

Divergence or Dysfunction? Using LLMs to Measure Disagreement on the U.S. Supreme Court

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Divergence or Dysfunction



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The Supreme Court Justices Do Not Seem to Be Getting Along

Collegiality is scarce, and tensions are apparent.

By Steven Mazie





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- Disagreement is *central* to law
- It is also potentially corrosive to interpersonal relationships and institutional legitimacy
- **Key Challenge:** Distinguishing constructive jurisprudential disagreement from more negative personal criticisms.

Background



- Disagreement is a **necessary feature** of decision-making institutions



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- Increasing polarization on Court → shift from collegiality to contention (?)
- How can we measure this?
 - Vote splits, separate opinions (coarse) (Maltzman et al. 2000; Corley et al. 2023)
 - Opinion-level sentiment (Rice & Zorn 2016; Bryan & Ringsmuth 2016)



Understanding Disagreement



- Alternative: Disagreement as a continuum (more positive *or* more negative)
 - Disagreement can be productive, but
 - Excessive negativity harms collegiality and institutional trust
- This requires more granular + nuanced measures of disagreement / sentiment

Our Approach (Generally Speaking)



Overarching Idea: Use LLMs to assess “aspect-level” polarity (sentiment)

- **Focus:** Identifying and coding *relevant* passages for interpersonal / corrosive conflict within opinions
- **Granularity:** Sentence-level analysis for precision



- Corpus: U.S. Supreme Court Opinions from October Terms 1954 - 2010



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- Types: Majority, concurring, dissenting, “in part”



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- Types: Majority, concurring, dissenting, “in part”
- Sampling: Stratified random sample (10 cases per term, and all associated opinions) yielding 1,202 opinions for pilot analysis



1. Sentence Segmentation

*Break judicial opinions
into individual sentences*

2. Filtering

*Identify sentences referencing
other justices or opinions*

3. Sentiment Classification

*Label sentences as Posi-
tive, Negative, or Neutral*

Prompt to GPT-4o



Prompt:

1. *Analyze the following judicial statement: [statement].*
2. *Classify the statement as follows:*
 - *If it does not refer to another justice or another opinion of the U.S. Supreme Court, label as 0.*
 - *If it refers to another justice of the U.S. Supreme Court by name, label as 1.*
 - *If it refers to another judicial opinion of the U.S. Supreme Court, either in that or a previous case, label as 2.*
3. *Additionally, classify the sentiment as 'Positive', 'Negative', or 'Neutral'.*

Yields a total of 142,203 statements...

- 1,475 are identified as referring to another justice of the U.S. Supreme Court by name.
- 38,009 are identified as referencing another judicial opinion of the Court.

Example Statement: Positive



I agree, however, with JUSTICE O'CONNOR's helpful suggestion that, while political divisiveness is "an evil addressed by the Establishment Clause," the ultimate inquiry must always focus on "the character of the government activity that might cause such divisiveness."

– Brennan, J., dissenting in *Lynch v. Donnelly*

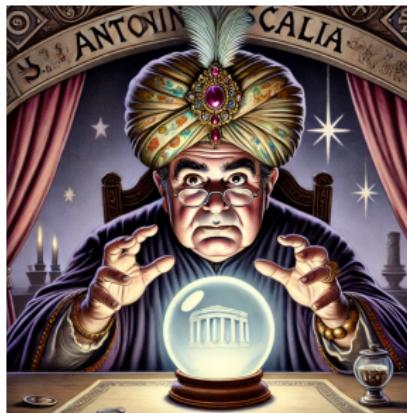


Example Statement: Negative

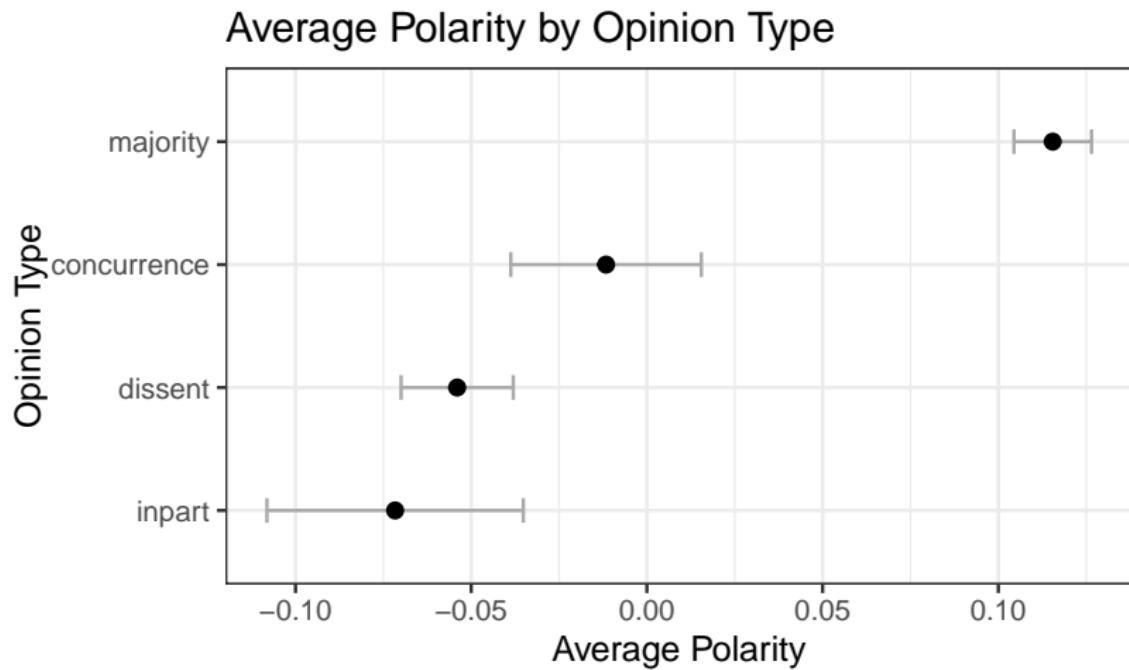


Unlike the dissent's apparent ability to read Covington's mind . . . (opinion of Scalia, J.), we rely on the available evidence, which suggests that Covington perceived an ongoing threat.

– Sotomayor, J., writing for the majority in *Michigan v. Bryant*



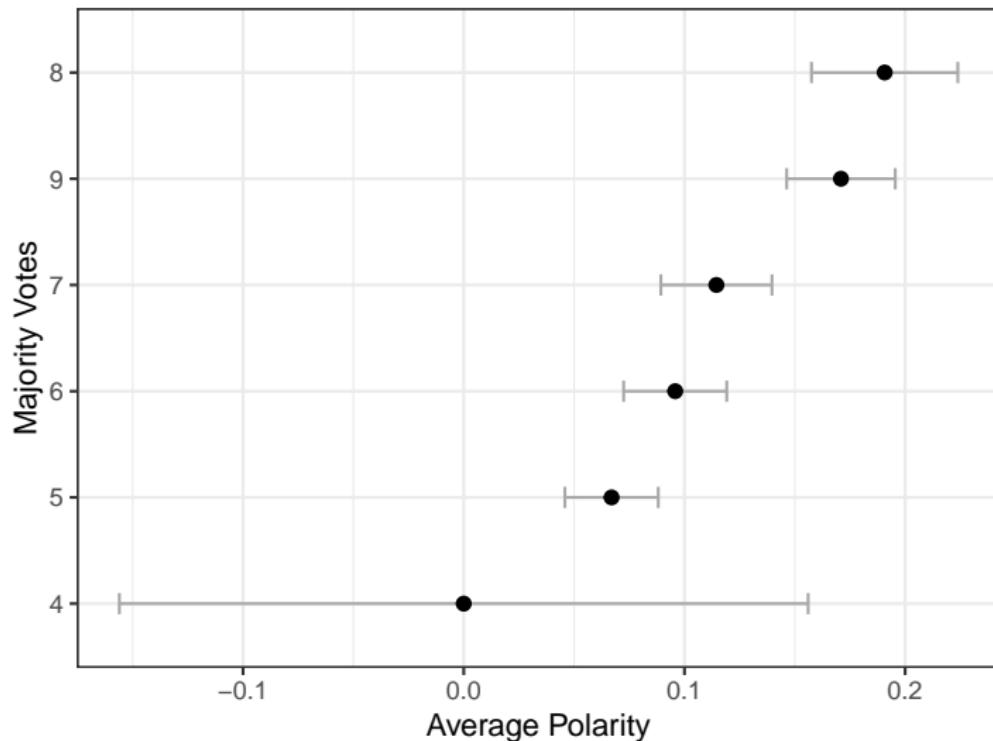
Validity Check: Polarity By Opinion Type



Validity Check: Polarity By Majority Votes



Average Polarity by Majority Votes





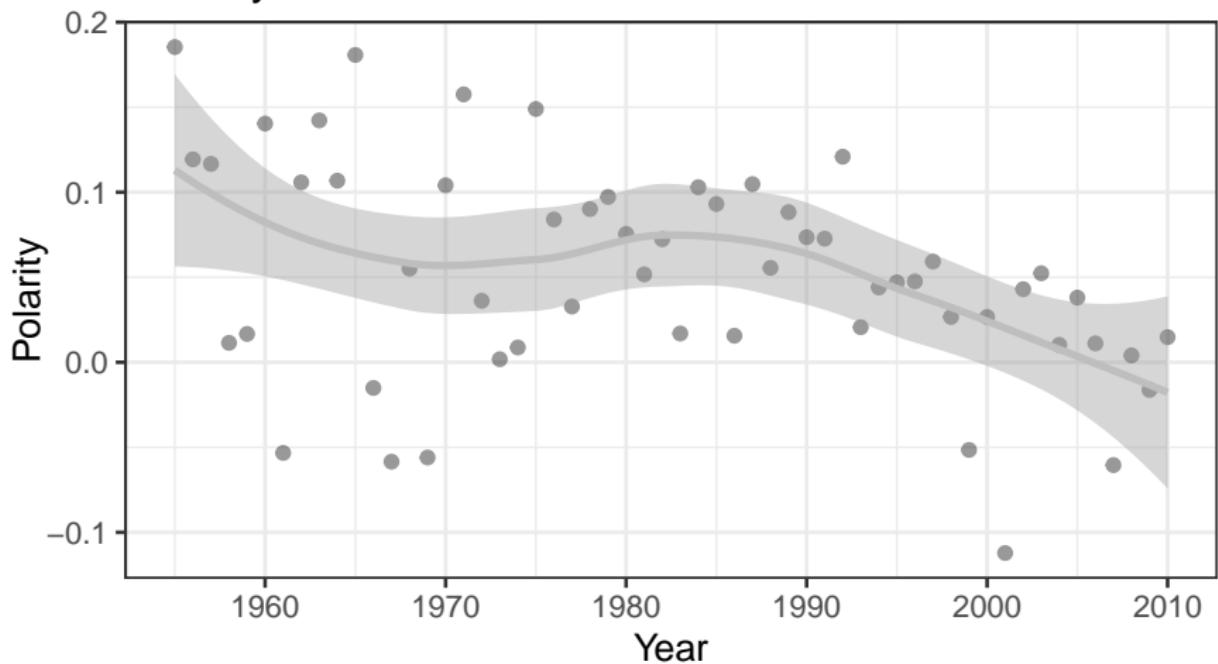
1. **How has the tone of disagreement evolved in U.S. Supreme Court opinions over time?**

2. **What role does the Chief Justice play in shaping judicial collegiality and institutional dynamics?**

Polarity Over Time



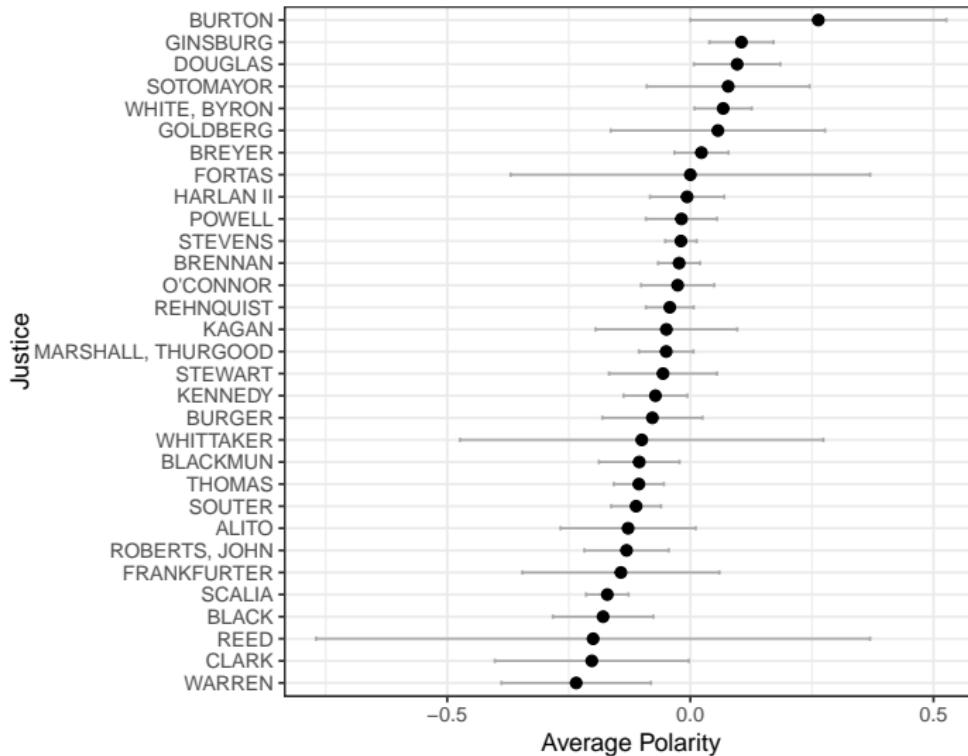
Polarity Over Time





Polarity by Justice

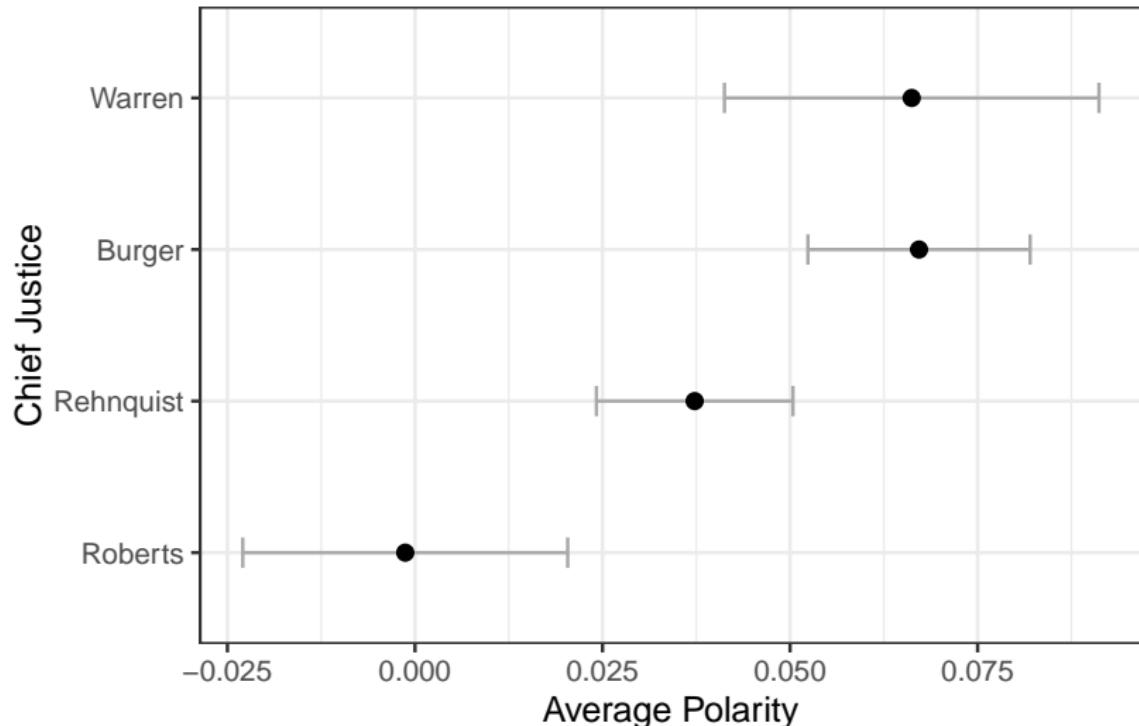
Average Polarity by Justice



Findings – Chief Justice Influence



Average Polarity by Chief Justice



Preliminary Takeaways



1. Constructive vs. destructive disagreement
2. Challenges in maintaining decorum amid polarization
3. Variation in Chief Justice “style” (cf. Danelski 1961)
4. Framework applicable to other decision-making bodies



- Extend analysis to *all* opinions (vs. sample)
- Expand time frame to 1791-2024 Terms
- Further validation of classifications (especially relevance)
- Explicitly testing replacement vs. leadership hypotheses
- Investigation of case- and justice-level determinants of positive and negative polarity

Thank You!



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