

THE LANGUAGE OF THE ROBERTS COURT

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ABSTRACT

It is widely recognized that it is the language of the Supreme Court's opinion, not the outcome, that is legally most salient. Yet the language of opinions has seen little research. Linguistic analysis programs are now commonly used in other disciplines to compare language choices. We apply the leading program to evaluate Roberts Court opinions. We find significant differences, depending on whether the opinion is for the majority or separate, revealing the significance of compromise at the Court. In addition, we find some differences in language content, depending upon who authored the opinion.

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INTRODUCTION

Linguistic analysis was notably used during World War II as the United States analyzed the content of German newspapers for assessment of the impact of the war on that nation.¹ The practice is now widely used in academic research. Political scientists and others have used the technique extensively to analyze the speech of candidates.² Business researchers have found the technique a reliable predictor of corporate reputation³ and the effect of press releases on markets.⁴ Sociologists have used the tool to study marriages⁵ and the formation of relationships.⁶ The technique has been used very extensively in psychology.⁷ Such computerized text analysis has been growing across fields of research to analyze the significance of choice of words.⁸ It is time for the law to take greater advantage of the resource as well.

1. Mary C. Lacity & Marius A. Janson, *Understanding Qualitative Data: A Framework of Text Analysis Methods*, 11 J. MGMT. INFO. SYSTEMS 137, 143 (1994).

2. See, e.g., Richard B. Slatcher et al., *Winning Words: Individual Differences in Linguistic Style Among U.S. Presidential and Vice Presidential Candidates*, 41 J. RES. PERSONALITY 63 (2007) (analyzing language of debates press conferences and interviews of 2004 candidates and finding material differences).

3. John Geppert & Janice E. Lawrence, *Predicting Firm Reputation Through Content Analysis of Shareholders' Letter*, 11 CORP. REPUTATION REV. 285 (2008).

4. Elaine Henry, *Market Reaction to Verbal Components of Earnings Press Releases: Event Study Using a Predictive Algorithm*, 3 J. EMERGING TECHNOLOGIES ACCT. 1 (2006); Elaine Henry, *Are Investors Influenced by How Earnings Press Releases Are Written?*, 45 J. BUS. COMM. 363 (2008).

5. Rachel A. Simmons, Peter C. Gordon & Dianne L. Chambless, *Pronouns in Marital Interaction: What Do "You" and "I" Say About Marital Health?*, 16 PSYCHOL. SCI. 932 (2005).

6. Molly E. Ireland et al., *Language Style Matching Predicts Relationship Initiation and Stability*, 22 PSYCHOL. SCI. 39, 39 (2011).

7. See, e.g., Richard Clément, *Social Psychology and Intergroup Communication*, 15 J. LANGUAGE & SOC. PSYCHOL. 222, 222 (1996); Simone Freitag, Anna Grimm & Silke Schmidt, *Talking About Traumatic Events: A Cross-Cultural Investigation*, 7 EUROPE'S J. PSYCHOL. 40, 40-41 (2011); Thomas Holtgraves, *Social Psychology and Language: Words, Utterances, and Conversations*, in HANDBOOK OF SOCIAL PSYCHOLOGY 1386, 1386 (Susan T. Fiske, Daniel T. Gilbert & Gardner Lindzey eds., 5th ed. 2010); James W. Pennebaker, Tracy J. Mayne & Martha E. Francis, *Linguistic Predictors of Adaptive Bereavement*, 72 J. PERSONALITY & SOC. PSYCHOL. 863, 863 (1997).

8. See Shuki J. Cohen, *Construction and Preliminary Validation of a Dictionary for Cognitive Rigidity: Linguistic Markers of Overconfidence and Overgeneralization and Their Concomitant Psychological Distress*, 41 J.

This Article embarks upon such a linguistic analysis of opinions rendered in the Roberts Court era. We consider the different languages used in different types of opinions: majority, concurrence, or dissent. We also use our content analysis to evaluate differences in language depending upon who authored the opinion.

I. THE SIGNIFICANCE OF OPINIONS

Judicial decisions have seen considerable research from social scientists. However, this research generally considers only the case outcome. The typical pattern of such research is to determine whether the outcome of the case is liberal or conservative and then try to ascertain what factors are associated with the outcome.⁹ In this process, all liberal or conservative opinions are treated as equals. There is now considerable evidence of the significance of ideology on judicial decisions, but there is little evidence of how ideology influences the characteristics of opinions and the governing doctrine that they create. Yet the content of the opinion “is significantly more important, particularly in the long run, than the ruling between the parties in the case.”¹⁰ Pioneers in the study of ideological decision making have recognized that it is not the decision but the opinion of the Court that “is the core of the policy-making power.”¹¹

More recent and sophisticated research has addressed the content of opinions in their use of citations or the length of Supreme

PSYCHOLINGUISTIC RES. 347, 350-51 (2012) (discussing such increased usage and citing numerous articles using the analysis).

9. The classical research in this regard is JEFFREY A. SEGAL & HAROLD J. SPAETH, *THE SUPREME COURT AND THE ATTITUDINAL MODEL* (1993). The work was extremely popular and has been updated. JEFFREY A. SEGAL & HAROLD J. SPAETH, *THE SUPREME COURT AND THE ATTITUDINAL MODEL REVISITED* (2002) [hereinafter SEGAL & SPAETH REVISITED]. The authors predicted three-fourths of justices vote based only on ideology. Evidence of the significance of ideology on judicial decisions “has accumulated steadily over the years.” Stefanie A. Lindquist & David E. Klein, *The Influence of Jurisprudential Considerations on Supreme Court Decisionmaking: A Study of Conflict Cases*, 40 *LAW & SOC’Y REV.* 135, 136 (2006).

10. YONATAN LUPU & JAMES H. FOWLER, *THE STRATEGIC CONTENT MODEL OF SUPREME COURT OPINION WRITING* 4 (2010), available at http://jhfowler.ucsd.edu/strategic_content_model.pdf. “[A] judge may sometimes be willing to reach a less-preferred result in a particular case . . . in order to establish or entrench a doctrine or principle that the judge favors or to modify one that the judge dislikes.” Matthew C. Stephenson, *Legal Realism for Economists*, 23 *J. ECON. PERSP.* 191, 206 (2009).

11. DAVID W. ROHDE & HAROLD J. SPAETH, *SUPREME COURT DECISION MAKING* 172 (1976).

Court opinions.¹² The pattern of Supreme Court citations has been studied by examining whether their treatment was positive or negative.¹³ Hansford and Spriggs found feedback loops to citation practice.¹⁴ Once a case was cited more often with a positive treatment, it gained what the authors called vitality, which caused it to be cited still more frequently in future cases.¹⁵ Citations were conditioned somewhat on the ideological preferences of the justices, but their legal vitality also mattered. Network analysis has also been used to study the pattern of citations.

Despite these advances, the actual language of opinions has been little examined. Citations are clearly significant to the law, but they can often be readily manipulated.¹⁶ Ultimately, it is the language of the Court that is used as a precedent for future decisions. “Thus, the words used . . . by the Court [] are important to understand.”¹⁷ This language may be quoted directly as the key to resolving a future decision.

Legal researchers, by contrast, closely scrutinize details of judicial opinions. However, their analyses typically dwell on intricate details of particular cases, with little generalization of the meaning of opinion language. Nor do these legal studies use more

12. The study of citations was emphasized in William M. Landes & Richard A. Posner, *Legal Precedent: A Theoretical and Empirical Analysis*, 19 J.L. & ECON. 249, 275 (1976). Various subsequent studies examined the pattern of case citation on the Court. See, e.g., Frank B. Cross et al., *Citations in the U.S. Supreme Court: An Empirical Study of Their Use and Significance*, 2010 U. ILL. L. REV. 489, 539 (2010) (assessing the factors associated with case citation); Paul J. Wahlbeck, *The Life of the Law: Judicial Politics and Legal Change*, 59 J. POL. 778 (1997) (finding citations to be influenced by both politics and law). For a study on the length of Supreme Court opinions, see Ryan C. Black & James F. Spriggs II, *An Empirical Analysis of the Length of U.S. Supreme Court Opinions*, 45 HOUS. L. REV. 621 (2008).

13. THOMAS G. HANSFORD & JAMES F. SPRIGGS II, THE POLITICS OF PRECEDENT ON THE U.S. SUPREME COURT 2 (2006).

14. See *id.* at 24-25.

15. *Id.* at 24.

16. Rather than displaying the significance of a precedent for a decision, the citation of a precedent may merely be a post hoc rationalization. Citations may be merely “a mask hiding other considerations.” Henry Paul Monaghan, *Stare Decisis and Constitutional Adjudication*, 88 COLUM. L. REV. 723, 743 (1988). Judge Wald observed that justices may ignore the precedents they disfavor and “follow those precedents which they like best.” Patricia M. Wald, *Changing Course: The Use of Precedent in the District of Columbia Circuit*, 34 CLEV. ST. L. REV. 477, 481 (1986).

17. PAMELA C. CORLEY, CONCURRING OPINION WRITING ON THE U.S. SUPREME COURT 3 (2010).

rigorous, statistical methods in order to find true associations. In general, the content of opinions has been “woefully understudied.”¹⁸

Yet legal opinions and their language lie at the heart of what the law is. A conservative opinion may contain liberal precedential language, or vice versa, so outcome coding may be misleading.¹⁹ An opinion, regardless of its ideology, may contain strong language of great precedential effect or limiting language, confining the case largely to its facts.²⁰ The influence of an opinion, on society and future courts, is largely determined by its language because that is what an opinion is. The political scientists’ focus on outcomes has been said to stunt “the growth of empirical legal inquiry.”²¹

An opinion may create a flexible standard for resolution of future cases or a bright line rule.²² It may create an exception to an existing bright line rule. An opinion may call for a higher or lower

18. Emerson H. Tiller & Frank B. Cross, *What is Legal Doctrine?*, 100 Nw. U. L. REV. 517, 517 (2006); see also Harry T. Edwards & Michael A. Livermore, *Pitfalls of Empirical Studies That Attempt to Understand the Factors Affecting Appellate Decisionmaking*, 58 DUKE L.J. 1895, 1908-09 (2009) (noting that separate opinions reaching the same outcome may be very different in expressing the law in their text); Barry Friedman, *Taking Law Seriously*, 4 PERSP. POL. 261, 266 (2006) (considering decisions on affirmative action and concluding that “looking to outcomes rather than opinions leads to the wrong conclusion of what the court ‘did’”); Edward Rubin & Malcolm Feeley, *Creating Legal Doctrine*, 69 S. CAL. L. REV. 1989, 1990 (1996) (urging the need for a theory of how opinions create governing doctrine).

19. See Frank B. Cross, *The Ideology of Supreme Court Opinions and Citations*, 97 IOWA L. REV. 693, 696 (2012) (showing how opinions that were categorized as liberal or conservative were quite different in the ideological impact, as cited in future opinions).

20. *Bush v. Gore*, for example, was resolved with an opinion in which the Court tried to suggest that it was a single-ticket decision “good for this day and train only.” Mark Tushnet, *Renormalizing Bush v. Gore: An Anticipatory Intellectual History*, 90 GEO. L.J. 113, 123 (2001).

21. Daniel E. Ho & Kevin M. Quinn, *How Not to Lie with Judicial Votes: Misconceptions, Measurement, and Models*, 98 CALIF. L. REV. 813, 862 (2010); see also Jack Knight, *Are Empiricists Asking the Right Questions About Judicial Decisionmaking?*, 58 DUKE L.J. 1531, 1533 (2009) (stressing the need to study “aspects of the opinions accompanying the votes”). “The influence of a precedent . . . depends on the language of the opinion.” Cross, *supra* note 19, at 738.

22. The differences between legal rules and standards have been analyzed in depth. See, e.g., FREDERICK SCHAUER, *PLAYING BY THE RULES: A PHILOSOPHICAL EXAMINATION OF RULE-BASED DECISION-MAKING IN LAW AND IN LIFE* (1991); Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557 (1992); Dale A. Nance, *Rules, Standards, and the Internal Point of View*, 75 FORDHAM L. REV. 1287, 1295-96 (2006); Kathleen M. Sullivan, *The Justices of Rules and Standards*, 106 HARV. L. REV. 22 (1992).

level of scrutiny in different types of cases. Opinions may be broad-based or “minimalist” in nature.²³ At the Supreme Court level, such differences may be exceedingly important because the Court’s position will control all future lower court opinions in like cases.

The “construction” of an opinion is said to be “the core of appellate judging.”²⁴ “[W]hat judges say is even more important than how they vote.”²⁵ A case’s legal reasoning “can have more far-reaching consequences [than the outcome] by altering the existing state of legal policy and thus helping to structure the outcomes of future disputes.”²⁶ Richard Posner contends that “precedent projects a judge’s influence more effectively than a decision” itself.²⁷ Even the leading researchers on ideological voting have conceded that it is the content of the opinion that “constitutes the core of the Court’s policy-making process.”²⁸ Consequently, it is important to examine the language of Supreme Court decisions and not just the ideological direction of their results.

Some opinions will be more powerfully written and influential. Walter Murphy maintains that a judge’s ability “to reason with taut logic” and “to use persuasive rhetoric” would make other judges more willing to accept the opinion’s conclusions.²⁹ Surely the quality of reasoning is a relevant factor in a Supreme Court opinion’s power. Other rhetorical features may also be significant.

Erwin Chemerinsky suggests that existing research has overlooked “a crucial aspect of Supreme Court decisions: their rhetoric.”³⁰ Considering this rhetoric “can help us to understand and

23. See, e.g., CASS R. SUNSTEIN, *ONE CASE AT A TIME: JUDICIAL MINIMALISM ON THE SUPREME COURT* (First Harvard Univ. Press paperback ed., 2001) (setting out the theory and support for a minimalist approach to Supreme Court decision making).

24. FRANK M. COFFIN, *ON APPEAL: COURTS, LAWYERING, AND JUDGING* 171 (1994).

25. MARTIN SHAPIRO & ALEC STONE SWEET, *ON LAW, POLITICS, AND JUDICIALIZATION* 98 (2002).

26. HANSFORD & SPRIGGS, *supra* note 13, at 2-3.

27. RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 541 (4th ed. 1992).

28. SEGAL & SPAETH REVISITED, *supra* note 9, at 357.

29. WALTER F. MURPHY, *ELEMENTS OF JUDICIAL STRATEGY* 98 (1964); see also Walter V. Schaefer, *Precedent and Policy*, 34 U. CHI. L. REV. 3, 10-11 (1966) (suggesting that “an opinion which does not within its own confines exhibit an awareness of relevant considerations, whose premises are concealed, or whose logic is faulty is not likely to enjoy either a long life or the capacity to generate offspring”).

30. Erwin Chemerinsky, *The Rhetoric of Constitutional Law*, 100 MICH. L. REV. 2008, 2008 (2002).

appraise the Supreme Court's work."³¹ His impression is that the Court has become "less eloquent and more sarcastic" than in the past.³² Eloquence is not readily amenable to measurement, though.

It is quite difficult to measure opinion language because of difficulties associated with quantifying measures of the law created.³³ Studies of particular, significant Supreme Court doctrines have shown that they have a significant influence on future decisions,³⁴ but this research is hard to generalize to the full corpus of the Court's rulings.

The proper style of a judicial opinion has been debated. There is a handbook to guide judges in how to best draft opinions.³⁵ It emphasizes that word choice is especially important "to the judicial writer."³⁶ Certain styles are to be avoided in the judicial opinion, such as anger and provocation.³⁷ Some of these attributes may be measured, as we demonstrate below, which permits an assessment of opinions and their authors.³⁸

While judges typically emphasize factors such as the use and analysis of precedent,³⁹ writing style itself can be important. William Domnarski suggests that judicial opinions are "a form of legal literature" to communicate from a court to society.⁴⁰ Judge Posner suggested the importance of "the specific written form in which a writer encodes an idea" as including "vocabulary and grammar but also the often tacit principles governing the length and complexity of sentences, the organization of sentences into larger units such as paragraphs, and the level of formality at which to pitch the

31. *Id.* at 2010.

32. *Id.* at 2021.

33. JOYCE J. GEORGE, *JUDICIAL OPINION WRITING HANDBOOK* (5th ed. 2007).

34. See Herbert M. Kritzer & Mark J. Richards, *The Influence of Law in the Supreme Court's Search-and-Seizure Jurisprudence*, 33 AM. POL. RES. 33, 35, 52 (2005); Mark J. Richards & Herbert M. Kritzer, *Jurisprudential Regimes in Supreme Court Decision Making*, 96 AM. POL. SCI. REV. 305, 315 (2002). These studies show that the creation of a particular legal rule can shape the outcome of future decisions.

35. GEORGE, *supra* note 33.

36. *Id.* at 405.

37. *Id.* at 449.

38. See *infra* Section II.B.

39. See *supra* text accompanying notes 26-27.

40. WILLIAM DOMNARSKI, *IN THE OPINION OF THE COURT 2* (1996); see also Walker Gibson, *Literary Minds and Judicial Style*, 36 N.Y.U. L. REV. 915, 930 (1961) (claiming that "[t]he problem of composing good judicial writing cannot finally be so very different from the problem of composing any kind of good writing").

writing.”⁴¹ Robert Lefflar has urged that literary style is central to the quality of opinions.⁴²

James Boyd White says that an opinion is essentially transmitting the message: “This is the right way to think and talk about this case, and others like it.”⁴³ As such, opinion language is vital to the functioning of precedent. Judge Aldisert has declared that opinions are “performative utterance[s]” that set out what the law should be.⁴⁴ He stresses that word choice may have “special [legal] significance.”⁴⁵

Although Supreme Court opinions commonly contain many words, each one may be significant and agonized over by the justices. Justice Scalia has characterized himself as a “nitpicker[]” and emphasized the need to use “a word precisely the way it should be used.”⁴⁶ The *Judicial Opinion Writing Handbook* observes that a judge “can make subtle distinctions between ideas by changing a single word.”⁴⁷

Moreover, the precise substantive content of opinion language is not all that is important. Judge Posner declared “that style is organic to judicial writing.”⁴⁸ A justice’s individual writing style “determines how effectively the substantive content of opinions is conveyed.”⁴⁹ Former Attorney General Griffin Bell stressed that “[t]he style of an opinion may affect the manner in which it is interpreted by the reader.”⁵⁰ Justice Cardozo declared that “[f]orm is

41. Richard A. Posner, *Judges’ Writing Styles (And Do They Matter?)*, 62 U. CHI. L. REV. 1421, 1422 (1995).

42. Robert A. Lefflar, *Some Observations Concerning Judicial Opinions*, 61 COLUM. L. REV. 810, 816 (1961).

43. James Boyd White, *What’s an Opinion for?*, 62 U. CHI. L. REV. 1363, 1366 (1995).

44. RUGGERO J. ALDISERT, *OPINION WRITING* 13 (2d ed. 2009) (internal quotation omitted). A performative utterance is wording that “is neither true nor false but its purpose is to make a part of the world conform to what is said.” CHARLES W. KREIDLER, *INTRODUCING ENGLISH SEMANTICS* 186 (1998).

45. ALDISERT, *supra* note 44, at 226.

46. Bryan A. Garner, *Interviews with United States Supreme Court Justices: Justice Antonin Scalia*, 13 SCRIBES J. LEGAL WRITING 51, 61 (2010).

47. GEORGE, *supra* note 33, at 405.

48. RICHARD A. POSNER, *LAW AND LITERATURE: A MISUNDERSTOOD RELATION* 298 (1988); *see also* DOMNARSKI, *supra* note 40, at 1 (considering “style in judicial opinions and argu[ing] that it matters”).

49. Lefflar, *supra* note 42, at 816.

50. Griffin B. Bell, *Style in Judicial Writing*, 15 J. PUB. L. 214, 214 (1966). He further declared that style was “an important factor in the growth of the law,” affecting how an opinion will be interpreted. *Id.*

not something added to substance as a mere protuberant adornment,” but that “[t]he two are fused into a unity.”⁵¹ Language does not simply describe reality; “reality *emerges* through language.”⁵² Language choices are therefore central to the content and significance of Supreme Court opinions.

A key function of style is to make an opinion more persuasive and ultimately more effective as a precedent. Judge Posner has emphasized this fact with an illustration, writing:

One judicial opinion might be better than another not because the argument was more persuasive but because by candidly disclosing the facts and authorities tugging against its result, by being tentative and concessive in tone, even by confessing doubt about the soundness of its result, it was a more credible, a more impressive judicial document⁵³

He further noted that some styles are “unlikely to hold much current interest,” while a more “vivid” and “memorable opinion . . . can be pulled out and made to exemplify law’s abiding concerns.”⁵⁴ “A good style . . . powerfully improves substance.”⁵⁵ A review of nineteenth-century opinions found “a connection between a Justice’s effective writing style and his contribution to constitutional jurisprudence.”⁵⁶ Thus, better written opinions are likely to be more powerful. The nature of this association is quite ambiguous, though, as there is no clear standard for a “better” opinion and no obvious way to test for opinion quality. Nevertheless, such study should be considered.

Despite the importance of opinions and their language, the matter has been little studied. One evaluation of circuit court opinions in administrative law examines the degree to which opinion language could affect the transmission and use of precedents.⁵⁷ The author theorized that intercircuit citations could be a guide to the

51. BENJAMIN N. CARDOZO, *LAW AND LITERATURE AND OTHER ESSAYS AND ADDRESSES* 5 (1931). Cardozo’s opinions reportedly “had ‘a liquid style that sparkles.’” Anon Y. Mous, *The Speech of Judges: A Dissenting Opinion*, 29 VA. L. REV. 625, 625 (1943).

52. Lacity & Janson, *supra* note 1, at 139.

53. RICHARD A. POSNER, *LAW AND LITERATURE* 256 (rev. & enlarged ed. 1998).

54. *Id.* at 257-58.

55. GEORGE, *supra* note 33, at 385.

56. DOMNARSKI, *supra* note 40, at 61.

57. Robert J. Hume, *The Impact of Judicial Opinion Language on the Transmission of Federal Circuit Court Precedents*, 43 LAW & SOC’Y REV. 127 (2009).

persuasiveness of opinion language.⁵⁸ The measures available for this study, though, were quite crude. The research considered some substantive legal variables, but the only true opinion characteristic examined was the number of block quotations used.⁵⁹ This variable was indeed a significant determinant of future citation.⁶⁰ The study showed the influence of this measure, but it was a very remote metric for opinion content. This study remains a lonely example of research into opinion content.

Measuring the meaning of judicial opinions is a daunting task. No one has yet created a tool for measuring something so simple as whether the opinion created a rule or a standard. There seem to be no theoretical tools for evaluating opinion content or quality expounded by legal scholars that could be readily operationalized for study. However, the linguistic analysis tools used in other disciplines can be brought to bear for judicial opinions. This is the purpose of this study; the following Part summarizes the value of such linguistic analysis.

II. LINGUISTIC ANALYSIS OF JUDICIAL OPINIONS

Legal scholars have argued for the application of linguistic analysis to legal opinions.⁶¹ Yet, surprisingly, little of this research has been done.⁶² While a number of legal articles have been published using a broad definition of content analysis, they have not approached the sophistication of research in other areas.⁶³ We begin to apply these more sophisticated techniques to opinion content.

58. *Id.* at 129.

59. *Id.* at 142.

60. *Id.* at 144.

61. See Mark A. Hall & Ronald F. Wright, *Systematic Content Analysis of Judicial Opinions*, 96 CALIF. L. REV. 63 (2008).

62. Fred Kort, *Predicting Supreme Court Decisions Mathematically: A Quantitative Analysis of the "Right to Counsel" Cases*, 51 AM. POL. SCI. REV. 1 (1957). Some rather informal and limited efforts have been made. One early article by a political scientist analyzed relatively few criminal cases to try to predict future case outcomes. *Id.*

63. See Hall & Wright, *supra* note 61, at 72-73. The authors' definition of content analysis is quite expansive, including coding of case facts. *Id.* This is a much broader scope than the linguistic analysis we discuss.

A. Judicial Linguistic Analysis Studies

Political scientists have recently begun the true linguistic content analysis of opinions. An early study considered the patterns of cognitive styles and voting of the justices of the Supreme Court.⁶⁴ The study evaluated opinions issued between 1946 and 1978.⁶⁵ The authors randomly sampled paragraphs from opinions and coded them for integrative complexity, using a subjective assessment.⁶⁶ Liberals during this period wrote more complex opinions in economic and civil liberties cases than did conservatives.⁶⁷ Conservatives preferred to reduce cases to “simple” issues, while liberals were more pluralistic and accommodating of conflicting concerns—deemed the preferable approach.⁶⁸

One article examines texts written before individuals were elevated to the Supreme Court as applied to the decisions they subsequently made.⁶⁹ They found that greater cognitive inconsistency (or perhaps flexibility) in the pre-appointment language of the justices was associated with greater ideological drift after appointment.⁷⁰ This research showed the value of linguistic analysis, but did not actually study opinions.

The same authors have conducted an additional study of opinions as well in which they sought to measure the clarity of opinions rendered between 1983 and 2007.⁷¹ They identified some justices as writing especially clear opinions (Scalia and Breyer)⁷² and found that dissents were always clearer than majority opinions.⁷³ The larger the majority coalition was, the more complex the resulting opinion.⁷⁴ They also found that a smaller majority produced clearer

64. Philip E. Tetlock, Jane Bernzweig & Jack L. Gallant, *Supreme Court Decision Making: Cognitive Style as a Predictor of Ideological Consistency of Voting*, 48 J. PERSONALITY & SOC. PSYCHOL. 1227 (1985).

65. *Id.* at 1229.

66. *Id.* at 1230-31.

67. *Id.* at 1233.

68. *Id.* at 1235-36.

69. Ryan J. Owens & Justin Wedeking, *Predicting Drift on Politically Insulated Institutions: A Study of Ideological Drift on the United States Supreme Court*, 74 J. POL. 487 (2012).

70. *Id.* at 495.

71. Ryan J. Owens & Justin P. Wedeking, *Justices and Legal Clarity: Analyzing the Complexity of U.S. Supreme Court Opinions*, 45 LAW & SOC'Y REV. 1027 (2011).

72. *Id.* at 1043.

73. *Id.* at 1046.

74. *Id.* at 1048.

opinions, while those that altered precedent were less clear.⁷⁵ Opinion complexity also varied by issue area, though the relative position of the justices remained roughly the same.⁷⁶ Complexity was unrelated to judicial ideology.⁷⁷

In other research, Jacobi and Sag sought to measure the ideology of certain Supreme Court opinions.⁷⁸ However, their research was not a direct study of content.⁷⁹ The study assumed certain ideology based on models of the ideological preferences of the justices of the majority coalition.⁸⁰ It assumed the reliability of the outcome coding and assumed that patterns of deciding outcomes could be transferred to patterns of opinion writing.⁸¹ Studies show that Supreme Court votes do not fall at all precisely along ideological lines, so this is an imperfect proxy for using ideology for content.⁸² And even if the research succeeded in identifying opinion ideology, it still says nothing about the opinion content that created the ideology.

There is a need for more direct study of opinion content through techniques such as linguistic analysis. This research is a beginning, but only barely begins to tap the potential of linguistic analysis of Supreme Court opinions. There is some new research on judicial “plagiarism,” where the opinion uses language from briefs or lower court opinions, but little analysis of when and why this happens.⁸³

75. *Id.* at 1048-49.

76. *Id.* at 1044, 1046.

77. *Id.* at 1044.

78. Tonja Jacobi & Matthew Sag, *Taking the Measure of Ideology: Empirically Measuring Supreme Court Cases*, 98 GEO. L.J. 1 (2009).

79. *See id.*

80. *See id.*

81. *See id.* Another study sought to identify the ideology of opinions based on the precedents that the justices cited in the opinion. Tom S. Clark & Benjamin Lauderdale, *Locating Supreme Court Opinions in Doctrine Space*, 54 AM. J. POL. SCI. 871 (2010).

82. Paul H. Edelman, David E. Klein & Stefanie A. Lindquist, *Measuring Deviations from Expected Voting Patterns on Collegial Courts*, 5 J. EMPIRICAL LEGAL STUD. 819, 819 (2008).

83. *See* Pamela C. Corley, *The Supreme Court and Opinion Content: The Influence of Parties' Briefs*, 61 POL. RES. Q. 468 (2008); Pamela C. Corley, Paul M. Collins Jr. & Bryan Calvin, *Lower Court Influence on U.S. Supreme Court Opinion Content*, 73 J. POL. 31 (2009).

An unpublished article sought to place opinions on an ideological scale based on their language.⁸⁴ The authors found that liberal justices tended to more often use certain words, like *equality* or *discrimination*, while conservatives used different words, such as *rational*.⁸⁵ The intriguing study coded relatively few cases, though, and was not followed up upon.

Potentially, such analysis of opinion content could greatly enhance our understanding of the judging process and the importance of opinion language. Such analysis might allow researchers “to verify or refute the empirical claims about case law that are implicit or explicit.”⁸⁶ Certain types of language may prove more or less powerful. Perhaps words can be used to reveal ideological bias of the justices. The analysis permits evaluation of judicial reasoning (or the lack thereof). This Article represents a first step in the linguistic analysis of Supreme Court opinions.

B. The Linguistic-Analysis Program

Several different programs have been used for linguistic analysis in different contexts. We use the Linguistic Inquiry and Word Count (LIWC) program for our analysis.⁸⁷ LIWC is probably the most commonly used program for analysis of at least large texts and has been validated, as discussed below. The program has been updated and revised several times to enhance its abilities and accuracy.⁸⁸

84. Kevin T. McGuire & Georg Vanberg, Mapping the Policies of the U.S. Supreme Court: Data, Opinions, and Constitutional Law (Sept. 1, 2005) (unpublished manuscript) (on file with author). The procedure was further discussed in another unpublished paper. Michael C. Evans et al., Recounting the Courts? Applying Automated Content Analysis to Enhance Empirical Legal Research (1st Annual Conference on Empirical Legal Studies, Aug. 28, 2006) (unpublished manuscript), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=914126.

85. McGuire & Vanberg, *supra* note 84, at 8.

86. See Hall & Wright, *supra* note 61, at 77.

87. One of the authors, James Pennebaker, is the developer of this program. For a discussion of the development of the program, see Yla R. Tausczik & James W. Pennebaker, *The Psychological Meaning of Words: LIWC and Computerized Text Analysis Methods*, 29 J. LANGUAGE & SOC. PSYCHOL. 24 (2010). Many of the findings of research using the tool are summarized in JAMES W. PENNEBAKER, *THE SECRET LIFE OF PRONOUNS* (2011).

88. Inevitably, such a system makes errors because it simply identifies words that can be used in many ways. However there are enough studies using this program “to determine that statistically it is usually correct and the good news is that

One simply runs a text through the program. It identifies the number of particular words. These include the number of words in each dictionary for a particular communication style. The program then provides the relative frequency of usage of each word category. We took the opinions of the first five years of the Roberts Court and had LIWC analyze them.

LIWC enables testing of many word usages, including pronouns, adverbs, tenses, and the like. The program also contains dictionaries of thousands of words associated with different types of speech. Dictionaries tap different domains of emotion or reason and are the collections of words that define particular categories to be measured. Words were categorized by various judges. A commonly used dictionary is for affective processes, such as positive and negative emotions. Another is for cognitive processes, including certainty, insight, causation, and other factors.

Emotion measurements are a common use of LIWC, but it has other capabilities.⁸⁹ It can be used to assess relative status and social hierarchy, social coordination, group processes, honesty and deception by speakers, closeness of relationships, and cognitive thinking styles.⁹⁰ A recent study examined communications in various groups, including Supreme Court oral arguments, to determine the relative dominance of particular group members.⁹¹

The program does not capture the subtleties of communication or grasp the true meaning of the author. It cannot understand irony or sarcasm or do justice to the full complexity of communication.⁹² LIWC is not a measure of content so much as of linguistic style.⁹³ However, it is nonetheless “highly informative about several

the more words there are available to analyze, the more precise the system.” PENNEBAKER, *supra* note 87, at 9.

89. Tausczik & Pennebaker, *supra* note 87, at 24.

90. *Id.* at 33-35.

91. Cristian Danescu-Niculescu-Mizil et al., *Echoes of Power: Language Effects and Power Differences in Social Interaction*, 2012 WWW 699, 701 (2012).

92. Klaus Fiedler, Malte Friese & Michaela Wänke, *Psycholinguistic Methods in Social Psychology*, in COGNITIVE METHODS IN SOCIAL PSYCHOLOGY 170, 177 (Karl Christoph Klauer, Andreas Voss & Christoph Stahl eds., abr. ed. 2011); Tausczik & Pennebaker, *supra* note 87, at 30 (noting that the programs “ignore context, irony, sarcasm, and idioms”); *see also* PENNEBAKER, *supra* note 87, at 9 (noting that LIWC is a probabilistic system that “makes lots of errors” but that there have been enough studies to conclude that “it is usually correct”).

93. The style is quite important. The quiet words, unrelated to content, “can say more about a person than the more meaningful ones.” PENNEBAKER, *supra* note 87, at 18.

psychological processes and individual differences.”⁹⁴ Researchers have found evidence that people’s physical and mental health are correlated with the words they use.⁹⁵ Linguistic style is a meaningful way of exploring personality.⁹⁶

Thanks to its wide use, LIWC has seen validation testing. For example, one study compared the LIWC scale of communicative content with independent judges’ scoring on a sample of women writing in a breast cancer support group.⁹⁷ The study found that the LIWC results correlated significantly with the judges’ measures for negative concepts, positive concepts, and cognitive mechanisms, though not for every measure.⁹⁸ A similar study confirmed these findings.⁹⁹ Another study of college students found that the LIWC characterization of language effectively corresponded to the evaluations of independent judges.¹⁰⁰

The LIWC program has demonstrated its validity for general purposes. Its word identification procedure inevitably means it will not always capture the meaning of language or its underlying emotions.¹⁰¹ However, on an overall basis, it has been shown to be a reliable indicator.¹⁰²

Judicial opinions are a unique form of language. A justice’s opinion language will surely be different from his or her spoken language or other writings. Opinion writing is governed by certain conventions and commonly cites to prior cases, and these differences

94. Fiedler, Friese & Wänke, *supra* note 92, at 178.

95. See, e.g., Stanley D. Rosenberg & Gary J. Tucker, *Verbal Behavior and Schizophrenia: The Semantic Dimension*, 36 ARCHIVES GEN. PSYCHIATRY 1331 (1979).

96. See James W. Pennebaker & Laura A. King, *Linguistic Styles: Language Use as an Individual Difference*, 77 J. PERSONALITY & SOC. PSYCHOL. 1296 (1999).

97. Georg W. Alpers et al., *Evaluation of Computerized Text Analysis in an Internet Breast Cancer Support Group*, 21 COMPUTERS HUM. BEHAV. 361 (2005).

98. *Id.* at 369.

99. Erin O’Carroll Bantum & Jason E. Owen, *Evaluating the Validity of Computerized Content Analysis Programs for Identification of Emotional Expression in Cancer Narratives*, 21 PSYCHOL. ASSESSMENT 79 (2009).

100. James W. Pennebaker & Martha E. Francis, *Cognitive, Emotional, and Language Processes in Disclosure*, 10 COGNITION & EMOTION 601, 606, 622 (1996).

101. See Jeffrey H. Kahn et al., *Measuring Emotional Expression with the Linguistic Inquiry and Word Count*, 120 AM. J. PSYCHOL. 263 (2007).

102. See *id.* (evaluating LIWC in experiments and concluding that it accurately captured emotional states); Tausczik & Pennebaker, *supra* note 87, at 32 (observing that “[r]esearch suggests that LIWC accurately identifies emotion in language use”); Owens & Wedeking, *supra* note 71, at 1040 n.15 (noting that “[t]he internal and external validity of LIWC has been established”).

may affect our analysis. For example, considerable research examines the significance of the use of the personal pronoun “I.”¹⁰³ Supreme Court justices, though, consistently eschew the use of the pronoun in opinion writing.¹⁰⁴ The proscription on the word “I” involves majority opinions, and the word may appear in separate opinions.¹⁰⁵

In addition, a judicial opinion is communicating to a special audience, focused on lawyers, other judges, and legal scholars, which surely affects appropriate writing style. This illustrates how some of the tools of linguistic analysis may be inapplicable to the evaluation of opinions because of conventions particular to the latter context. One commentator’s review of opinions from the 1992 Term suggested that all of the opinions “seem to write and sound alike.”¹⁰⁶ Perhaps the very nature of a Supreme Court opinion forces all justices into a stylistic consistency.

Judicial opinion language has another characteristic different from ordinary language. Typically language is to communicate with, often to persuade, listeners. But the language of Supreme Court opinions goes beyond mere communication. When the Court announces a legal rule, it is an order that need not depend on persuasion. The fashioning of language may therefore be different.

While the judicial opinion context can make some forms of analysis unhelpful, other measures may still be significant. Opinion writing shares much in common with ordinary language, otherwise it would not be understood. Griffin Bell stressed that “[a]ny study of style in judicial writing must begin with an examination of style in writing generally.”¹⁰⁷ Judicial opinions share features with the novel,

103. See generally GEORGE, *supra* note 33.

104. See Tony Mauro, *Justice’s Supreme Use of ‘I’ Sparks a Legal Frenzy*, USA TODAY, April 2, 1999, at 11A (discussing Justice Breyer’s use of the pronoun “I” in an opinion as breaking “an unwritten rule against speaking individually in Supreme Court opinions, a tradition that goes back nearly 200 years”). Judges are directed to write “in the impersonal third person” rather than first person. GEORGE, *supra* note 33, at 385. The source cautions that “use of the first person singular pronoun . . . creates several undesirable impressions” and may cause an opinion to lose “its intended force.” *Id.* at 386. The author stressed that the opinion is written for the court as an institution, while the word “I” suggests a personal product. *Id.* at 467. However, it might sometimes be appropriate. *Id.* The handbook similarly discourages use of the word “we.” *Id.* at 468-69.

105. See Mauro, *supra* note 104.

106. DOMNARSKI, *supra* note 40, at 57.

107. Bell, *supra* note 50, at 214. He further observes that “there can be no substance without form,” which is why judges pay close attention to it. *Id.* at 219;

the letter, the treatise, and the work of history and criticism, and these factors open “different directions for future growth” of the law.¹⁰⁸

No single program available can capture all the relevant elements of judicial style in opinion writing.

But even such pedestrian elements of style such as the use of adverbs, adjectives, nouns, and verbs have importance.¹⁰⁹ The same is surely true of words expressing cognition, uncertainty, or positive or negative emotions. LIWC has dictionaries that enable for testing of a variety of styles of communication.

The potential implications of such findings are great. Perhaps different linguistic styles make opinions more or less powerful. An opinion may be more authoritative or more tentative.¹¹⁰ Perhaps “pedantry” or “excessive footnoting” may undermine an opinion’s authority.¹¹¹ Words may be used to emphasize certain principles of a decision or perhaps to cover up a lack of precedential authority for a holding.

Scientific articles in psychology have been studied to see if more readable articles are more influential, using the traditional Flesch complexity scale in addition to LIWC.¹¹² Hartley, Sotro, and Pennebaker found a difference for articles chosen as influential, though not for highly cited articles.¹¹³ Readability, though, is a more primitive measure than modern text analysis programs, such as LIWC, provide.

We apply the LIWC to the opinions of the Roberts Court to find justice-specific characteristics. Of course, this involves an assumption that the justices themselves are the authors of opinions. It is no secret that justices work closely with their clerks in opinion

see also Gibson, *supra* note 40, at 918 (suggesting that poets and legal writers share common writing tasks).

108. John Leubsdorf, *The Structure of Judicial Opinions*, 86 MINN. L. REV. 447, 447 (2001). He recognizes that there are some differences in the approaches but suggests that “it may be impossible for humans to understand a human’s behavior except as part of a story.” *Id.* at 447, 455.

109. *See, e.g.*, Robert A. Leflar, *Quality in Judicial Opinions*, 3 PACE L. REV. 579, 585 (1983); Posner, *supra* note 41, at 1423-24. Both note the relevance of the use of these elements of language.

110. *See* WILLIAM D. POPKIN, *EVOLUTION OF THE JUDICIAL OPINION: INSTITUTIONAL AND INDIVIDUAL STYLES* 147-48 (2007).

111. ALDISERT, *supra* note 44, at 143.

112. James Hartley, Eric Sotro & James Pennebaker, *Style and Substance in Psychology: Are Influential Articles More Readable than Less Influential Ones?*, 32 SOC. STUD. SCI. 321, 323, 330 (2002).

113. *Id.* at 325, 331.

writing, and the clerks may have influence over the language.¹¹⁴ Some have suggested that the justices “delegate[] a shocking amount of the actual opinion writing to their clerks.”¹¹⁵ A former clerk of Justice White, though, wrote that a clerk’s dreams of shaping the law were “short-lived—terminating with the return of the draft bleeding with red ink from the Justice’s pen, or more recently with the sound of the Justice’s word processor as he worked on revisions to the draft.”¹¹⁶ Some justices (Brennan and Powell) reportedly did most of their opinion writing.¹¹⁷ As one might expect, practices differed among the justices.¹¹⁸ The dispute over the role of clerks, though, has been largely anecdotal.

The relative influence of clerks has been more closely examined.¹¹⁹ A study used survey data on the political ideology of former law clerks to see if they appeared to influence votes.¹²⁰ They

114. See, e.g., RICHARD A. POSNER, *THE FEDERAL COURTS: CHALLENGE AND REFORM* 141, 143, 144 (1996) (discussing increased reliance on clerks for at least drafts of opinions); DOMNARSKI, *supra* note 40, at 30 (suggesting that “there is little argument as to whether the law clerks write the opinions of the High Court”).

115. Stuart Taylor Jr. & Benjamin Wittes, *Of Clerks and Perks*, *ATL. MONTHLY*, July-Aug. 2006, at 50. The authors contend that Justices Ginsburg, Thomas, and Kennedy “have clerks write most or all of their first drafts,” which may go unchanged. *Id.*; see also ARTEMUS WARD & DAVID L. WEIDEN, *SORCERERS’ APPRENTICES: 100 YEARS OF LAW CLERKS AT THE UNITED STATES SUPREME COURT* 226 (2006) (citing reports of clerks that a number of opinions were issued without material modification of their original drafts). An evaluation of Justice Marshall’s opinions for one term found four distinctively different styles of writing, corresponding to his four clerks. Peter Huber, *Advice to Justice Thomas*, *FORBES*, Nov. 25, 1991, at 202. The controversy is long-standing and was highlighted in BOB WOODWARD & SCOTT ARMSTRONG, *THE BRETHERN: INSIDE THE SUPREME COURT* (1979). Archibald Cox wrote “of the increasing use of law clerks who write opinions to justify their Justices’ votes.” ARCHIBALD COX, *FREEDOM OF EXPRESSION* 88 (1981). Philip Kurland noted that “more and more” Supreme Court opinions were “written by the law clerks rather than their Justices.” Philip B. Kurland, *Book Review*, 47 *U. CHI. L. REV.* 185, 197-98 (1997).

116. Kevin J. Worthen, *Shirt-Tales: Clerking for Byron White*, 1994 *BYU L. REV.* 349, 351-52 (1994); see also POSNER, *supra* note 114, at 145 (observing that “[t]he fact that a law clerk writes an opinion draft does not by itself enable one to measure the clerk’s contribution to the opinion as eventually published”).

117. DOMNARSKI, *supra* note 40, at 31.

118. See *id.* at 30-42. The author reviews the practice of justices over the years. *Id.* He notes that one of Justice Murphy’s biographers doubts he ever fully wrote an opinion. *Id.* at 39. Justice Douglas, by contrast, apparently wrote virtually all his opinions. *Id.* at 41.

119. See Todd C. Peppers & Christopher Zorn, *Law Clerk Influence on Supreme Court Decision Making: An Empirical Assessment*, 58 *DEPAUL L. REV.* 51 (2008).

120. *Id.* at 53.

found that clerks appeared to exercise some ideological influence, though the size of the effect was much less than that of the justice's own ideology.¹²¹ The study did not consider the effect of clerks on opinion language. Other research indicates that more clerks are associated with more citations in Supreme Court opinions.¹²² Perhaps clerks substantially influence opinion language as well. Today, "evidence shows that some justices routinely issue opinions wholly written by their clerks with little or no changes."¹²³

Authorship is one area where linguistic analysis had been used for judicial opinions. An article used a less intricate means of linguistic analysis to assess how significant clerks were in determining the content of judicial opinions.¹²⁴ The authors took random text samples for the opinions of numerous circuit court judges.¹²⁵ While the study focused on comparing judges, it found ample evidence of judicial authorship.¹²⁶

A study at the Supreme Court level compared first drafts of opinions from Justices Powell and Marshall in the 1985 term of the Court.¹²⁷ Justice Marshall was reputed to have delegated considerable opinion writing to his clerks.¹²⁸ The study used several stylistic characteristics, such as word length, footnote usage, and sentence characteristics.¹²⁹ The study found that Justice Marshall delegated more opinion writing than Justice Powell.¹³⁰ The study was limited to one term, two justices, and draft (not final) opinions, but it did reveal some role of clerks.¹³¹

Even when a justice delegates, though, the language may still resemble that of the justice. Clerks may mimic a justice's style. They

121. *Id.* at 74 (displaying figure showing relative significance).

122. Cross et al., *supra* note 12, at 539.

123. IN CHAMBERS: STORIES OF SUPREME COURT LAW CLERKS AND THEIR JUSTICES 9 (Todd C. Peppers & Artemus Ward eds., 2012).

124. See Stephen J. Choi & G. Mitu Gulati, *Which Judges Write Their Opinions (And Should We Care)?*, 32 FLA. ST. U. L. REV. 1077 (2005).

125. *Id.* at 1098.

126. See *id.* at 1116, 1118.

127. Paul J. Wahlbeck, James F. Spriggs II & Lee Sigelman, *Ghostwriters on the Court? A Stylistic Analysis of U.S. Supreme Court Opinion Drafts*, 30 AM. POL. RES. 166, 166 (2002).

128. *Id.* But see Mark Tushnet, *Thurgood Marshall and the Brethren*, 80 GEO. L.J. 2109, 2112 (1992) (declaring that Justice Marshall may have relied more heavily on his clerks, but that "his practices were not wildly out of line with those of the others on the Court").

129. Wahlbeck, Spriggs & Sigelman, *supra* note 127, at 176-77.

130. *Id.* at 182.

131. *Id.* at 168.

may be “familiar with the justice’s style, and his penchant for using particular words and phrases.”¹³² The clerk’s writing may reflect that of the justice.

III. ANALYSIS OF ROBERTS COURT OPINIONS

In this Section we apply LIWC measures to the opinions of the Roberts Court through 2010. This included 342 majority opinions. We excluded all opinions of fewer than one hundred words, for which the program’s reliability was uncertain; these were generally separate opinions.

We began by examining differences in types of opinions: majority opinions, concurrences, and dissents. One would expect different types of decisions to have different linguistic characteristics, and we examine the different features of different opinion types. One of the most interesting questions is the different features of writing by the different justices of the Court. We also evaluate opinions from the justices broken down by type of opinion.

A. Majority Opinions vs. Separate Opinions

Our initial analysis compares the language of majority opinions and separate opinions. Such opinions have distinctly significant implications for the state of the law and have a different dynamic, as majorities by their nature must persuade other justices to join. As a result, one might expect linguistic analysis to reveal differences in their content. We theorize that separate opinions will have different linguistic profiles for reasons discussed below.

1. Linguistic Analyses of Opinions

LIWC has many tools for linguistic analysis. These include simple matters, such as use of punctuation and sentence length. While these may be revealing, their implications in judicial opinions are obscure. There are also a number of dictionaries to categorize

132. Robert M. O’Neil, *Charting Civil Liberties and Protecting Free Expression: Learning from and Working with Justice William J. Brennan*, in IN CHAMBERS: STORIES OF SUPREME COURT LAW CLERKS AND THEIR JUSTICES, *supra* note 123, at 284, 290. Justice Ginsburg’s clerks, for example, had to adapt to her particular style of writing. Todd C. Peppers, *The Modern Clerkship: Justice Ruth Bader Ginsburg and Her Law Clerks*, in IN CHAMBERS: STORIES OF SUPREME COURT LAW CLERKS AND THEIR JUSTICES, *supra* note 123, at 391, 397-98.

language usage. Some of these, such as references to families and sex, are not plainly relevant to the analysis of judicial opinions. Several categories, though, have a more apparent relevance in this context.

One significant feature of an opinion may lie in its certainty or tentativeness. Judge Schaefer suggested that while an opinion “may be the result of a very modest degree of conviction, it is usually written in terms of ultimate certainty.”¹³³ Chemerinsky likewise notes that “[o]pinions are written to make results seem determinate and value-free.”¹³⁴ But the linguistic style of an opinion may reveal latent doubt about the grounds for decision.

LIWC has dictionaries to measure certainty and tentativeness.¹³⁵ The dictionary for certainty includes words such as *undoubtedly*, *precisely*, *absolutely*, *definitely*, *positively*, *always*, *never*, and the like. Words for tentativeness include *depending*, *hesitant*, *perhaps*, *uncertain*, and uses of *doubt*.

The implications of the use of certain or tentative words are not so clear as they might facially seem. Indeed, words of certainty may be used as a defensive mechanism when a justice is in fact uncertain. One study of students found that tentativeness was associated with greater critical thinking, while certainty was associated with lesser critical thinking.¹³⁶

In addition to the dictionaries that measure certainty and tentativeness, counts of other word types may be significant. One typically overlooks the use of articles, such as *a* and *the*. But people use them at very different rates, and research has found that “high article users tend to be more organized and emotionally stable.”¹³⁷ The justices’ opinions showed very little difference on this scale, however.

133. KENT GREENAWALT, *STATUTORY AND COMMON LAW INTERPRETATION* 186 (2013) (quoting Schaefer, *supra* note 29, at 9).

134. Chemerinsky, *supra* note 30, at 2010. Thus, “opinions are written to make it seem that there is only one correct result and that it was derived in a formalistic fashion.” *Id.* at 2012.

135. See discussion *supra* Section I.B.

136. Monica Metrick Kennison, *The Evaluation of Critical Thinking, Reflective Writing, and Cognitive Word Use in Baccalaureate Nursing Students* (2003) (unpublished Ph.D dissertation, West Virginia University) (on file with West Virginia University wvuScholar Institutional Repository).

137. PENNEBAKER, *supra* note 87, at 37. The author analyzed a debate answer from McCain and Obama on education and found that McCain’s greater usage of articles was associated with more concrete thinking about the problem. *Id.* at 299.

2. Majority Opinion Author Language

We first analyze the majority opinions of the Court. The linguistic content of a majority opinion is not solely that of its author. The drafter of the opinion must hold together his or her majority coalition.¹³⁸ The content of the opinion may be “a function of the majority’s preferences,” not just that of its author.¹³⁹ Justices must take into account the positions of their colleagues in framing their own position.¹⁴⁰ The selected author typically circulates an opinion, in response to which other justices issue bargaining statements seeking changes in the original opinion language.¹⁴¹ In several major cases, significant changes in the opinion resulted from such bargaining statements.¹⁴² Justice Frankfurter observed that “[w]hen you have to have at least five people to agree on something, they can’t have that comprehensive completeness of candor which is open to a single man, giving his own reasons untrammelled by what anybody else may do or not do if he put that out.”¹⁴³ A survey of the papers of Justices Blackmun and Marshall revealed that in about 80% of their majority opinions, some accommodation was made to the preferences of their colleagues.¹⁴⁴

Perhaps the content is driven not by the author but by the vote of the ideologically median justice of the Court.¹⁴⁵ Chief Justice

138. MICHAEL J. GERHARDT, *THE POWER OF PRECEDENT* 62 (2008).

139. *Id.*

140. See FORREST MALTZMAN, JAMES F. SPRIGGS II & PAUL J. WAHLBECK, *CRAFTING LAW ON THE SUPREME COURT: THE COLLEGIAL GAME* (2000) (discussing how in collective decision making the outcome is responsive to each group member’s preferences).

141. See *id.* at 65.

142. LEE EPSTEIN & JACK KNIGHT, *THE CHOICES JUSTICES MAKE* 100-05 (1998).

143. HARLAN B. PHILLIPS, *FELIX FRANKFURTER REMINISCES* 298 (1960).

144. CORLEY, *supra* note 17, at 43-44.

145. See Pablo T. Spiller, *Book Review: The Choices Justices Make*, 94 AM. POL. SCI. REV. 943, 943 (2000) (reviewing EPSTEIN & KNIGHT, *supra* note 142) (suggesting that “[o]nce the median policy is proposed, no other proposal will beat it, and it becomes the outcome”). The general theory provides that “Supreme Court opinion authors make strategic calculations about the need to craft opinions that are acceptable to their colleagues on the bench.” Paul J. Wahlbeck, James F. Spriggs II & Forrest Maltzman, *Marshalling the Court: Bargaining and Accommodation on the United States Supreme Court*, 42 AM. J. POL. SCI. 294, 294 (1998); see also Jeffrey R. Lax & Charles M. Cameron, *Bargaining and Opinion Assignment on the US Supreme Court*, 23 J.L. ECON. & ORG. 276, 276-77 (2007) (observing that if the median voter theorem applied, “the content of every Supreme Court opinion must

Rehnquist has acknowledged that the author is “under considerable pressure” to accommodate the demands of other justices.¹⁴⁶ Justice Brennan observed that he had “converted more than one proposed majority opinion into a dissent before the final decision was announced,” and offers an example of where he had “circulated 10 printed drafts before one was approved as the Court opinion.”¹⁴⁷ Creating “an opinion requires delicate balancing of opposing views, persuasive argumentation, and often subtle or not so subtle negotiation and bargaining.”¹⁴⁸ Clearly, majority opinions are not purely the product of their author.

Judge Wald has noted that “the drafting of majority opinions is a delicate political and human relations undertaking, [which] precludes the exercise of pure stylistic preference by a judge in choosing relevant rationales, rhetoric, issues, legal doctrines, precedents, authorities, and even linguistic flourishes.”¹⁴⁹ Insofar as the majority opinion is a bit of a committee product, one might expect this to affect its language. Lawyers and judges, therefore, are less likely to view the majority opinion as a “personal” expression of the authoring justice.¹⁵⁰ Yet this effect can be exaggerated. Often “the opinion’s author succeeds in swallowing other voices.”¹⁵¹

The role of the author of a majority opinion is uncertain. This assignee surely has some influence over opinion content. However, this may be reduced by collegial accommodation. These opinions may therefore be somewhat less revealing about the writing of a particular justice.

devolve to the wishes of the median justice; the identity and preferences of the opinion’s author . . . cannot matter”).

146. WILLIAM H. REHNQUIST, *THE SUPREME COURT* 264 (rev. & updated ed. 2001). He also noted that “give and take is inevitable, and doctrinal purity may be muddied in the process.” William H. Rehnquist, *Remarks on the Process of Judging*, 49 WASH. & LEE L. REV. 263, 270 (1992).

147. William J. Brennan, Jr., *State Court Decisions and the Supreme Court*, 31 PA. B. ASS’N Q. 393, 405 (1960).

148. JUDGES ON JUDGING: VIEWS FROM THE BENCH 46 (David M. O’Brien ed., 1997).

149. Robert F. Blomquist, *Playing on Words: Judge Richard A. Posner’s Appellate Opinions, 1981-82—Ruminations on Sexy Judicial Opinion Style During an Extraordinary Rookie Season*, 68 U. CIN. L. REV. 651, 658 (2000).

150. Leubsdorf, *supra* note 108, at 489.

151. *Id.* at 448.

3. *Dissenting Opinion Author Language*

We next consider the language of dissents. A dissenting opinion has a different dynamic from one speaking for the Court. They may reflect the sincere self-expression of the justice. Justice Scalia declared that “[t]o be able to write an opinion solely for oneself, without the need to accommodate, to any degree whatsoever, the more-or-less-differing views of one’s colleagues . . . is indeed an unparalleled pleasure.”¹⁵² A dissenting justice “has the license to speak with a more distinctive voice than the author of a majority opinion.”¹⁵³ A dissent enables a judge the “opportunity to engage in unfettered creativity.”¹⁵⁴ Or it may be a tool of political agitation or psychological release.¹⁵⁵

Because of limited resources, a dissent is likely to be on a matter on which the justice feels strongly.¹⁵⁶ This is equally true of a concurring opinion.¹⁵⁷ Such powerful opinions are likely to influence the language chosen for such opinions. Authors of separate opinions may be expected to write with a particular vigor specific to the justice.

Style may be critical to the power and influence of a dissenting opinion. Posner suggests that Justice Holmes’s dissent in *Lochner v. New York*¹⁵⁸ is at the top of all dissenting opinions issued by the Court, despite the fact that it is “not well reasoned.”¹⁵⁹ It had this

152. Antonin Scalia, *The Dissenting Opinion*, 1994 J. SUPREME CT. HIST. 33, 42 (1994). Justice Douglas declared that “[t]he right to dissent is the only thing that makes life tolerable for a judge of an appellate court.” WILLIAM O. DOUGLAS, *AMERICA CHALLENGED* 4 (1960).

153. Laura Krugman Ray, *Justice Brennan and the Jurisprudence of Dissent*, 61 TEMP. L. REV. 307, 346 (1988).

154. Robert F. Blomquist, *Dissent, Posner-Style: Judge Richard A. Posner’s First Decade of Dissenting Opinions, 1981-1991—Toward an Aesthetics of Judicial Dissenting Style*, 69 MO. L. REV. 73, 78 (2004).

155. *Id.* at 79-81.

156. See, e.g., PAUL A. FREUND, *ON UNDERSTANDING THE SUPREME COURT* 71 (reprt. ed. 1977) (discussing Justice Brandeis and noting that he frequently did not write in dissent simply “because the demands of other items of work prevented an adequate treatment” of the question).

157. Walter V. Schaefer, *Precedent and Policy: Judicial Opinions and Decision Making*, in *JUDGES ON JUDGING: VIEWS FROM THE BENCH*, *supra* note 148, at 105 (suggesting that such opinions are the product of the “fighting conviction” on the part of the judge).

158. 198 U.S. 45, 74 (1905) (Holmes, J., dissenting).

159. POSNER, *supra* note 53, at 266-67.

effect because of its style, which fell “[b]etween the extremes of logical persuasion and emotive persuasion.”¹⁶⁰

Differences in linguistic content in majority opinions may not be solely due to the need to accommodate other justices, though. When writing for the majority, the justice is making the law of the United States. A dissent may be more of a screed, calling for a change in direction of the governing law, but realizing that its precise language carries less power. Hence, the very act of writing a majority opinion may have a moderating effect for justices. Justice Cardozo suggested that the author of the majority opinion was “cautious, timid, fearful of the vivid word, the heightened phrase.”¹⁶¹ Our analysis to date does not enable a separation of these effects.

A dissenting or concurring opinion, by contrast, may, in Justice Cardozo’s words, be “irresponsible.”¹⁶² Such an opinion does not carry the burden of speaking for the Court or even creating law. Nor does the opinion have any great need to accommodate other justices. While such opinions may have others join them, the joiners are largely unnecessary. The opinion may issue as written by its author regardless of whether it finds joiners.

While justices have expressed the freedom associated with writing a dissent, even such an opinion may be inhibited. Writing more respectfully may “confer additional legitimacy” on the opinion and legitimate the court as a whole.¹⁶³ A *Harvard Law Review* evaluation of Roberts Court dissents found that they were quite respectful in nature and rarely assertive.¹⁶⁴ Moreover, even dissents may have multiple joiners, and the opinion author may be trying to hold together a coalition, though this is obviously much less significant than for a majority opinion. Even dissents may be influenced by collegiality, but they should reveal characteristics of the dissenter who writes the opinion.

160. *Id.* at 272.

161. JUDGES ON JUDGING: VIEWS FROM THE BENCH, *supra* note 148, at 46 (citing Tom Clark, Address at University of Minnesota Law School: Some Thoughts on Supreme Court Practice (Apr. 13, 1959)).

162. *Id.* (citing Clark, *supra* note 161).

163. Note, *From Consensus to Collegiality: The Origins of the “Respectful” Dissent*, 124 HARV. L. REV. 1305, 1320 (2011).

164. *Id.* at 1322-26.

4. *Concurring Opinion Author Language*

Concurring opinions have been less analyzed theoretically, yet some concurrences have proven to be quite significant. Justice Jackson's concurrence in *Youngstown Sheet & Tube*¹⁶⁵ has been called "the greatest single opinion" of the Supreme Court.¹⁶⁶ In general, "concurrences have more authority than dissents," and "the concurrences bracketing the majority opinion may shape the evolution of the law as they limit, expand, clarify, or contradict the Court opinion."¹⁶⁷ When the majority is but a plurality, it is a concurrence that sets what the law is.¹⁶⁸

The primary work on concurrences is by Pamela Corley.¹⁶⁹ Corley notes that, like dissents, "concurring opinions are not the product of compromise as are majority opinions."¹⁷⁰ As a result, they may be more revealing of the author. Concurrences may be of different types,¹⁷¹ and they may be written for different reasons.¹⁷² At least some concurring opinions may have a major effect on the law. Corley shows how certain concurrences may strengthen or undermine the power of a Supreme Court opinion, as applied by lower courts.¹⁷³

Concurrences, like dissents but unlike majority opinions, probably are almost entirely driven by the author. The average concurrence represents only two justices.¹⁷⁴ It seems unlikely that a concurring justice would compromise his or her language to please a single

165. *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 634 (1952) (Jackson, J., concurring).

166. Sanford Levinson, *Why the Canon Should Be Expanded to Include the Insular Cases and the Saga of American Expansionism*, 17 CONST. COMMENT. 241, 242 n.2 (2000). Similarly, Justice Harlan's concurring opinion has formed the basis of Fourth Amendment doctrine. See, e.g., *Kyllo v. United States*, 533 U.S. 27, 33, 44 (2001).

167. CORLEY, *supra* note 17, at 5.

168. See *Marks v. United States*, 430 U.S. 188, 193 (1977).

169. CORLEY, *supra* note 17.

170. *Id.* at 6.

171. *Id.* at 5.

172. Paul J. Wahlbeck, James F. Spriggs II & Forrest Maltzman, *The Politics of Dissents and Concurrences on the U.S. Supreme Court*, 27 AM. POL. RES. 488 (1999) (explaining how concurrences may reflect ideological, strategic, or institutional differences among the justices).

173. CORLEY, *supra* note 17, at 71-93.

174. See data in Nancy Maveety, Charles C. Turner & Lori Beth Way, *The Rise of the Choral Court: Use of Concurrence in the Burger and Rehnquist Courts*, 63 POL. RES. Q. 627, 633 (2010).

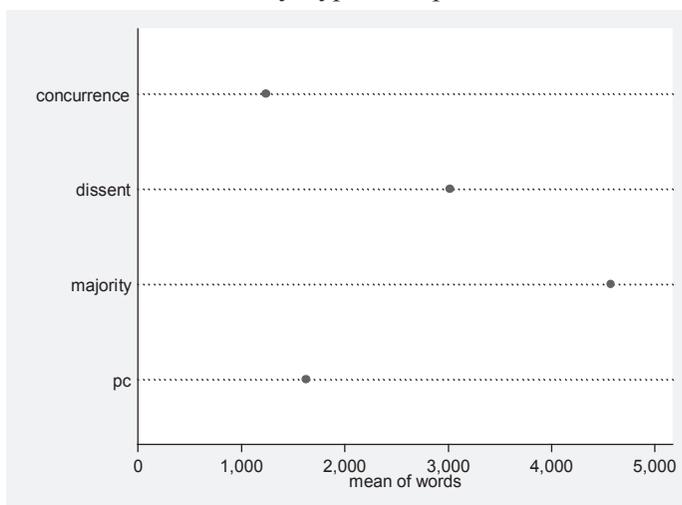
other justice. Consequently, concurring opinions offer a window into justices' writing characteristics and should have features not found in majority opinions.

5. Linguistic Characteristics of Different Opinion Categories

This Subsection sets out our analysis of the linguistic differences in different types of opinions. We begin with a simple analysis of the number of words found in these opinions. Then we employ certain dictionaries of the LIWC to search for other characteristics of the opinions, including certainty, use of cognitive words, anger, and relative positivity of emotional expressions.

The simplest way to measure differences in opinions is by simply examining the different number of words each uses. Figure 1 reveals the results for concurrences, dissents, majority opinions, and per curiam opinions in a dot plot.

Figure 1
Words by Types of Opinions

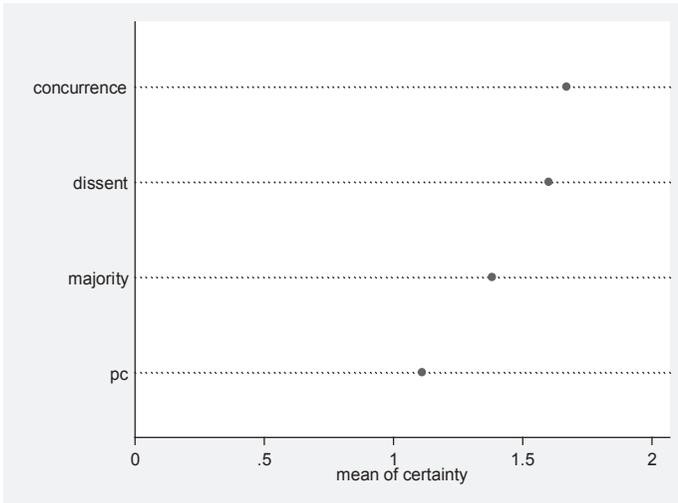


Majority opinions are the longest, followed by dissents, and the differences are considerable. Concurrences tend to be brief, shorter than per curiam opinions. Majority opinions are presumably longer because they need to set out the law, while separate opinions need not do so and may take issue with only a portion of the majority's

opinion. The need for more signers may also cause some lengthening of majority opinions. While this supports the different characteristics of different opinions, it says little about the language they contain, which we proceed to study.

We begin our analysis of the linguistic content of opinions by analyzing their use of words of certainty. We would expect majority opinions to use less certainty because they are setting the content of the law and would want to allow some flexibility in its application to different facts.¹⁷⁵ Moreover, the need to have more justices sign on to the opinion could well result in less expression of certainty in setting the law. The following figure displays the relative differences in certainty.

Figure 2
Certainty by Types of Opinions



The results are much as we anticipated. Concurring and dissenting opinions have more words of certainty than do those issued by the majority. The much lower levels of certainty in per curiam opinions is less clear, perhaps due to the fact that these tend

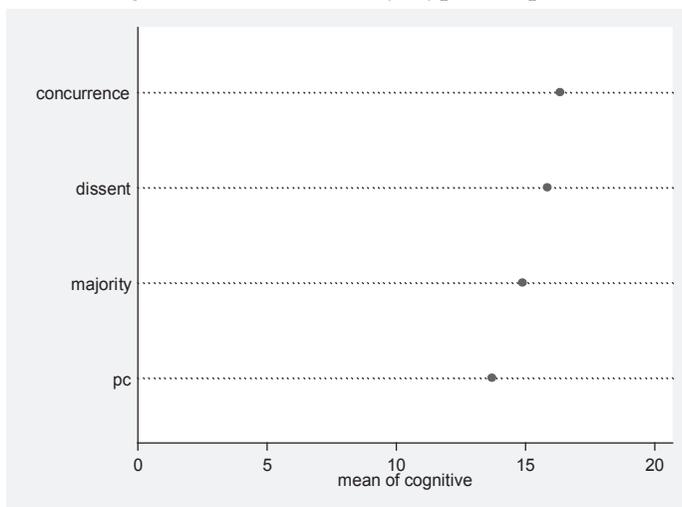
175. A recent article has examined when and why justices would want to allow more flexibility in their opinions, based on expected applications by lower courts. See Frank Cross, Tonja Jacobi & Emerson Tiller, *A Positive Political Theory of Rules and Standards*, 2012 U. ILL. L. REV. 1, 39-40.

to be issued in less salient cases. The differences by opinion type are statistically significant.

The LIWC also has measures for cognitive reasoning in texts. Because the program only checks for words, it provides no close scale for analytical reasoning. The overall cognitive measure includes words for expressing insight, causation, discrepancy, and other factors. This includes the certainty measure, but only as a small percentage of its score. The cognitive mechanism measure has not been much studied. Owens and Wedeking suggest that greater numbers of cognitive words are associated with complexity, in opposition to simpler Court opinions.¹⁷⁶

We have no *a priori* reason to theorize how this cognitive measure would vary between majority and separate opinions, though we would expect lower scores for per curiam opinions, which are simpler and more straightforward. The results for the measure are displayed in the following figure.

Figure 3
Cognitive Mechanisms by Type of Opinion



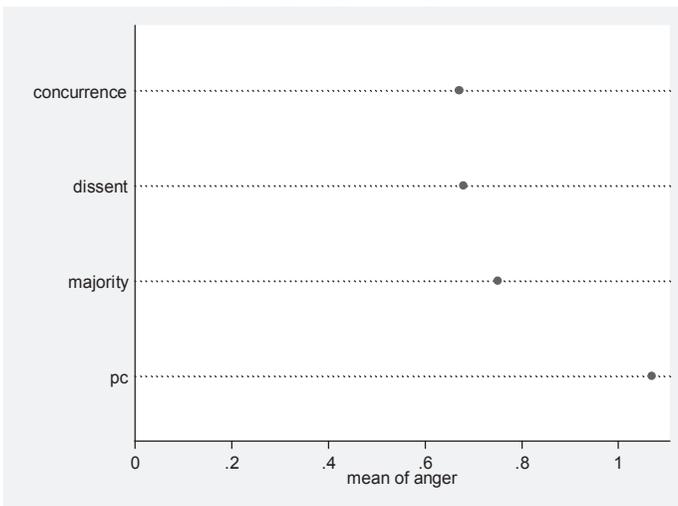
The differences are not dramatic, but separate opinions tend to use more cognitive words, with per curiam opinions using the fewest. Although the differences may appear small, they were highly statistically significant in an analysis of variance test. Examination of

176. See Owens & Wedeking, *supra* note 71, at 1038.

the subcategories shows the primary difference for opinion types to be in use of words of insight (such as *think* and *know*). Just as majority coalitions reduce certainty, they appear to reduce cognitive words. Perhaps separate opinions must have a somewhat greater cognitive component in order to deal with the arguments of the majority. Perhaps majority opinions are simpler in order to set out easier rules for lower courts to follow.

Another possible language test would involve words of anger found in Supreme Court opinions. One might expect dissents to show more anger due to their view that the majority opinion creates an erroneous state of the law.¹⁷⁷ The role of the LIWC's anger words has been primarily studied in the context of health care. This research has reached interesting findings, such as that the expression of anger was associated with less depression and a higher quality of life.¹⁷⁸ The expression of anger may thus be a healthy reflex.

Figure 4
Anger by Type of Opinion



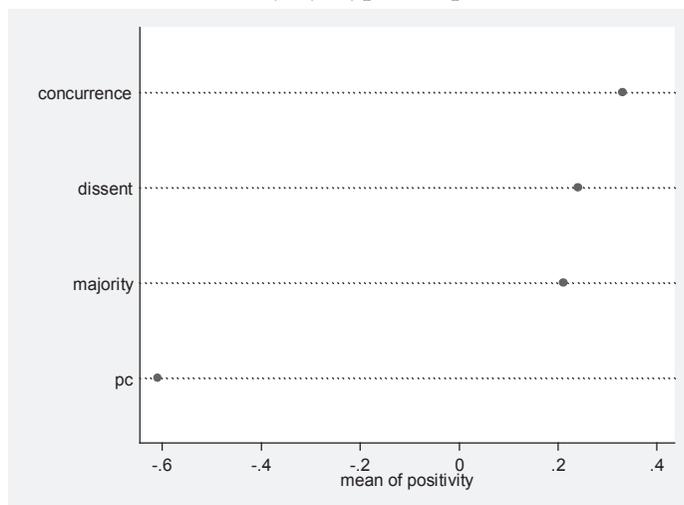
177. Conversely, words of anger may be more likely to appear in the majority opinion's response to any dissenters.

178. Morton A. Lieberman, *Effects of Disease and Leader Type on Moderators in Online Support Groups*, 24 *COMPUTERS HUM. BEHAV.* 2446, 2448 (2008); Morton A. Lieberman & Benjamin A. Goldstein, *Not All Negative Emotions Are Equal: The Role of Emotional Expression in Online Support Groups for Women with Breast Cancer*, 15 *PSYCHO-ONCOLOGY* 160, 164 (2006).

There is not a great difference between the levels of anger in majority, concurring, and dissenting opinions. Per curiam opinions show significantly higher levels of anger, though the reason for this is obscure. While we expected separate opinions might show more anger, they actually showed less of this emotion.

The LIWC also has dictionaries for positive emotion words and negative emotion words. One study validated this measure by showing that songwriters who committed suicide tended to use more negative emotion words and fewer positive emotion words than those who did not.¹⁷⁹ There is no obvious reason why different opinions should show different positive and negative emotions. Perhaps dissents would show more negativity, but the theory would be that associated with anger, which was not borne out by the results. We create a scale of relative positivity, representing positive emotion words minus negative emotion words. The results are displayed in the following figure.

Figure 5
Positivity by Type of Opinion



179. Erin J. Lightman et al., *Using Computational Text Analysis Tools to Compare the Lyrics of Suicidal and Non-Suicidal Songwriters*, Proceedings of the 29th Annual Meeting of the Cognitive Science Society, COGNITIVE SCI. J. ARCHIVE (2007), available at <http://csjarchive.cogsci.rpi.edu/Proceedings/2007/docs/p1217.pdf>.

As consistent with the findings on anger words, there is little difference by opinion type, though concurrences are somewhat more positive. Per curiam opinions are remarkably negative in emotionality.

The LIWC has numerous other dictionaries, but many seem inapplicable to Supreme Court opinion content. These include social processes, such as references to one's family; biological processes, such as references to eating and sex; and religion. When these words appear in opinions, they seem likely to be in reference to the facts of the case rather than choices of opinions.

B. Characteristics of the Justices

The differences we found in opinion types were suggestive but did not consider the individual authors of those opinions. Indeed, the results may be skewed by the different justices authoring the opinions. While majority opinions are relatively equally divided in the Court, some justices are more likely to write separate opinions. Thus, the differences may be driven to some degree by the patterns of authorship. This Section considers the differences among the Court's members.

Language usage is somewhat intrinsic to a person.¹⁸⁰ Individual personality styles are revealed through linguistic choices.¹⁸¹ Hence, it is instructive to compare the scores of the different justices. Language is also affected by context. For example, a study of Alan Greenspan's language showed that it changed over the course of the economic cycle.¹⁸² One might test Supreme Court opinions for the effect of numerous different circumstances, but our preliminary study is limited to opinion type. We examine the language of the justices of the period depending on the nature of the opinion issued under their name.

As noted above, majority opinions are not exclusively the product of the opinion author, and language in the opinion is

180. Linguistic analysis can be used to identify anonymous authors. See PENNEBAKER, *supra* note 87, at 255-90; Patrick Juola, *Authorship Attribution*, 1 FOUND. & TRENDS INFO. RETRIEVAL 233, 239 (2006).

181. Juola, *supra* note 180, at 239.

182. See Jo Ann A. Abe, *Changes in Alan Greenspan's Language Use Across the Economic Cycle: A Text Analysis of His Testimonies and Speeches*, 30 J. LANGUAGE & SOC. PSYCHOL. 212, 219 (2011). His use of words involving psychological distancing and cognitive complexity changed, but, surprisingly, positive emotionality did not. *Id.*

different from that found in dissenting and concurring opinions.¹⁸³ The study of majority opinion authors may still be meaningful, though. The majority author realizes that there are resource costs associated with writing a separate opinion.¹⁸⁴ There are also resource costs associated with scrutinizing particular words of often quite lengthy opinions.¹⁸⁵ These costs will exercise some deterrent effect on the efforts of other justices to insist upon changes in the majority's language.¹⁸⁶ Modelers have shown how the costs of writing separately enable the majority to have control over opinion content.¹⁸⁷

Other justices issue bargaining statements in negotiations, calling for a change in opinion language in exchange for joining the opinion, but these are relatively rare.¹⁸⁸ Some empirical research suggests that majority authors have significant control over opinion content.¹⁸⁹ Prior research has relied on opinion authorship as a measure of influence for precedents.¹⁹⁰ It is generally believed that selecting the opinion author is an important strategic move, which

183. See *supra* Section III.A.

184. This is evident from empirical evidence finding that higher caseloads are associated with less dissenting behavior. Lee Epstein, William M. Landes & Richard A. Posner, *Why (and When) Judges Dissent: A Theoretical and Empirical Analysis*, 3 J. LEGAL ANALYSIS 101, 105 (2011).

185. *Id.* at 103-04.

186. See, e.g., Virginia A. Hettinger, Stefanie A. Lindquist & Wendy L. Martinek, *Separate Opinion Writing on the United States Courts of Appeals*, 31 AM. POL. RES. 215 (2003) (discussing costs of separate opinion writing); Lax & Cameron, *supra* note 145, at 277 (noting that the costs of opinion writing would drive a justice to accept language that he or she did not prefer). A model including these costs found that an opinion author would generally be able to draft the opinion that he or she desired. Charles M. Cameron & Lewis A. Kornhauser, *Modeling Collegial Courts (3): Judicial Objectives, Opinion Content, Voting and Adjudication Equilibria* 18 (N.Y. Univ. Sch. of Law, Law and Economics Research Paper Series, Working Paper No. 08-54, 2008), available at <http://ssm.com/abstract=1296071>.

187. See Lax & Cameron, *supra* note 145, at 279.

188. See, e.g., James F. Spriggs II, Forrest Maltzman & Paul J. Wahlbeck, *Bargaining on the U.S. Supreme Court: Justices' Responses to Majority Opinion Drafts*, 61 J. POL. 485, 498 (1999). Moreover, only a minority of such bargaining statements seemed to produce a change in the majority opinion language. EPSTEIN & KNIGHT, *supra* note 142, at 99.

189. See Montgomery N. Kosma, *Measuring the Influence of Supreme Court Justices*, 27 J. LEGAL STUD. 333 (1998); Chris W. Bonneau et al., *Agenda Control, the Median Justice, and the Majority Opinion on the U.S. Supreme Court*, 51 AM. J. POL. SCI. 890, 902-03 (2007) (considering the ideological alignment of the justices and finding that the opinion author appeared to have considerable control).

190. See Kosma, *supra* note 189, at 337.

implies that such authorship is significant.¹⁹¹ The mere fact that opinions are signed by the author is some attribution of importance.¹⁹²

Moreover, linguistic style may be a place where other justices are less likely to take issue with majority opinion authors. The relative use of particular emotions may not be a place where other justices are likely to quibble. For example, Justice Brennan had a reputation for sneaking into opinions a “seemingly innocuous casual statement or footnote” that would later be exploited to drive the law’s content.¹⁹³ Perhaps language style is a place where other justices would be less demanding. Thus, we expect to see some differences in linguistics depending on the opinion’s author.

The opinion authors’ language will vary by type of opinion, as discussed in the preceding Section.¹⁹⁴ Consequently, we differentiate the authors by opinion type. We again used the same LIWC standards discussed in the Section on opinion type.¹⁹⁵ Sotomayor had only fifteen authored opinions in our data, so her results should be considered less reliable. In addition, her numbers may be affected by the “freshman effect.”¹⁹⁶ All the other justices issued more than sixty opinions.

191. See Forrest Maltzman & Paul J. Wahlbeck, *May It Please the Chief? Opinion Assignments in the Rehnquist Court*, 40 AM. J. POL. SCI. 421, 421-22 (1996). Justice Fortas declared, “If the Chief Justice assigns the writing of the opinion of the Court to Mr. Justice *A*, a statement of profound consequence may emerge[.]” but “[i]f he assigns it to Mr. Justice *B*, the opinion of the Court may be of limited consequence.” Abe Fortas, *Chief Justice Warren: The Enigma of Leadership*, 84 YALE L.J. 405, 405 (1975).

192. See Chemerinsky, *supra* note 30, at 2032-33 (noting this fact and pointing to cases when the Court departed from its tradition of having a single author for opinions).

193. SETH STERN & STEPHEN WERMIEL, JUSTICE BRENNAN: LIBERAL CHAMPION 343 (2010). Justice Powell told his clerks that Justice Brennan had a “demonstrated ability . . . to shape future decisions by the inclusion of general language unnecessary to the present opinion but apparently free from serious objection.” *Id.* at 444 (quoting Note from Justice Powell to His Law Clerk (Apr. 21, 1978)).

194. See *supra* Section III.A.

195. See *supra* Section III.A.

196. See, e.g., Terry Bowen, *Consensual Norms and the Freshman Effect on the United States Supreme Court*, 76 SOC. SCI. Q. 222 (1995) (discussing the hypothesis that justices in their first year will be affected by their newness on the Court); Terry Bowen & John M. Scheb, II, *Reassessing the “Freshman Effect”*: *The Voting Bloc Alignment of New Justices on the United States Supreme Court, 1921-90*, 15 POL. BEHAV. 1 (1993); Robert L. Dudley, *The Freshman Effect and Voting Alignments: A Reexamination of Judicial Folklore*, 21 AM. POL. Q. 360 (1993);

We begin by comparing the raw number of words per opinion by justice. The significance of this variable is somewhat obscure, as more words may simply be unnecessary.¹⁹⁷ However, opinion length may be regarded as an indicator of legal style, displaying a more traditional approach to writing.¹⁹⁸ On the other hand, brevity has been encouraged for judicial opinions.¹⁹⁹

Longer opinions might be considered to be of higher quality.²⁰⁰ Every word of a Supreme Court opinion is legally significant and may be quoted by lower courts to resolve cases.²⁰¹ We would hypothesize that justices who write longer opinions are more committed to defining the law and projecting the influence of the Supreme Court, while those who write shorter opinions prefer to keep things open and provide greater flexibility to future lower court decisions. The comparative average number of words used in opinions are displayed in the following table.

Table 1
Words by Justice

Justice	Majority	Concurrence	Dissent
Alito	4487	1133	3165
Breyer	4061	550	3363
Ginsburg	3953	507	2137
Kennedy	6490	1479	3983
Roberts	4821	1283	3643
Scalia	4272	1483	2649
Souter	4074	664	2371
Stevens	5888	1285	2787
Sotomayor	4185	1349	5062
Thomas	3227	1614	3309

Timothy M. Hagle, “*Freshman Effects*” for Supreme Court Justices, 37 AM. J. POL. SCI. 1142 (1993).

197. See Black & Spriggs, *supra* note 12, at 627 (observing that “[m]any commentators contend Supreme Court opinions are [too] long and argue longer opinions result in a variety of negative consequences”). Longer opinions obviously take longer to read and understand and may “invite uncertainty” about the law. DAVID M. O’BRIEN, STORM CENTER: THE SUPREME COURT IN AMERICAN POLITICS 303 (7th ed. 2005).

198. See Posner, *supra* note 109, at 1429.

199. See DOMNARSKI, *supra* note 40, at 35.

200. See Robert A. Kagan et al., *The Evolution of State Supreme Courts*, 76 MICH L. REV. 961, 970-73 (1978) (suggesting that length, as well as citations, can bear on the quality of court opinions).

201. Indeed, research shows that longer opinions are more likely to be cited in the future. See Black & Spriggs, *supra* note 12, at 676-79.

Justice Kennedy had the longest majority opinions, perhaps because he was assigned particularly important cases as the median justice.²⁰² But he also wrote relatively long concurrences and the longest dissents (discounting the numbers for the relatively few Sotomayor dissents). Justices Thomas and Scalia wrote relatively long concurrences but relatively short dissents. Justice Breyer was the opposite. Justice Ginsburg seems particularly laconic, drafting shorter opinions regardless of opinion type. Justice Souter likewise wrote fewer words. Justice Scalia was rather pithy in majority opinions and dissents.

These preliminary results must be qualified for the lack of other considerations. Data shows that opinion length will vary depending on the size of the majority coalition, the significance of the case, the legal area of the case, the workload, and other factors.²⁰³ Some of these factors wash out because the justices were deciding the same set of cases in the same years.

Some preliminary conclusions may be drawn. Justices Ginsburg and Souter clearly write shorter opinions. Justice Kennedy writes especially long opinions, even when they are separate opinions. This has various possible implications. Longer opinions offer more law to the lower courts, but they may also have hedged the legal standards. Shorter opinions may be simpler and clearer.

The next category for observation is words of certainty. Higher levels of certainty by nature reveal more self-confidence in one's legal conclusions. They may be associated with stronger, clearer legal rules. Research suggests that greater attitudinal certainty makes one resistant to change and may be associated with closed mindedness.²⁰⁴ One would want a certain level of certainty at the Supreme Court, to lay down clear rules, but not too much, which suggests being closed to persuasive argument.²⁰⁵ The precise, correct

202. See Theodore S. Arrington & Saul Brenner, *Testing Murphy's Strategic Model: Assigning the Majority Opinion to the Marginal Justice in the Conference Coalition on the U.S. Supreme Court*, 36 AM. POL. RES. 416 (2008). When an opinion is closely decided, assigning the majority opinion to the most moderate member of the majority coalition will reduce the risk that this justice will reverse course and destroy the majority.

203. See Black & Spriggs, *supra* note 12.

204. Joshua J. Clarkon, Zakary L. Tormala & Derek D. Rucker, *Cognitive and Affective Matching Effects in Persuasion: An Amplification Perspective*, 37 PERSONALITY & SOC. PSYCHOL. BULL. 1415, 1416 (2011). The authors note that these attitudes are less open to persuasion by others. *Id.*

205. *Id.*

amount, of course, is indeterminate. By reputation, one might expect Justices Scalia and Thomas to show higher levels of certainty, but this is testable, and our results are reported in the following table.

Table 2
Certainty by Justice

Justice	Majority	Concurrence	Dissent
Alito	1.41	1.74	1.61
Breyer	1.42	1.48	1.47
Ginsburg	1.28	0.73	1.18
Kennedy	1.28	1.80	1.69
Roberts	1.26	1.60	1.66
Scalia	1.54	2.01	2.03
Souter	1.28	1.76	1.56
Stevens	1.53	1.91	1.61
Sotomayor	1.22	1.25	1.42
Thomas	1.41	1.38	1.66

Concurrences and dissents pretty consistently have more certainty. While one might expect deference to a majority opinion to reduce certainty, any such effect is clearly overcome by the lack of need to compromise with other justices.²⁰⁶ As expected, Justice Scalia has especially high levels of certainty in his opinions. Justice Thomas, though, shows rather low levels of certainty in his. Justice Ginsburg shows remarkably low levels of certainty, even considering her lower word counts.

The next analysis considers the relative use of words of cognitive mechanism. The LIWC searches for particular words that are associated with cognitive processes.²⁰⁷ The number of cognitive words per Justice is set forth in the table below.

Table 3
Cognitive Mechanisms by Justice

Justice	Majority	Concurrence	Dissent
Alito	14.95	16.75	15.86
Breyer	15.37	16.71	15.93
Ginsburg	13.76	14.27	14.31
Kennedy	15.09	17.63	15.90

206. See discussion *supra* Section III.A.

207. See discussion *supra* Section II.B.

Roberts	14.72	15.82	15.50
Scalia	15.39	16.47	16.55
Souter	15.48	16.24	15.90
Stevens	14.82	16.74	16.10
Sotomayor	15.53	15.77	15.58
Thomas	14.24	15.19	15.30

For the justices, such cognitive words are most common in concurrences, followed by dissents, followed by majority opinions. Justice Ginsburg was again the lowest, due in part to her tendency to use fewer words of any sort. Justices Scalia and Stevens had the highest rates in dissent, while Justices Scalia, Souter, and Breyer had the highest rate in majority opinions. Justice Kennedy is especially high for concurring opinions. Justice Sotomayor seems especially high on this scale, though with a small sample size. Justice Thomas, though, was relatively low across the board.

Owens and Wedeking suggest that such cognitive words reduce the clarity of an opinion's law.²⁰⁸ This hypothesis is not an intrinsic implication of any of the words measured, however. Justice Scalia is high on cognitive words, yet is known for setting clear rules in opinions.²⁰⁹ There is nothing unclear about an absolute refusal to consider legislative history, for example. It seems plausible to consider more use of cognitive words as a sign of opinion quality, though this remains uncertain and subject to further examination.

The next comparison involves words of anger. While cognitive words seem associated with the cool, rational thinking expected of justices, the use of anger might seem to be a lapse by the justices. This is not necessarily the case, though, and the use of emotion may be a strategic tool that makes opinions more powerful.²¹⁰

Words of anger may thus be strategically used. While one might expect dissenting opinions to use more words of anger objecting to the majority, the above Section demonstrated that this was not the case.²¹¹ While one might expect Scalia's strong opinions about law to produce more words of anger, he is known within the Court as not angry, befriending other justices of different views, such

208. Owens & Wedeking, *supra* note 71, at 1038.

209. *Id.* at 1027.

210. See Annie M. Smith, Comment, *Great Judicial Opinions Versus Great Literature: Should the Two Be Measured by the Same Criteria?*, 36 MCGEORGE L. REV. 757, 757-58, 761-62 (2005).

211. See *supra* notes 163-64 and accompanying text.

as Justice Ginsburg.²¹² Chief Justice Roberts and Justice Breyer have a reputation of carefulness, where one might expect less anger. But both have strong views that might produce anger in an opinion. The Court of the era is relatively conservative, so perhaps liberals could be expected to show more anger.

The next analysis uses the same method to test for words of anger used by the justices; the table below shows the relatively few average words of anger used by each justice.

Table 4
Anger by Justice

Justice	Majority	Concurrence	Dissent
Alito	.71	1.07	1.00
Breyer	.83	.65	.65
Ginsburg	.78	.44	.56
Kennedy	.74	.57	.77
Roberts	.64	.61	.55
Scalia	.82	.67	.71
Souter	.69	.77	.46
Stevens	.83	.55	.65
Sotomayor	.96	.31	.46
Thomas	.66	.69	.84

Chief Justice Roberts showed the lowest use of anger overall, consistent with his relatively cool image. If we assume that dissents and concurrences are the most revealing of justices, though, more interesting patterns emerge. Justice Alito, and to a lesser degree Justice Thomas, show relatively high levels of anger when they disagree with majority opinions. Because these separate opinions are more likely the product of the authoring justice, they are revealing about their approach to opinion writing.

We follow this analysis with a consideration of positivity expressed in opinions. This is done by taking the score for positive emotion words and subtracting the negative emotion words found in opinions. The results are displayed in the following table.

212. See, e.g., Phil Brennan, *Justice Scalia: Ruth Ginsburg Is My Best Friend*, NEWSMAX (May 16, 2008, 5:09 PM), <http://www.newsmax.com/InsideCover/scalia-ginsberg/2008/05/16/id/323695/>.

Scalia reported that he was a good friend of all his colleagues and that Justice Ginsburg was his best friend. *Id.*

Table 5
Positivity by Justice

Justice	Majority	Concurrence	Dissent
Alito	0.35	-.51	-.30
Breyer	-.13	.39	.30
Ginsburg	.47	.80	.23
Kennedy	.12	.70	.21
Roberts	.40	1.20	.68
Scalia	.14	.11	.11
Souter	.08	-.29	.70
Stevens	.00	.12	.48
Sotomayor	-.32	2.47	.46
Thomas	.62	.28	-.36

Chief Justice Roberts seems to be the most positive of the justices.²¹³ Justice Alito seems to be the most negative, as he is the only justice with negative scores for both concurrences and dissents, which are presumably more reliable indicators than majority opinions. One might expect dissents to be negative in lamenting the errors of the majority, but only Justices Alito and Thomas had negative positivity scores for dissents.

CONCLUSION

This is but a descriptive analysis meant to open the door to studies of more significance. The significance of opinion language in giving effect to opinions merits investigation. If opinions are meant as communication to the broader society, the language may affect compliance by the people or the other branches. Opinions are certainly meant as communication to judges deciding future cases, so language could be measured against precedential impact, including measures such as the likelihood of an opinion being distinguished in a future case.²¹⁴ A great deal of research has used LIWC in other

213. Justice Sotomayor's unusually high positivity rating for concurrences should be discounted, as she only wrote two concurrences in our data set.

214. We have found, for example, that Justice Scalia's opinions were powerful, both positively and negatively. *See generally* Frank B. Cross, *Determinants of Citations to Supreme Court Opinions (and the Remarkable Influence of Justice Scalia)*, 18 SUP. CT. ECON. REV. 177 (2010).

contexts, especially health care, and it should be extended to analyzing the meaning of judicial opinions.

The opinion language chosen by a judge also provides insight into that judge's personality.²¹⁵ Judicial personalities are surely associated with different approaches to decision and opinion content. Some may be more effective than others. Justice Traynor's personality was said to be important to his torts jurisprudence.²¹⁶ LIWC has shown reliability as a measure of an individual's personality differences.²¹⁷ The significance of personality traits for judging is potentially important.

We can draw some preliminary conclusions about the justices. While Justices Alito and Roberts are commonly paired, and they vote quite similarly, Alito is far more angry and negative in his words, while Chief Justice Roberts is more upbeat. Justice Ginsburg uses relatively few words in her opinions. The differences for other justices are less profound.

Having produced certain findings, the implications are not entirely clear. Tetlock, Bernzweig, and Gallant suggest that greater cognitive complexity is a strength in judicial reasoning,²¹⁸ while Owens and Wedeking suggest it may be a weakness, diminishing the clarity of the opinion.²¹⁹ Others suggest that a balance is best.²²⁰ A

215. See discussion *supra* Section III.B.

216. See Wex S. Malone, *Contrasting Images of Torts—The Judicial Personality of Justice Traynor*, 13 STAN. L. REV. 779, 781 (1961).

217. See generally Lisa A. Fast & David C. Funder, *Personality as Manifest in Word Use: Correlations with Self-Report, Acquaintance Report, and Behavior*, 94 J. PERSONALITY & SOC. PSYCHOL. 334 (2008); Francois Mairesse et al., *Using Linguistic Cues for the Automatic Recognition of Personality in Conversation and Text*, 30 J. ARTIFICIAL INTELLIGENCE RES. 457, 465-67 (2007) (demonstrating how language can be used to reveal psychological characteristics such as introversion, conscientiousness, and agreeableness); James W. Pennebaker & Laura A. King, *Linguistic Styles: Language Use as an Individual Difference*, 77 J. PERSONALITY & SOC. PSYCHOL. 1296 (1999).

218. See Tetlock, Bernzweig & Gallant, *supra* note 64, at 1232-33.

219. See Owens & Wedeking, *supra* note 71, at 1038 (noting that “as opinions become more cognitively complex, they become less clear”).

220. GEORGE, *supra* note 33, at 463 (suggesting that the opinion “writer should strive for a middle of the road approach” so that the writing “be neither too complex nor too simple”). The author noted that Justice Cardozo, a renowned judicial stylist, tended to be simple with explication of the facts but became more complex in his legal analysis. *Id.* It has been suggested that Cardozo produced “a marked improvement in the style of legal writing.” DOMNARSKI, *supra* note 40, at 67 (quoting Letter from Robert Jackson to Irving Dilliard).

study of bloggers suggested that more complex language is associated with being more influential.²²¹

There is some additional evidence on this question from studies in the military. One study found that when more group members expressed negative emotions, spoke of social processes, and used the present tense in internal communications, the group performed worse on several tasks.²²² This provides some information on the nature of the best opinions, but it is certainly not conclusive.

The proper writing style for an opinion is certainly contested.²²³ As noted throughout this Article, some have given directions on the style in which judges should write, but their recommendations should not be considered to be conclusive. The use of textual analysis, as in this Article, may illuminate the most desirable style, though this requires further research. Perhaps some styles conduce to more citations, which would be considered a positive attribute, though not if those citations tended to be negative. The justices of history have different reputations, assigned by learned commentators, and style might be associated with these findings. Perhaps certain styles are associated with more ideological, as opposed to legal, conclusions. All these possibilities and others are important and testable. Linguistic analysis of opinions offers a valuable tool to examine the hypotheses about the significance of judicial opinion writing style.

221. See Thin Nguyen et al., *Towards Discovery of Influence and Personality Traits Through Social Link Prediction* (Proceedings of the Fifth Int'l Conference on Weblogs & Social Media, July 17-21, 2011), available at http://www.researchgate.net/publication/221297946_Towards_Discovery_of_Influence_and_Personality_Traits_through_Social_Link_Prediction.

222. Mary Dzindolet & Linda Pierce, *Using Linguistic Analysis to Identify High Performing Teams* (Army Res. Lab., June 2006), available at http://www.researchgate.net/publication/235204703_Using_Linguistic_Analysis_to_Identify_High_Performing_Teams. Use of first person pronouns was also related to poor group performance. *Id.* at 13. In this study, some aspects of cognitive complex language were associated with better performance. *Id.*

223. Cass Sunstein has thus generally promoted a theory of judicial minimalism. See SUNSTEIN, *supra* note 23 (explaining the theory of rendering fact-based decisions without overly broad legal conclusions). He identified certain justices as being minimalist in nature. *Id.* Some have sought to empirically measure minimalism in opinions. See, e.g., Robert Anderson IV, *Measuring Meta-Doctrine: An Empirical Assessment of Judicial Minimalism in the Supreme Court*, 32 HARV. J.L. & PUB. POL'Y 1045 (2009). Various linguistic practices might be associated with minimalism, such as less certainty. Use of textual analysis may be employed to identify minimalist opinions, which would aid our evaluation of the approach and its consequences.