Justices and Legal Clarity: Analyzing the Complexity of U.S. Supreme Court Opinions

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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 in majority or concurring opinions. 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.

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.[1] 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. 98). Instead, the majority wanted a well-specified and clear rule that would lead to consistent interpretation of undervotes. The dissent, for its part,

[1] 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).

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 about 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 (see, e.g., Kaplow 1992; Posner 1997; Scalia 1989; Schauer 1991). Instead, our aim is narrower; we seek to examine empirically the clarity of Supreme Court opinions. 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 complexity of words and thought. Our approach expands on the growing trend in empirical legal scholarship to employ content analysis (Corley 2008; Evans et al. 2006; Wright & Hall 2008) and capitalizes on advancements in social psychology that show how words reflect cognitive complexity and clarity (see, e.g., Tausczik & 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 Justice Ginsburg writes the most complex. Second, ideology does not predict opinion clarity in majority or concurring opinions. Conservative and liberal justices are equally likely to author clear opinions. Third, all justices write clearer dissents than majority opinions. This finding 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 2, by briefly discussing scholarship on the importance of legal clarity. We analyze studies that posit the need for clarity if the rule of law is to survive. In Part 3, we theorize the conditions under which justices will write clear legal opinions. Certainly, a host of factors 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 decreases, 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 4, 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 5, 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 6, we employ a more rigorous multivariate model to examine the conditions under which justices write clear opinions. Finally, Part 7 concludes with a discussion of our findings and their broader ramifications.

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 to 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, to create incentives, and to 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 to predict the consequences of their actions (Hansford & 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 are associated with the inner morality of law, all of which deal with the *capability* of following law (Radin 1989).[2] These seven requirements, taken together, focus on individuals' ability to know what the law is and to be able to comply reasonably with it. In short, Fuller's focus rests largely on how clear law should be.[3]

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[2] Radin (1989) condenses these seven rules to the "capability" categorization. Fuller's categories are as follows: publicity (those who follow the law must be able to determine what it is); prospectivity (the laws must exist prior to the occurrence of the behavior they regulate); clarity (the law must be understandable); noncontradiction (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).

[3] Fuller is not the only legal scholar to consider the value of clarity. For other important works, see Dworkin (1986) and Hart (1963).

Legal clarity 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 policy-makers' 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, & Baird 1998) brought about, no doubt, by the clarity of its pronouncements. As Justice Frankfurter states 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.[4] At the other end of the spectrum, standards require judges to consider the facts specific to each case and to 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).[5] Rules, 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 & 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 states, "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

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[4] 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.

[5] 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 & Klein 1984).

reasons of stability and clarity (Gates & Phelps 1996). Indeed, Phelps and Gates (1991) find that Justice Brennan and Chief Justice Rehnquist—justices who advocated completely opposite ideological and jurisprudential perspectives—focused on precedent in their decisions far more than on 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 with (b) the subsequent agency decision that implemented 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 percent of agency responses. On the other hand, a very clear Supreme Court opinion secured major policy change in 95.5 percent of agency responses (see also Dolbeare & Hammond 1971; Rosenberg 1991; Sorauf 1959).

In short, numerous studies across a wide range of perspectives highlight the importance of legal clarity. Nevertheless, with the exception of a handful of studies that 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.[6] 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.

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

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[6] 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).

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.

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, 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 et al. 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 (Cray 1997; Schwartz 1983; Staton & Vanberg 2008; Sunstein 1996).

Indeed, studies show that justices bargain and negotiate to create binding precedent (Maltzman, Spriggs, & 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 percent of unanimous conference coalitions (Maltzman, Spriggs, & 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 states, "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).

Along similar lines, a host of studies show, for example, that ideological diversity can lead to less coherent legislation. Lewis (2003) finds that when members of Congress and the president diverge ideologically, they create types of agencies that differ from those created when they are politically and ideologically aligned. Similarly, Moe (1989) argues that opponents to legislation can often leverage majority coalitions (particularly when brittle or ideologically diverse) to create bureaucratic structures that work against effective performance, are decentralized, and, most important for the purposes of this article, are weak and confused. In short, ideologically or politically diverse coalitions can often produce watered-down, weak policy outputs. As such, we might expect ideologically dispersed majority coalitions to write more complex opinions. In short, we hypothesize that as the size of the majority coalition increases—and the majority coalition thereby becomes more ideologically dispersed—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 examines two recent cases—one in which Justice Scalia wrote the majority opinion[7] and the other in which he dissented[8]—to argue that Scalia employs "distinctly different rhetorical styles depending on whether he is in the majority or dissent. 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). Rubin is not the first to argue that justices in dissent might author different opinions from those who write for a majority (see, e.g., Murphy 1964). Gruenfeld (1995) argues 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. According to Chief Justice Rehnquist, "at the Court conferences we sometimes had the impression that [Justice

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[7] *District of Columbia v. Heller*, 128 S. Ct. 2783 (2008).

[8] *Boumediene v. Bush*, 128 S. Ct. 2229 (2008).

Douglas] was disappointed to have other people agree with his views in a particular case, because he would therefore be unable to write a stinging dissent" (Rehnquist 1987: 225–226). Douglas himself states that dissent was the only thing that made being an appellate judge tolerable (Douglas 1960). Naturally, Douglas is not alone in praising the freedom that stems from such a unitary opinion. Justice Scalia similarly comments that dissent

> 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.

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, and this burden is likely to make the opinion less clear.

Overruling Precedent

Consider the decision to overrule a precedent. As we discuss 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 to 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 wonder rhetorically, would justices talk in private as though constrained by precedent, if stare decisis were simply a ploy to fool the unsuspecting public? The answer, they say, is clear. Justices follow precedent—even behind closed doors— because the systematic failure to do so could be catastrophic to the Court's legitimacy.

Accordingly, opinions that detach from existing precedent bear the burden of *explaining* that deviation (Hansford & Spriggs 2006). Surely, justices can find competing precedent to support desired outcomes and can, at times, distinguish precedent so as to evade it (Segal & 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, but 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 states, "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 bull's-eye with its opinions. In other words, we hypothesize that when a majority opinion overrules precedent, it will be more complex (i.e., less clear) than opinions that 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 U.S. Constitution, and, if a majority of the justices believe the statute conflicts with the Constitution, invalidates it. According to Justice Owen Roberts (1936), "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).

Though Justice Roberts's 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 to 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 policy-making 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 countermajoritarian fashion (Bergara et al. 2003; Epstein & Knight 1998; Harvey & Friedman 2006; Spiller & Gely 1992). 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 policy makers, she will moderate her vote to make policy that is more favorable to them.[9] Influence from the elected branches, they argue, forces the Court into majoritarian compliance (but see Owens 2010; Sala & Spriggs 2004; Segal 1997).

If these studies are correct, we might expect to see opinions that "protect the Court against open institutional challenges while still striking down [policies] to which [justices] object" (Staton & 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 to 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.[10]

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[9] 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.

[10] 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.

Clarity by Issue Area

We believe that the issue involved in a 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 et al. 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 policy makers a demand that criminal behavior be clearly spelled out. As such, we believe that criminal procedure cases will yield the clearest opinions.

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 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 (Brenner 1983; Hagle 1993; Heck & Hall 1981). As Howard (1968) puts 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" (45). This period on the Court is referred to as the freshman period. Empirical evidence suggests that justices early in their terms behave differently from 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) finds 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 vacillation in their opinions—that is, we might expect them to author less clear opinions while they are freshmen.

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 to 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 the ideology of the justice. We are agnostic as to whether justices will write more or less clear opinions on salient cases and whether conservatives or liberals will write clearer opinions.

Assessing the Clarity of Supreme Court Opinions

Our approach to measuring opinion clarity is to examine the cognitive complexity of Supreme Court opinions. To be sure, there are multiple ways to measure clarity. One approach would focus on *rhetorical clarity*, or how clearly written an opinion is. This would entail taking into consideration sentence structure and the placement of words in text to provide a readability measure of the opinion (such as a Flesch-Kincaid reading ease score, a measurement using the Coleman-Liau Index, or something similar).[11] Another approach would be to focus more specifically on *doctrinal clarity*. To examine how clear the Court has been in a line of cases, a scholar might engage in an extensive doctrinal analysis to observe the Court's treatment of a substantive issue area over time. Such an approach would be useful to highlight how the Court's specific treatment of doctrine has remained stable or inconsistent (i.e., unclear) over time. A third approach—and the one we employ here—focuses on *cognitive clarity*, which, broadly speaking, refers to the clarity of the *ideas* discussed. All three approaches have their merits (and in many respects are similar), but for purposes of this article we examine the cognitive component to decisions. That is, we focus on the clarity of the ideas in the Court's opinion.

Our argument is that as opinions become more cognitively complex, they become less clear. To support our supposition, we first explain how scholars analyze cognitive complexity, and then discuss how it applies to our study. We are aided in this endeavor by psychology software that targets and measures cognitive complexity by identifying certain words known to be associated with cognitive processes.

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 associated with an issue. In other words, differentiation indicates whether an individual perceives and explains events in black and white or sees the world in shades of gray. Integration, on the other hand, represents the degree to which a person recognizes relationships and connections among

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[11] For an interesting example of rhetorical clarity, the reader might look to Law and Zaring (2010).

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 unidimensional cognitive complexity score that 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, & 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, & Gallant 1985: 1238).[12] 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 interpret the law with more complexity than do justices overturning precedent.[13] Simply put, the notion of cognitive complexity is a reasonable tool, we believe, to employ in order to estimate opinion clarity.

To measure the cognitive complexity of each opinion we employed Linguistic Inquiry and Word Count (LIWC), a content-analysis program. LIWC is a textual-analysis software package that examines the words people use. It analyzes "attentional focus, emotionality, social relationships, thinking styles," and other features of language that combine to measure cognitive complexity (Tausczik & Pennebaker 2010: 24).[14] LIWC employs a word-count strategy that searches whatever text is under review for over 2,300 words

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[12] 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.

[13] Scholars have employed similar measures elsewhere. Tetlock (1981a) and Tetlock (1984) examine legislators, while others analyze presidents and revolutionary leaders (Suedfeld & Rank 1976; Tetlock 1981b). Pennebaker and Lay (2002) analyze 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 (2005) examined the words that John Kerry, John Edwards, and Al Gore used during the 2004 presidential campaign.

[14] LIWC can be found at http://www.liwc.net.

(or word stems) using specific dictionaries.[15] 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 & Pennebaker 2010: 19). The program then tallies up the 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.[16]

We employ 10 LIWC indicators that are directly connected with cognitive complexity: *causation, insight, discrepancy, inhibition, tentativeness, certainty, inclusiveness, exclusiveness, negations*, and *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 standardized and collapsed these 10 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.

As an aside, one may wonder whether we are in fact measuring rhetorical complexity rather than cognitive complexity by examining the words justices employ in their opinions. Certainly, because we examine words, and words are part of rhetoric, the two strands of complexity are intertwined to a degree. Yet, the scholarship that employs LIWC argues strongly that it measures the underlying complexity of the ideas in the writing writer rather than the clarity of the writer's language per se. For example, Tausczik and Pennebaker (2010) argue that examining language, as LIWC does, "provides important clues as to how people process . . . information and interpret it to make sense of their environment" (19). Additionally, scholarship has shown that LIWC can examine "how individuals are expressing themselves rather than what they are saying" (Pennebaker & Lay 2002: 273).

More specifically, linguistic patterns—while certainly tied to rhetoric—have been shown to be associated with interesting cogni-

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[15] The internal and external validity of LIWC has been established in a series of publications (see, e.g., Pennebaker & King 1999; Tausczik & Pennebaker 2010).

[16] By using percentages rather than raw frequencies of words as the output measure, LIWC standardizes opinions of different lengths to make them comparable.

tive or psychological phenomena. For example, pronoun use has been found to be associated with depression and suicide (Stirman & Pennebaker 2001). Honest people often are more likely to use the first-person singular than dishonest people are (Newman et al. 2003). The use of emotion words can signal a person's mood even when he is not discussing his own emotions (Pennebaker et al. 1997). And the use of causal statements can predict moods and behavior (Zullow et al. 1988). In sum, while words are part of rhetoric, words themselves also can inform us of deeper cognitive issues. And the LIWC software we employ is specifically dedicated to examining those deeper issues, rather than simply rhetorical issues or linguistic style.

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 employs 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 fails 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 demands 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) receives a complexity score of 5.53, which indicates a very complex opinion, while Scalia's concurrence (a rule) scores 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 rejects as unworkable the "traditional governmental function" standard adopted in *National League of Cities v. Usery*, 426 U.S. 833 (1976). *Garcia* receives 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, is 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 holds 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.[17] 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.[18]

Our variables are largely self-explanatory. Our dependent variable is the cognitive complexity score of each opinion. *Majority Coalition Size*, the first of our independent variables, 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 Court struck down a law as unconstitutional or overturned one of its precedents by referring to Spaeth (2008b). We also employed Spaeth (2008b) to measure the issue area of the case and to determine whether it involved *Multiple Legal Provisions*. We determined whether a justice was a *Freshman* by following the standard in the literature (Maltzman, Spriggs, & Wahlbeck 2000) and treating the justice as a freshman if she had served less than two full terms when the opinion came down. To measure *Political Salience*, we examined whether the case received front-page treatment in the *New York Times* (Baird 2004; Collins 2008; Epstein & Segal 2000). To measure *Justice Ideology*, we employed Martin-Quinn scores (Martin & Quinn 2002).

Results

Before proceeding to our multivariate model, we begin by inspecting the descriptive data. 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.

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[17] We selected our cases from the United States Supreme Court Database (Spaeth 2008b). Our "Decision Type" equals 1 or 7 while the Spaeth unit of analysis equals 0.

[18] There are five opinion types in the data set: (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 percent (N = 331/5,799) 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.

Finally, we examine the descriptive data on whether dissenters or majority opinion writers composed clearer opinions.

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 mean level of 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 authors the most complex opinions, while Justices Scalia and Breyer write the clearest.

Justices' mean levels of legal clarity in majority opinions, 1983–2007
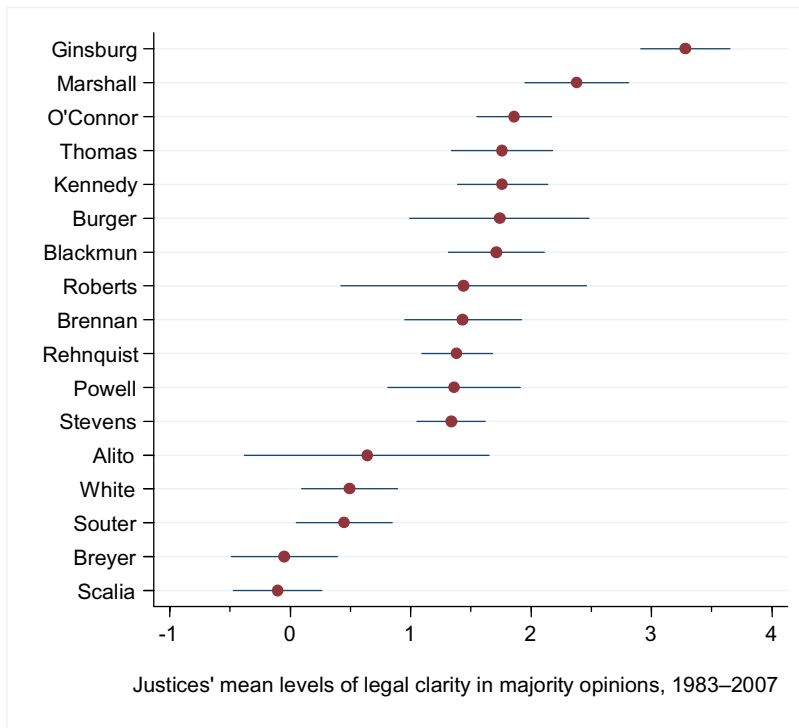
Figure 1. Justices' mean levels of opinion complexity in majority opinions, 1983–2007. Opinions on the left are less complex and, thus, more clear, while opinions on the right are more complex and less clear. Horizontal line segments denote 95% confidence intervals around the point estimate (the dots).
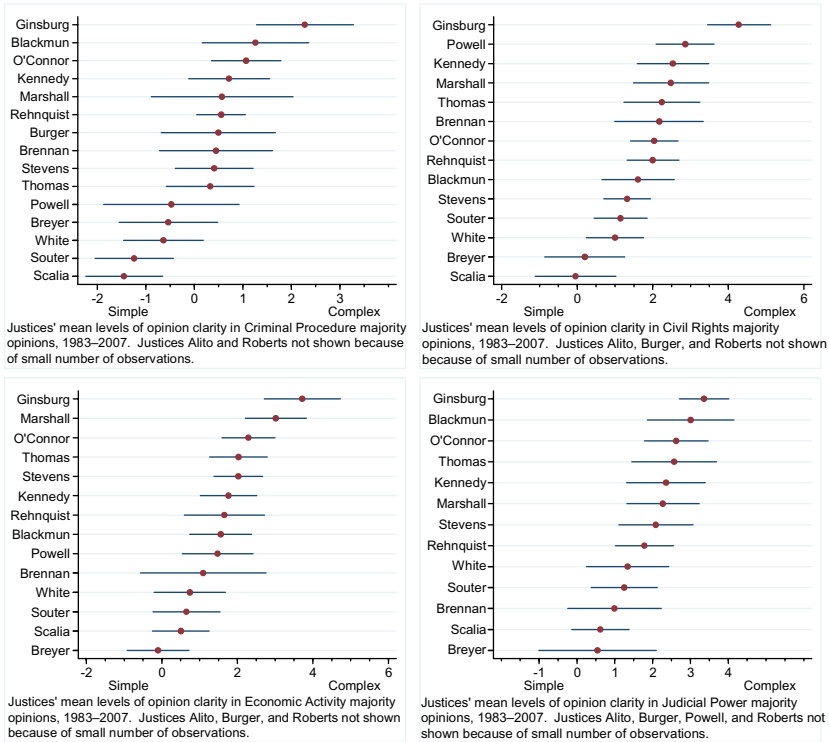
On the one hand, these results are somewhat startling. Justice Ginsburg, not commonly known for writing unclear opinions, consistently ranks as the most complex opinion writer. Yet, among all the justices in our sample, Justice Ginsburg's opinions are, by a significant margin, the most complex. Indeed, her average complexity score of 3.28 is over twice that of the mean justice (Brennan = 1.43), and roughly four times greater than those of Justices Scalia and Breyer. Although Justice 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, Justice 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 of 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 (Anders 1992; Faigman 1992). As one writer complains, "[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. . . . [B]y [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 2001: 32). On the other hand, Justice Scalia is most consistently associated with rules (Anders 1992), a position he favors precisely because of rules' purported clarity.

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 finds no correlation between opinion complexity and ideology.

Opinion Clarity by Issue Area

Just as interesting are the patterns that emerge from Figure 2, which shows the clarity of each justice's majority opinions across

Justices' mean levels of opinion clarity in Criminal Procedure majority opinions, 1983–2007. Justices Alito and Roberts not shown because of small number of observations.

Justices' mean levels of opinion clarity in Civil Rights majority opinions, 1983–2007. Justices Alito, Burger, and Roberts not shown because of small number of observations.

Justices' mean levels of opinion clarity in Economic Activity majority opinions, 1983–2007. Justices Alito, Burger, and Roberts not shown because of small number of observations.

Justices' mean levels of opinion clarity in Judicial Power majority opinions, 1983–2007. Justices Alito, Burger, Powell, and Roberts not shown because of small number of observations.

Figure 2. Justices' mean levels 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.

issue areas.[19] Figure 2 shows that justices tend to write similar opinions across issue areas. Focusing on criminal procedure, we learn that Justices Scalia and Souter write the clearest majority opinions. Conversely, Justice Ginsburg pens 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 write with a surprisingly similar degree of clarity: close to 0.5. Among civil rights cases, Justices Ginsburg and Scalia again anchor the tails of complexity, with

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

Ginsburg writing complex opinions and both Scalia and Breyer writing clearer, less complex opinions. Strangely, while Blackmun and O'Connor are among the most complex writers in criminal procedure cases, they are 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.

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 occur when she writes majority opinions in criminal procedure cases. The same holds true for justices anchoring the other extremes as well. Indeed, across our sample, justices' complexity scores in criminal procedure cases nearly always pale 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 the dissent. Figure 3 examines 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 correct, but it requires one important caveat; *every* justice in our sample authors clearer dissents than majority opinions. All justices in recent history present 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 a large contrast between his majority opinions and dissents. When he authors a majority opinion, Scalia's complexity score is −0.099 [−0.464, 0.267].[20] 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 that of 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.

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[20] The numbers in brackets are the 95 percent confidence intervals.
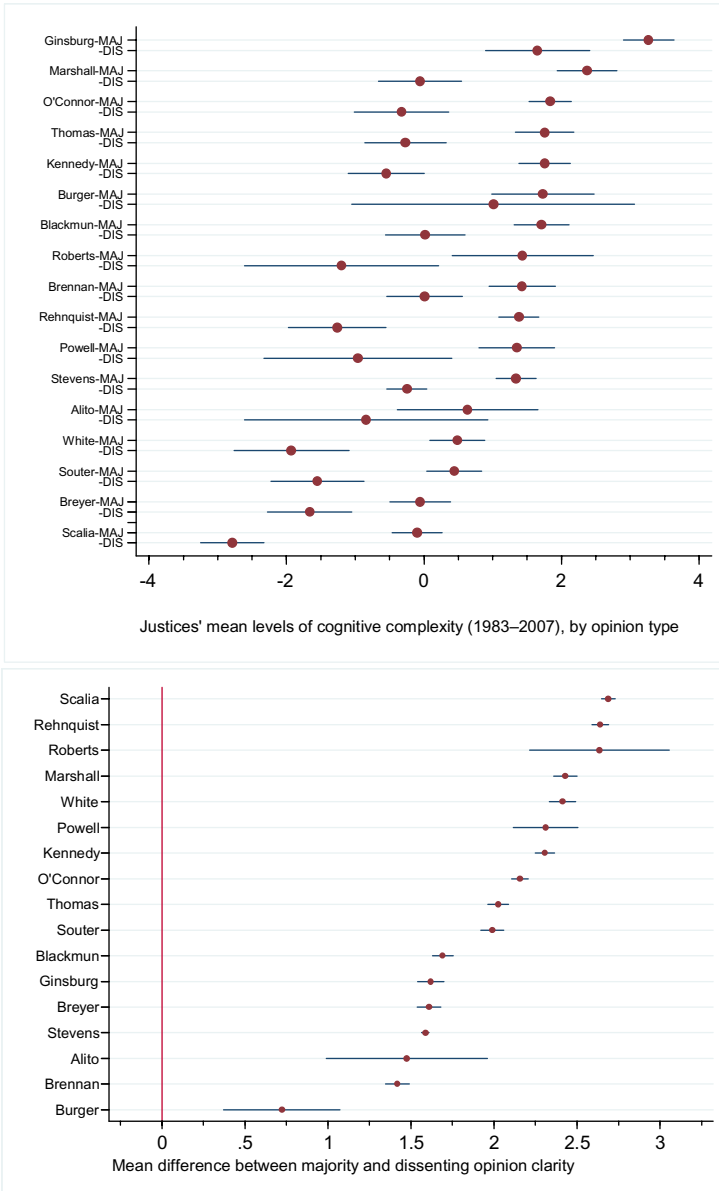
Figure 3. Top half of the figure shows mean level of opinion complexity, by opinion type. Opinions on the left are less complex and, thus, more clear, while opinions on the right are more complex and less clear. Horizontal line segments denote 95% confidence intervals around the point estimate (the dots). (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.
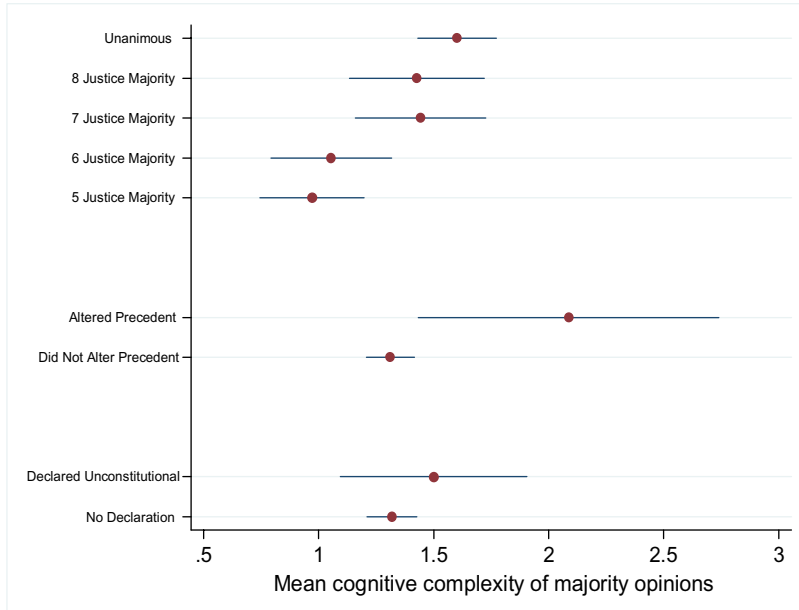
Figure 4. Mean opinion complexity scores per coalition size, the alteration of precedent, and exercise of judicial review, 1983–2007. Opinions on the left are less complex and, thus, more clear, while opinions on the right are more complex and less clear. Horizontal line segments denote 95% confidence intervals around the point estimate (the dots).

Nevertheless, among the justices with the lowest differences are Justices Burger, Brennan, Alito, and Stevens, none of whom are commonly considered centrists.[21]

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 eight or seven

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[21] Perhaps position as a median affects this, as median justices are less likely to be in dissent. Even here, however, the justices who were most often the median on the Court during our sample still showed substantially different behavior when writing majority opinions and when 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.

justices. Majorities with five or six justices write the clearest opinions. Below that, we can see that 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.

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.

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.[22]

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 0.107 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 0.106 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.

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[22] 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).

**Table 1.** Ordinary Least Squares Estimates of Opinion Clarity

	(1) Majority	(2) Dissents	(3) Concurrences
Majority coalition size	0.107* (0.035)	−0.106* (0.036)	−0.088 (0.089)
Freshman period on court	−0.177 (0.250)	−0.938* (0.345)	−1.973* (0.407)
Multiple legal provisions	0.085 (0.170)	0.373 (0.256)	0.847* (0.355)
Political salience	0.054 (0.168)	0.203 (0.139)	−0.134 (0.291)
Declared unconstitutional	0.005 (0.286)	0.456* (0.185)	−0.222 (0.588)
Altered precedent	0.924* (0.442)	1.027* (0.201)	1.200* (0.522)
Ideology	−0.059 (0.087)	0.162* (0.069)	−0.185 (0.343)
Criminal procedure case	−1.247* (0.133)	−0.743* (0.159)	−1.214* (0.318)
Civil rights case	0.226 (0.118)	0.179 (0.260)	−0.222 (0.442)
Economics case	0.086 (0.142)	0.232 (0.194)	−0.046 (0.694)
Judicial power case	0.308 (0.168)	0.114 (0.316)	−0.223 (0.592)
Alito	−0.292 (0.286)	−0.465 (0.367)	−1.005 (1.208)
Blackmun	0.459* (0.072)	0.120* (0.056)	−0.146 (0.247)
Brennan	0.093 (0.152)	0.641* (0.109)	0.014 (0.527)
Breyer	−1.252* (0.059)	−1.450* (0.077)	1.136* (0.224)
Burger	0.868* (0.294)	0.358 (0.317)	1.118 (1.246)
Ginsburg	1.974* (0.060)	2.017* (0.089)	2.587* (0.254)
Kennedy	0.751* (0.205)	−0.711* (0.206)	0.366 (0.915)
Marshall	0.739* (0.207)	0.781* (0.161)	0.019 (0.885)
O'Connor	0.814* (0.233)	−0.704* (0.191)	0.700 (0.910)
Powell	0.278 (0.212)	−1.264* (0.173)	2.269* (0.840)
Rehnquist	0.568 (0.338)	−1.899* (0.323)	−0.158 (1.442)
Roberts	0.474 (0.303)	−0.862* (0.399)	2.015 (1.320)
Scalia	−1.090* (0.369)	−3.214* (0.339)	−1.467 (1.472)
Souter	−0.827* (0.087)	−1.537* (0.080)	1.243* (0.293)
Thomas	0.833 (0.480)	−0.917* (0.399)	2.282 (1.948)
White	−0.535* (0.220)	−2.266* (0.192)	−2.881* (0.919)
Constant	0.551 (0.266)	0.648* (0.293)	−0.376 (0.747)
N	2,268	1,999	1,386
R^2	0.176	0.108	0.107

NOTE: Robust standard errors in parentheses. *$p < 0.05$. Justice Stevens is baseline justice. All other issues are baseline issue.

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, on the other hand, observes a complexity score of 1.53. The magnitude for dissents is approximately the same.[23]

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

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[23] We also examined whether the ideological dispersion of the majority coalition (measured as the standard deviation of the ideology among majority-opinion coalition justices and among majority-vote justices) influences the complexity of the opinion. Neither variable was statistically significant.
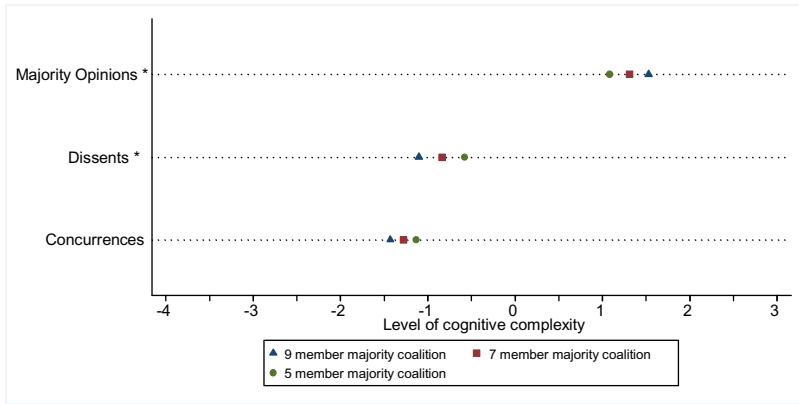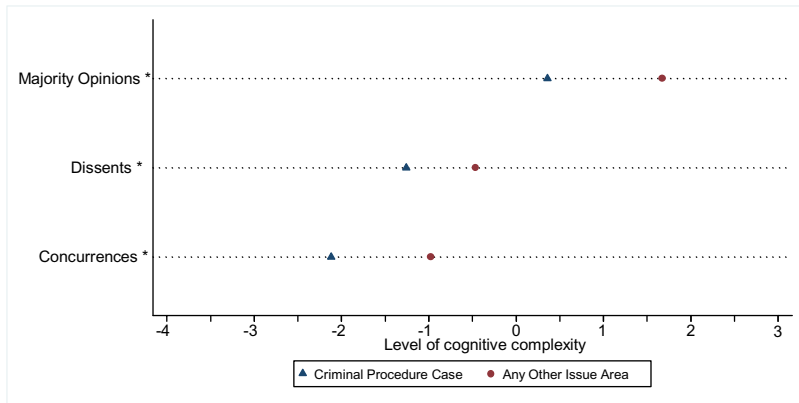
Figure 5. Mean opinion complexity scores per majority coalition size. All other variables set to their means. * denotes a statistically significant result. Opinions on the left are less complex and, thus, more clear, while opinions on the right are more complex and less clear. The unanimous coalitions include 37 opinions where a justice concurred in part and dissented in part but still recorded at least a partial vote with the majority.
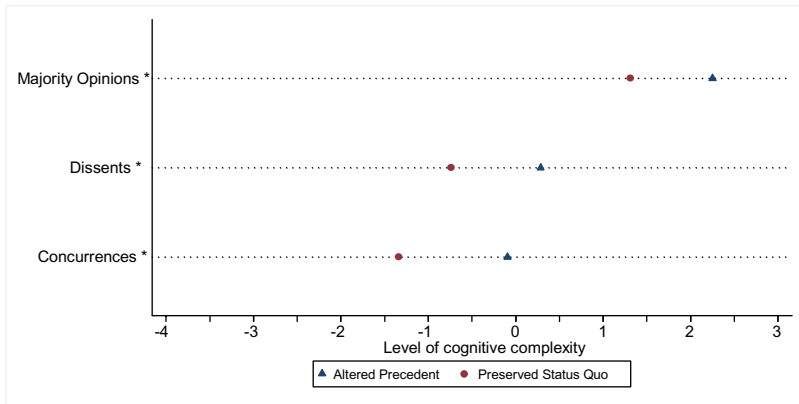
Figure 6. Mean opinion complexity for opinions formally altering precedent. All other variables set to their means. * denotes a statistically significant result. Opinions on the left are less complex and, thus, more clear, while opinions on the right are more complex and less clear.

of all opinions increases by about one unit. Majority opinions increase in complexity by 0.924 units, dissenting opinions increase in complexity by 1.027 units, and concurring opinions increase in complexity by 1.200 units. Simply put, when the Court reverses itself, its requirement to justify its behavior leads to less clear opinions. In other words, the law not only becomes slightly less clear

Figure 7. Mean opinion complexity for opinions in criminal procedure cases. 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.

because the Court has turned its back on its previous decision, *but also becomes less clear as a result of the opinion itself*.

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 1.090 units less complex (more clear) than an opinion written by Justice Stevens, the baseline justice. If Breyer writes the opinion, it will be 1.252 units less complex. Conversely, if Justice Ginsburg authors the opinion, one can expect the opinion to be roughly two units more complex than it would be if written by Justice Stevens.

Similarly, we continue to observe that criminal procedure opinions are clearer than those regarding 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.

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 do. On the other hand, we do observe freshmen justices writing clearer dissents and concurrence opin-

ions. 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.[24] 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 for majority and concurring opinions. Neither conservatives nor liberals were systematically more likely to write clear or complex majority or concurring opinions.

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 to 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, & 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's being more consequential, we can only speculate. Still, the results fall in line with what one might expect.

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[24] As an alternative way of measuring the "difficulty" of a case, we examined the number of opinions written in it. We wondered whether, when justices write more separate opinions, the case raises a more complicated legal issue to which the majority opinion must respond. We refit the model including this variable. Its coefficient was not statistically significant.

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. Lower courts are not only less certain how to apply the new overruling precedent, but also 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 their opinions? If so, and clerks write less clear opinions on average than justices do, 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 & Armstrong 1979) and survey evidence (Ward & Weiden 2006) to suggest that some justices rely on their clerks more than others, statistical evidence is more difficult to come by. Wahlbeck et al. (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, Sulam (2010) employs computational linguistics to detect whether clerks systematically author Supreme Court opinions. That is, he examines whether 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 evidence systematic deviations from a justice's general style. What is more, the only justices whose opinions reflect a noticeable reliance on their clerks were Justices Marshall, White, Rehnquist, and Thomas, none of whom rank consistently near the top of our complexity scale.[25] In short, the alternative explanation—that our complexity

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[25] If clerks write opinions in the same voice or style as their justices, this still would support our approach.

scores are simply a function of clerk opinion writing—does not stack up.

To be sure, we are under no illusions that United States Supreme Court justices represent all judges on high courts, or that the Court reflects all high courts. In fact, examining judges on other courts, such as state supreme courts, could shed further light on how variation in institutional features (e.g., selection mechanisms) and local norms (e.g., norms of writing dissents or concurrences) might influence the clarity of legal opinions. Additionally, opinion clarity may also be partly a function of where a particular court is located within the judicial hierarchy and the goals of the court—whether it is trying to establish facts (trial courts), to correct errors (intermediate appellate courts), or to fashion legal rules or standards (supreme courts). To understand fully the importance of opinion clarity throughout the judicial hierarchy, more research is needed. Thus, we believe it is vital that future scholarship explore opinion clarity in other courts.

Our results provide an initial attempt to explain opinion clarity. Nevertheless, more work must be done to examine opinion content. While we have intentionally avoided the normative implications of our findings—are some justices "better" justices?—they are certainly worth pursuing in other studies. A host of additional implications emerge as well: Should presidents seek to place certain kinds of writers on the Court? Will the political orientation of sitting justices make certain types of writers more effective at coalition building? More broadly, do justices write different types of opinions when addressing different audiences or in different political contexts? Do they write clearer opinions when they expect that lower courts are less likely to enforce their decisions genuinely? These and other questions must soon be addressed if we take seriously the need to examine Supreme Court opinion content.

Appendix

LIWC Classifications

In the manuscript, we identify a host of measures employed by LIWC to estimate cognitive complexity. We employed 10 such measures in this article. In what follows, we explain each of these measures.

LIWC measures the *causation* dimension by searching for words like *because*, *effect*, and *hence*, which refer to causal processes. This dimension taps into the degree to which an individual sees relationships among 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 greater cognitive complexity. LIWC measures the *insight* dimension by searching for words such as *think*, *know*, and *consider*. This dimension captures the degree to which individuals differ in how much each 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, 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 her actions are hindered. Increased amounts of inhibition in speech are associated with higher levels of cognitive complexity. The *tentativeness* dimension counts words like *maybe*, *fairly*, and *perhaps* and measures the level of tentativeness that 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 are associated with higher levels of cognitive complexity. The *certainty* dimension counts words like *always*, *absolutely*, and *clearly*, and it is theorized to measure how confident one is about something. Generally, increased amounts of certainty in speech are 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 relationships among ideas and concepts. Increased amounts of inclusiveness in speech are 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 does or does not belong in a category. Increased amounts of exclusiveness in speech are associated with lower levels of cognitive complexity. The *negations* dimension examines words like *no* and *never*, and is theorized to measure to what extent an individual acknowledges the absence or opposite of something that is positive or affirmative. Increased amounts of negation in speech are 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 measure of a person's linguistic 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 the mean and dividing by the standard deviation indicated by a *Z* in the following formula: Cognitive complexity = *Zsixletter—Zcausation—Zinsight—Zdiscrepancy—Zinhibit—Ztentative—Zcertainty—Zinclusive—Zexclusive—Znegations*.

To assess whether all 10 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 provide us with confidence that all 10 indicators are part of the same underlying dimension that we theorize to be cognitive complexity.

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