.788 [-3.246, -2.33]. This difference of 2.689, however, is not much larger than many of his colleagues, including Chief Justice Roberts (2.635), Chief Justice Rehnquist (2.64) and Justices Marshall (2.43) and White (2.412). To be sure, many of the justices who are ideologically extreme represent the largest differences: Scalia, Roberts, Rehnquist and Marshall all show marked differences in writing style. Nevertheless, among the justices with the lowest differences are Justices Burger, Brennan, Alito, and Stevens, none of whom are commonly considered centrists.<sup>19</sup>

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<sup>18</sup>The numbers in brackets are the 95% confidence intervals.

<sup>19</sup>Perhaps position as a median effects this, as median justices are less likely to be in dissent. Even here, however, the justices most often the median on the Court during our sample still showed substantially different behavior when writing majority opinions and when

[Figure 3 about here]

*Coalition Size, Altering Precedent, and Judicial Review.* We hypothesized that justices would write less clear opinions when they formally alter precedent and when they strike down legislation. Our initial view of the data supports these hypotheses. As Figure 4 shows, when coalitions decrease in size, the complexity of the majority opinion also decreases. Unanimous opinions are the most complex, followed by Court majorities with 8 or 7 justices. Majorities with 5 or 6 justices write the clearest opinions. Below that, we can see when the Court alters one of its precedents, the opinion is more complex than when it does not alter precedent. At the bottom of Figure 4 we see that when the Court declares a law unconstitutional, it writes a slightly more complex opinion compared to when it does not exercise judicial review.

[Figure 4 about here]

## 5.2 A Multivariate Examination of Opinion Clarity

Our summary view of the data suggests that some justices author clearer opinions than others, that these patterns tend to hold across issue areas, that coalitional status matters, and that the overruling of precedent and the use of judicial review correlate with opinion clarity. But, do these results hold up when we *simultaneously* examine these and other factors that might affect legal clarity? That is, when we subject the data to enhanced scrutiny via multivariate regression, do the findings remain? With one exception, the answer is yes.

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writing dissents. Indeed, Justice O'Connor, the median throughout most of the data, had a difference score of 2.156. Justice Kennedy, the justice next most frequently the median, had a difference score of 2.307. Justices White and Powell, combining for the next most frequent medians, had difference scores of 2.412 and 2.312, respectively. In short, all justices, regardless of ideology and position, authored clearer dissents than majority opinions.

To examine more rigorously the conditions under which justices author clear or complex opinions, we fit a multivariate regression model. Our dependent variable is the measure of opinion clarity we calculated above (i.e., the level of cognitive complexity in each opinion). Because the dependent variable is a continuous measure and normally distributed, Ordinary Least Squares (linear) regression is the appropriate model to estimate. We estimate three separate regression models: one for majority opinions, one for dissents, and one for concurrences because some explanations might operate only in one type of opinion.<sup>20</sup>

Table 1 presents our results and reveals several interesting findings. We focus, first, on majority coalition size. We hypothesized that as the majority coalition grows, opinions will become more complex because the opinion author will include suggestions from numerous justices. The data support this hypothesis. The coefficient on *Majority Coalition Size* is positive and statistically significant. For each additional justice in the majority coalition, its complexity score increased 0.113 units. At the same time, we find that dissents are less complex (i.e., more clear). The coefficient on *Majority Coalition Size* for dissenting opinions is negative and statistically significant. A one justice increase in the majority coalition leads to a 0.129 decrease in the complexity of the dissenting opinion. Again, this is consistent with our expectations. Namely, as the size of the minority shrinks (and the size of the majority grows) dissents become clearer.

[Table 1 about here]

Indeed, Figure 5 graphically represents the effect of coalition size on opinion clarity. As it shows, there are statistically significant differences in the clarity of opinions depending on the size of the majority coalition. When majority opinions are minimum winning (i.e., five justices) the complexity of the majority opinion is 1.08. A unanimous majority coalition,

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<sup>20</sup>We cluster our standard errors on each author to account for the possible correlation between errors (e.g., some unobserved phenomenon in Justice Scalia's opinion for case X is similar to his opinion in case Y).

on the other hand, observes a complexity score of 1.53. The magnitude for dissents is approximately the same.

**[Figure 5 about here]**

The Court's overruling of its own precedent constitutes a second driver of legal clarity. When the Court overrules one of its precedents, justices across the board write more complex opinions. Figure 6 highlights. Whenever the Court significantly alters one of its precedents (i.e., more than just distinguishing it), the complexity of all opinions increases by about 1 unit. Majority opinions increase in complexity by 0.937 units, dissenting opinions increase in complexity by 1.023 units, and concurring opinions increase in complexity by 1.251 units. Simply put, when the Court reverses itself, its requirement to justify its behavior leads to less clear opinions. In other words, not only does the law become slightly less clear because the Court has turned its back on its previous decision, *it also becomes more unclear as a result of the opinion itself.*

**[Figure 6 about here]**

We find no support, however, for our hypothesis that justices will write more complex opinions when exercising judicial review. While dissents become more clear, majority opinions do not. More work is needed on this topic, however.

We find support for our earlier discovery that Justices Scalia and Breyer write the clearest opinions. If Justice Scalia authors the majority opinion, it will be 1.118 units less complex (more clear) than an opinion written by Justice Stevens, the baseline justice. If Breyer writes the opinion, it will be 1.224 units less complex. Conversely, if Justice Ginsburg authors the opinion, one can expect the opinion to be roughly 2 units more complex than if written by Justice Stevens.

Similarly, we continue to observe that criminal procedure opinions are clearer than all other issue areas. Figure 7 shows the differences in opinion clarity across issue areas.

It shows that criminal procedure opinions will be more clear than opinions in any other issue area. This holds across all three opinion types, though the level of clarity in criminal procedure cases is higher for majority opinions than it is for either dissents or concurrences, which is expected.

[Figure 7 about here]

We observe mixed results for our controls. There does not appear to be a freshman effect for majority opinions. Justices early in their tenure do not write more complex majority opinions than justices in their later years. On the other hand, we do observe freshmen justices writing clearer dissents and concurrences opinions. This may underscore that the pressures of writing a majority opinion, and the process of accommodating the views of other justices increases the complexity of the opinion. Whether a case has multiple legal provisions does not influence the complexity of either majority or dissenting opinions. It does, however, increase the complexity of concurring opinions. Political salience, reflected by coverage of the opinion by the *Times*, does not correlate with the complexity of any type of opinions. And, we continue to observe that judicial ideology fails to influence opinion clarity. Neither conservatives nor liberals were systematically more likely to write clear or complex opinions.

## 6 CONCLUSION

We provided one of the first systematic, empirical examinations of the conditions under which justices write clear legal opinions. We examined the clarity of Supreme Court opinions by analyzing which justices craft the clearest opinions and the conditions that influence the clarity of Court opinions. We subjected 25 terms worth of opinion data (1983-2007) to several statistical tests and discovered the following: Justices Scalia and Breyer write the clearest opinions while Justice Ginsburg writes the most complex. Justices write clearer legal opinions as the size of the majority coalition decreases, when dissenting, and when writing opinions in criminal procedure cases. Conversely, they write more complex

opinions when formally altering existing precedent.

Some of these results are both expected and reassuring. For example, a line of empirical research suggests that the addition of justices to a majority coalition is likely to lead to a less clear opinion (Maltzman, Spriggs and Wahlbeck 2000). Moreover, Staudt, Friedman and Epstein (2008) find that the Supreme Court is more likely to generate consequential precedent when majority coalitions are minimum winning. Our results show that opinions written by minimum winning coalitions are *clearer* than opinions written by unanimous coalitions. Whether clarity leads to the opinion being more consequential, we can only speculate. Still, the results fall in line with what one might expect.

At the same time, that justices write the clearest opinions in criminal procedure cases should reassure us. Legal norms strongly encourage—and even compel—enhanced clarity in criminal law cases. The rule of lenity is but one example of the need for increased clarity in criminal law.

On the other hand, the discovery that justices write less clear opinions when they overrule precedent gives us pause. The very act of overruling precedent creates uncertainty in law. Our findings suggest, in addition, that the opinions themselves add to that uncertainty. Not only are lower courts less certain how to apply the new overruling precedent, they also are likely to become more cautious, as the opinion overruling the precedent is less clear. Justices, then, might wish to overrule precedent sparingly, as the very act of breaking from precedent generates a tidal wave of uncertainty that is likely to rush forward.

One question we wish to address in conclusion is whether our results are simply the result of law clerk opinion writing. Is it possible that the justices who write less clear opinions simply use their clerks more heavily to write opinions? If so, and clerks write less clear opinions on average than justices, our results might be driven by nothing other than poor clerk opinions. The data suggest this is not the case, however. While there is anecdotal evidence (Woodward and Armstrong 1979) and survey evidence (Ward and Weiden 2006) to suggest that some justices rely on their clerks more than others, statistical evidence is more

difficult to come by. Wahlbeck, Spriggs and Sigelman (2002) note some differences between Justices Powell and Marshall in terms of clerk responsibilities, but the work is limited to these two justices during one term. In perhaps the most sophisticated study of law clerk opinion writing, ? employs computational linguistics to detect whether clerks systematically author Supreme Court opinions. That is, he examines if there is detectable evidence of their authorship, and, if so, in what cases and for which justices. The results suggest strongly that conventional wisdom about the extent of opinion writing by clerks is vastly overblown. The opinions of the Court, he finds, reflect and respond to the justices to whom the opinions are attributable. Indeed, only a handful of opinions evidenced systematic deviations from a justice’s general style. What is more, the only justices that reflected a noticeable reliance on the clerks were Justices Marshall, White, Rehnquist, and Thomas, none of whom ranked consistently near the top of our complexity scale.<sup>21</sup> In short, the alternative explanation—that our complexity scores are simply a function of clerk opinion writing—does not stack up.

Our results provide an initial attempt to explain opinion clarity. Nevertheless, more work must be done to examine opinion content. For example, do justices write different types of opinions when addressing different audiences? Do they write clearer opinions when they expect that lower courts are more likely to enforce their decisions genuinely? These and other questions must be addressed in future work if we take seriously the need to examine Supreme Court opinion content.

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<sup>21</sup>If clerks write opinions in the same “voice” or style as their justices, this still would support our approach.

## APPENDIX

### LIWC Classifications

In the manuscript, we identified a host of measures employed by LIWC to estimate cognitive complexity. We employed ten such measures in this paper. In what follows, we explain each of these measures.

LIWC measures the *causation* dimension by searching for words like “because,” “effect,” and “hence” that refer to causal processes. This dimension taps into the degree that an individual sees relationships between different parts or components, and how changes in one may influence changes in another (e.g., thinking in terms of cause and effect). Increased use of causation words corresponds with more cognitive complexity. LIWC measures the *insight* dimension by searching for words such as “think,” “know,” and “consider.” This dimension captures the degree that individuals differ in how much one is able to discern a more in-depth understanding of a subject or its underlying nature. The *discrepancy* dimension examines words like “should,” “would,” and “could,” as it measures the degree to which an individual identifies discrepancies, differences, or inconsistencies between, for example, two situations or cases (e.g., the fact patterns of two searches and seizures). Higher scores along the discrepancy and insight dimensions correspond with increased levels of cognitive complexity.

The *inhibit* dimension searches for words like “block,” “stop,” and “constrain” as it measures the level of inhibition displayed by the decision maker. Inhibition is theorized to be how much restraint one expresses or to what degree a person displays how their actions are hindered. Increased amounts of inhibition in speech is associated with higher levels of cognitive complexity. The *tentative* dimension counts words like “maybe,” “fairly” and “perhaps,” and measures the level of tentativeness each text or decision maker shows. Tentativeness is theorized to be how hesitant or unsure one is about something. Increased amounts of tentativeness in speech is associated with higher levels of cognitive complexity. The *certainty* dimension counts words like “always,” “absolutely,” and “clearly” and it is theorized to measure the degree of how confident one is about something. Generally, higher levels of certainty correspond with expressing or portraying issues less complex. Increased amounts of certainty in speech is associated with lower levels of cognitive complexity.

The *inclusiveness* dimension searches for words like “with” and “and.” It captures the degree to which one sees many connections or relations between ideas and concepts. Increased amounts of inclusiveness in speech is associated with higher levels of cognitive complexity. The *exclusiveness* dimension looks for words such as “but” and “except” and it is theorized to capture how distinct or separate one sees concepts and ideas. People use exclusion words to help make distinctions, especially when determining whether something belongs in a category or not. Increased amounts of exclusiveness in speech is associated with lower levels of cognitive complexity. The *negations* dimension examines words like “no” and “never,” and is theorized to measure how much an individual acknowledges the absence or opposite of something that is positive or affirmative. Increased amounts of negation in speech is associated with lower levels of cognitive complexity. The *six-letter* dimension seeks out the number of words in the text containing six or more letters. This is a commonly

used linguistic measure of a person's sophistication. Increased amounts of six-letter words in speech are associated with higher levels of cognitive complexity.

Note that we standardized all indicators by subtracting off the mean and dividing by the standard deviation indicated by a  $Z$  in the following formula: Cognitive complexity =  $Z_{sixletter} - Z_{causation} - Z_{insight} - Z_{discrepancy} - Z_{inhibit} - Z_{tentative} - Z_{certainty} - Z_{inclusive} - Z_{exclusive} - Z_{negations}$ .

To assess whether all ten categories represent one underlying concept, we subjected them to an exploratory factor analysis and it returned a one factor solution. The results of the exploratory factor analysis provides us with confidence that all ten indicators are part of the same underlying dimension that we theorize to be cognitive complexity.

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Table 1: Ordinary Least Squares Estimates of Opinion Clarity

	(1)	(2)	(3)
	Majority	Dissents	Concurrences
Majority Coalition Size	0.113*	-0.129*	-0.075
	(0.036)	(0.041)	(0.086)
Freshman	-0.209	-0.825*	-2.145*
	(0.255)	(0.376)	(0.340)
Multiple Legal Provisions	0.086	0.384	0.921*
	(0.171)	(0.256)	(0.357)
Political Salience	0.054	0.141	-0.167
	(0.168)	(0.150)	(0.292)
Declared Unconstitutional	-0.019	0.456*	-0.166
	(0.290)	(0.181)	(0.594)
Altered Precedent	0.937*	1.023*	1.251*
	(0.442)	(0.210)	(0.515)
Ideology	-0.046	0.137	-0.203
	(0.090)	(0.065)	(0.321)
Criminal Procedure Case	-1.307*	-0.794*	-1.146*
	(0.118)	(0.176)	(0.328)
Civil Rights Case	0.214	0.211	-0.199
	(0.122)	(0.262)	(0.459)
Economics Case	0.079	0.286	-0.117
	(0.139)	(0.191)	(0.703)
Judicial Power Case	0.311	0.197	-0.176
	(0.167)	(0.272)	(0.618)
Alito	-0.331	-1.514*	1.026
	(0.327)	(0.528)	(1.200)
Blackmun	0.487*	0.145*	-0.093
	(0.071)	(0.048)	(0.220)
Brennan	0.159	0.616*	0.026
	(0.158)	(0.102)	(0.502)
Breyer	-1.224*	-1.424*	1.160*
	(0.063)	(0.083)	(0.205)
Burger	0.868*	0.488	1.214
	(0.300)	(0.301)	(1.153)
Ginsburg	2.008*	1.964*	2.526*
	(0.065)	(0.099)	(0.246)
Kennedy	0.780*	-0.630*	0.459
	(0.212)	(0.202)	(0.855)
Marshall	0.805*	0.738*	0.025
	(0.216)	(0.148)	(0.848)
O'Connor	0.822*	-0.636*	0.805
	(0.237)	(0.175)	(0.836)
Powell	0.289	-1.207*	2.359*
	(0.216)	(0.152)	(0.769)
Rehnquist	0.562	-1.782*	-0.066
	(0.347)	(0.309)	(1.346)
Roberts	0.672	-1.019*	7.533*
	(0.344)	(0.478)	(1.416)
Scalia	-1.118*	-3.085*	-1.436
	(0.378)	(0.321)	(1.371)
Souter	-0.813*	-1.397*	1.295*
	(0.092)	(0.075)	(0.272)
Thomas	0.885	-0.946*	2.260
	(0.487)	(0.373)	(1.809)
White	-0.524*	-2.196*	-2.776*
	(0.225)	(0.176)	(0.845)
Constant	0.508	0.744*	-0.584
	(0.266)	(0.319)	(0.708)
<i>N</i>	2212	1943	1345
<i>R</i> <sup>2</sup>	0.182	0.108	0.108

Table 1: OLS regression model of opinion complexity.

Robust standard errors reported in parentheses. \* denotes  $< 0.05$  (two-tailed test).

Justice Stevens is baseline justice. All other issues are baseline issue.

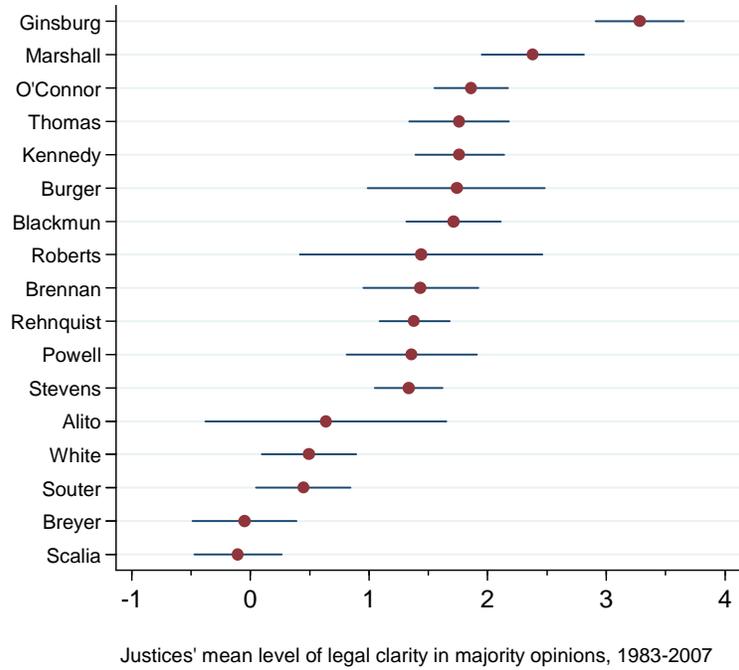


Figure 1: Justices' mean level of opinion complexity in majority opinions, 1983-2007. Opinions on the left are less complex and, thus, more clear while opinions on the right are more complex and less clear. Horizontal line segments denote 95% confidence intervals around the point estimate (the dots).

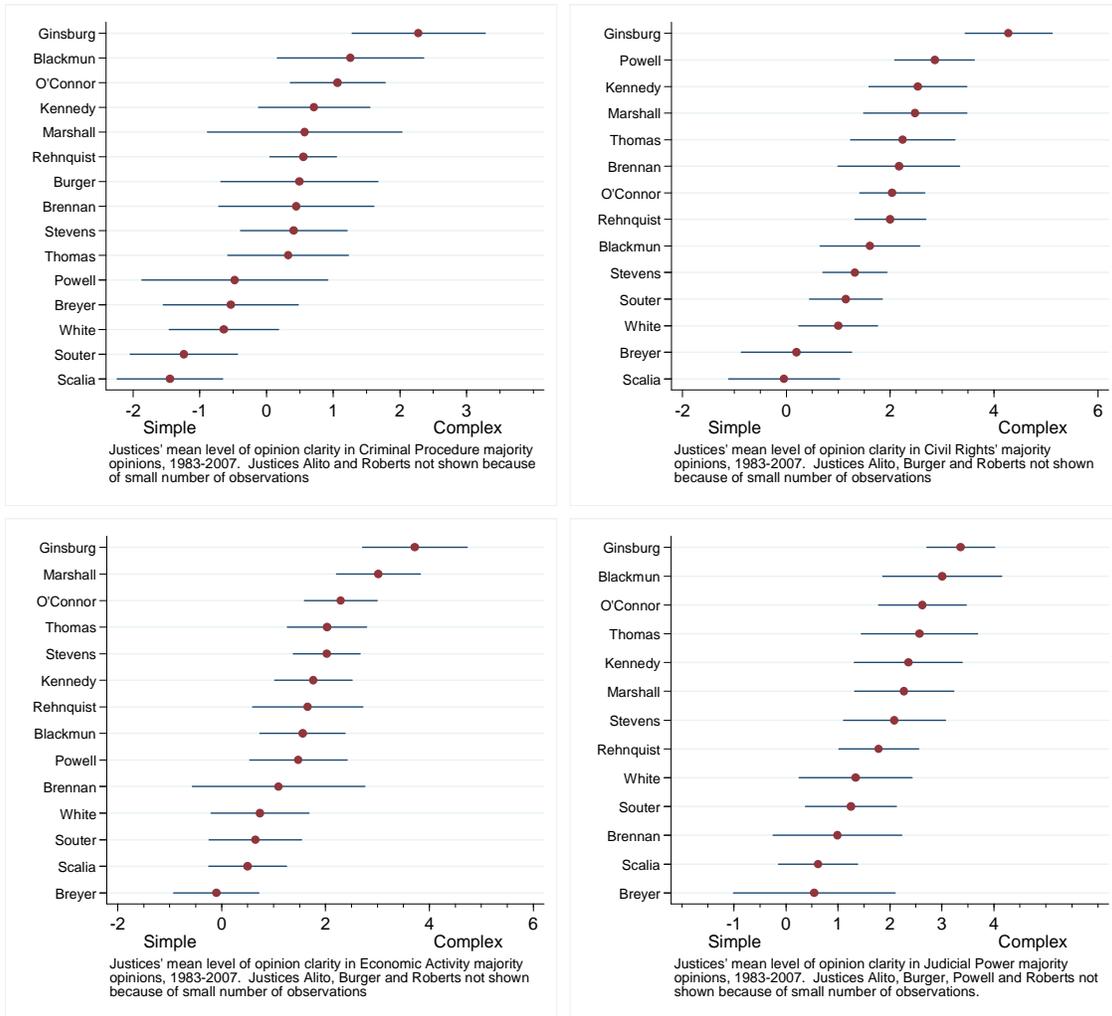


Figure 2: Justices' mean level of opinion complexity in majority opinions in four issue areas, 1983-2007. Opinions on the left are less complex and, thus, more clear while opinions on the right are more complex and less clear. Horizontal line segments denote 95% confidence intervals around the point estimate (the dots). Some justices not shown due to a small number of opinions in that particular issue area.

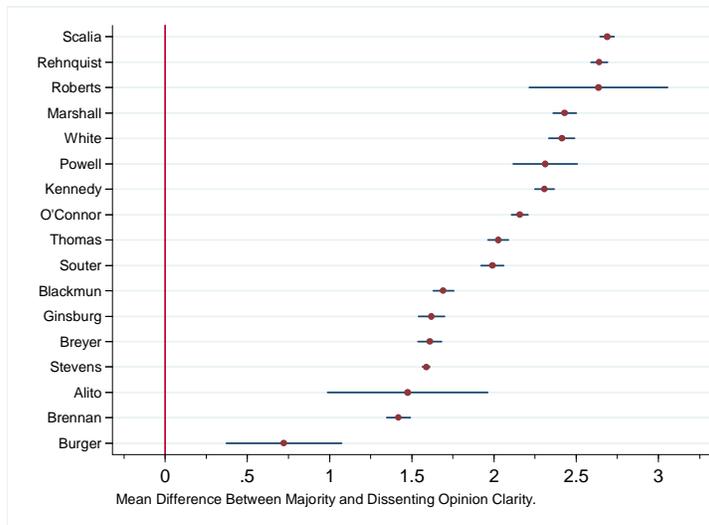
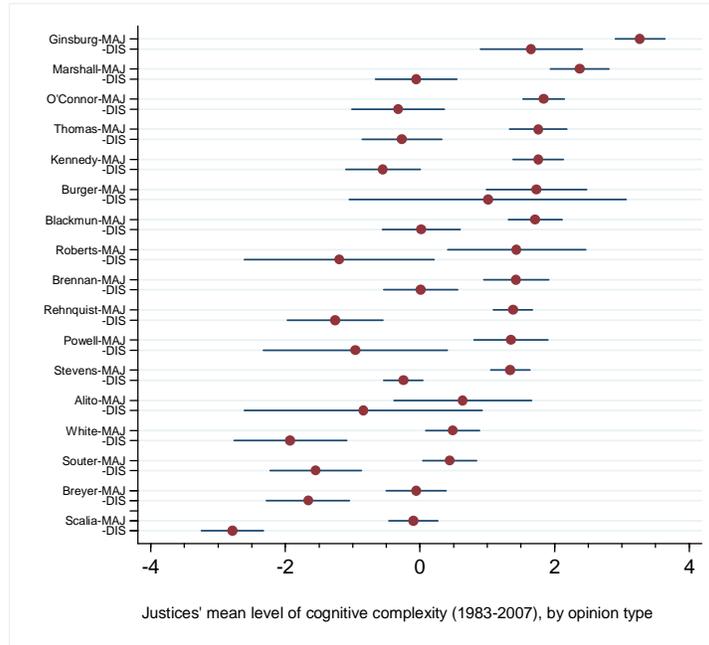


Figure 3: Top half of the figure shows mean level of opinion complexity, by opinion type. Opinions on the left are less complex and, thus, more clear while opinions on the right are more complex and less clear. Horizontal line segments denote 95% confidence intervals around the point estimate (the dots). (MAJ indicates majority opinion author; DIS indicates dissenting opinion author). The mean level of cognitive complexity for all opinions is 0. Bottom half shows mean difference in opinion complexity per justice between majority and dissenting opinions. All 17 justices are well above the 0 threshold, indicating a significant difference between majority and dissenting opinions.

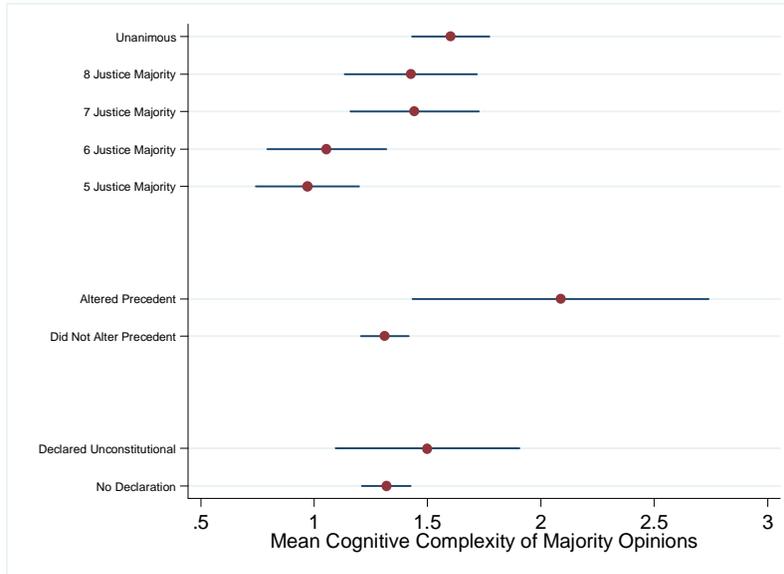


Figure 4: Mean opinion complexity scores per coalition size, the alteration of precedent, and exercise of judicial review, 1983-2007. Opinions on the left are less complex and, thus, more clear while opinions on the right are more complex and less clear. Horizontal line segments denote 95% confidence intervals around the point estimate (the dots).

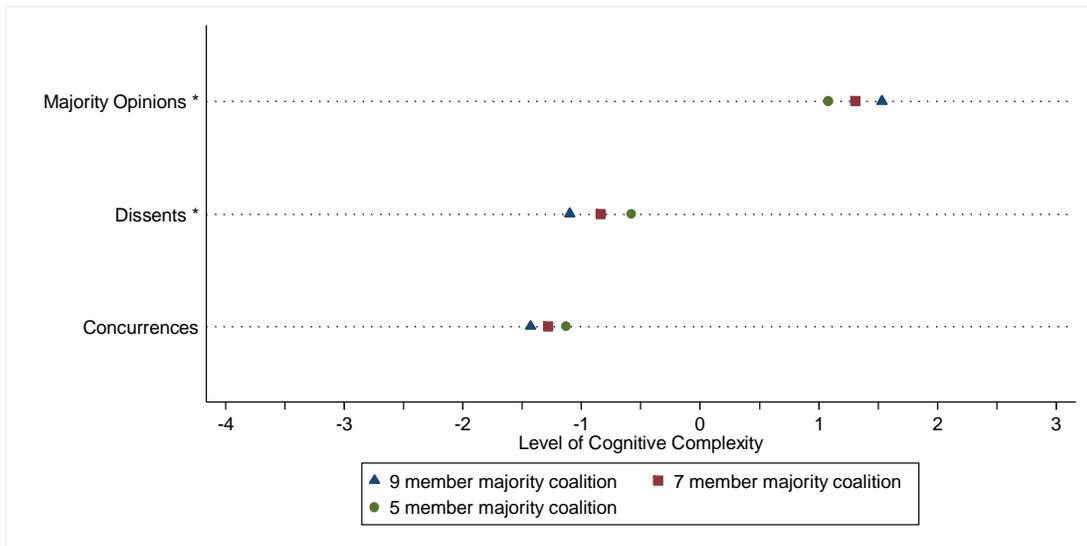


Figure 5: Mean opinion complexity scores per majority coalition size. All other variables set to their means. \* denotes a statistically significant result. Opinions on the left are less complex and, thus, more clear while opinions on the right are more complex and less clear. The unanimous coalitions include 37 opinions where a justice concurred in part and dissented in part but still recorded at least a partial vote with the majority.

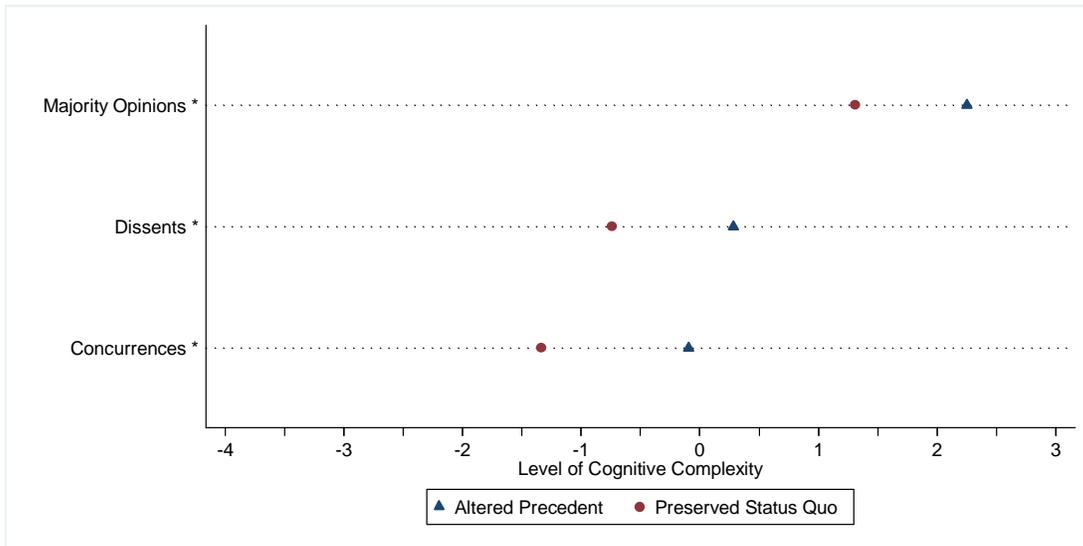


Figure 6: Mean opinion complexity for opinions formally altering precedent. All other variables set to their mean. \* denotes a statistically significant result. Opinions on the left are less complex and, thus, more clear while opinions on the right are more complex and less clear.

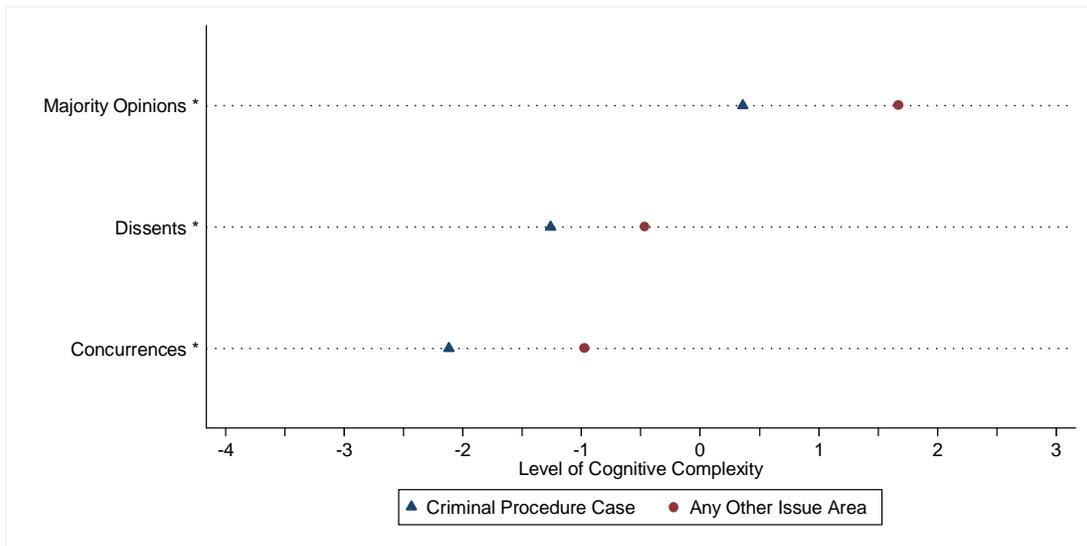


Figure 7: Mean opinion complexity for opinion in criminal procedure cases. All other variables set to their mean. \* denotes a statistically significant result. Opinions on the left are less complex and, thus, more clear while opinions on the right are more complex and less clear.