

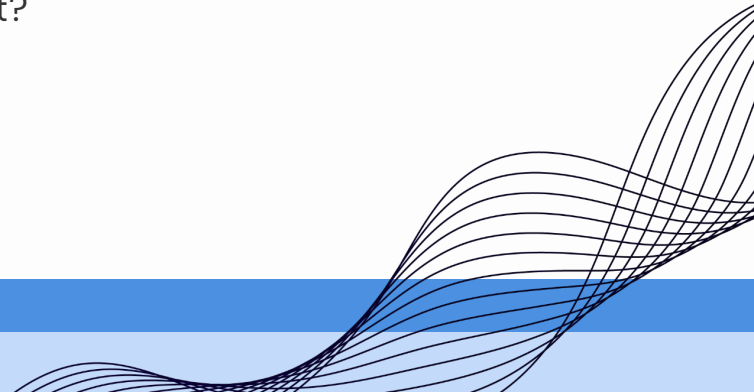
STA199 Project: Team Cooked

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Research Question and Motivation

To what extent does ideological extremism influence legislative "survivability" (seniority) across different political parties and age groups in the modern era (1990–2023)?

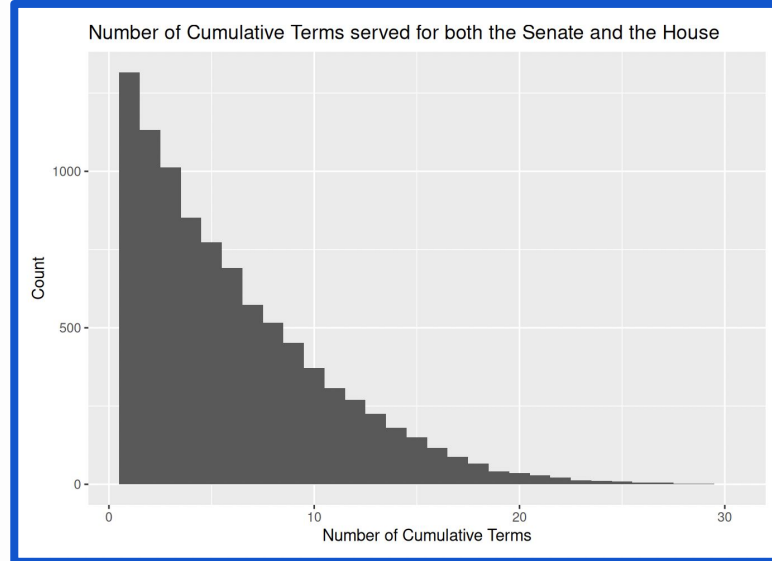
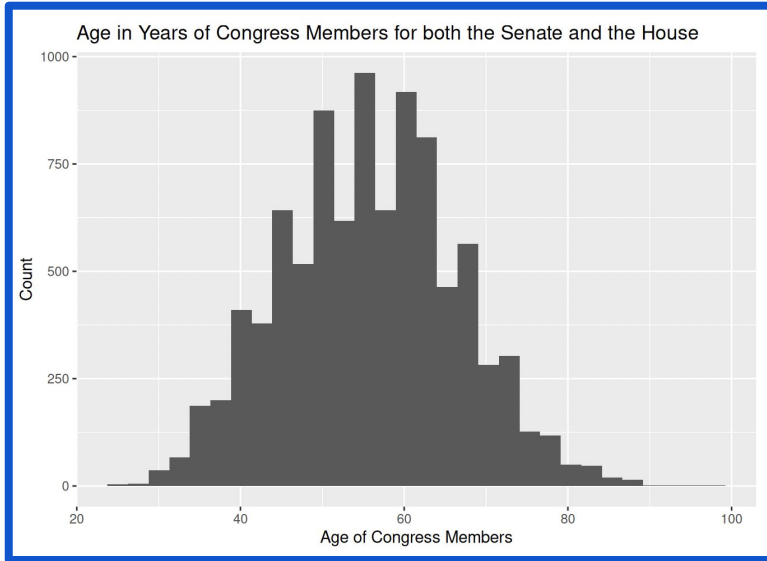
- Helps us understand legislative power structures
- How do parties/generations maintain power in government?
- How do these patterns differ by party and age cohort?



Our Data

Dataset	Source	Relevant Variables	Modified Variables
Biographical Directory of the United States Congress	<u>“Congress Today is Older than it’s Ever Been”</u>	Age (numerical), number of terms (numerical), party (categorical), and chamber (categorical).	Age variable was mutated to be numerical
Voteview Realtime NOMINATE	<u>VoteView</u>	Extremism (numerical)	<u>Extremism variable</u> : Magnitude of extremism score age_cohort extremism_level

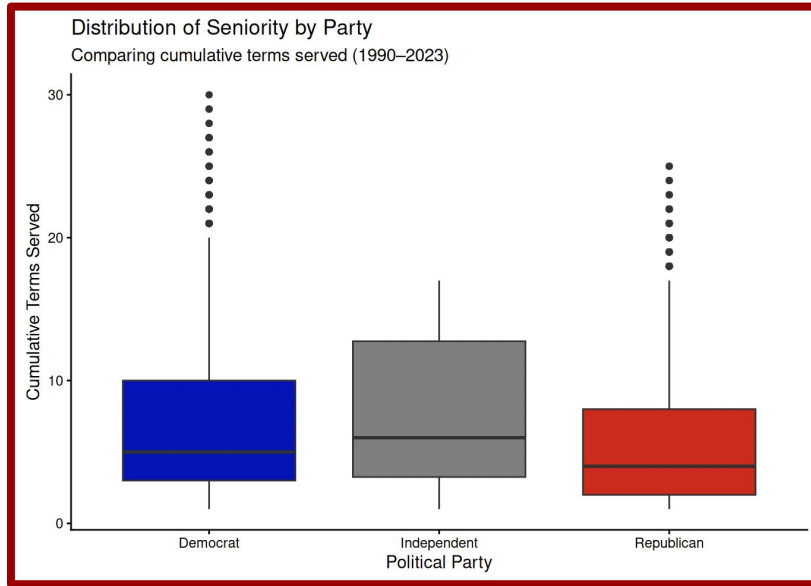
Baseline Information - Analysis of Dataset 1



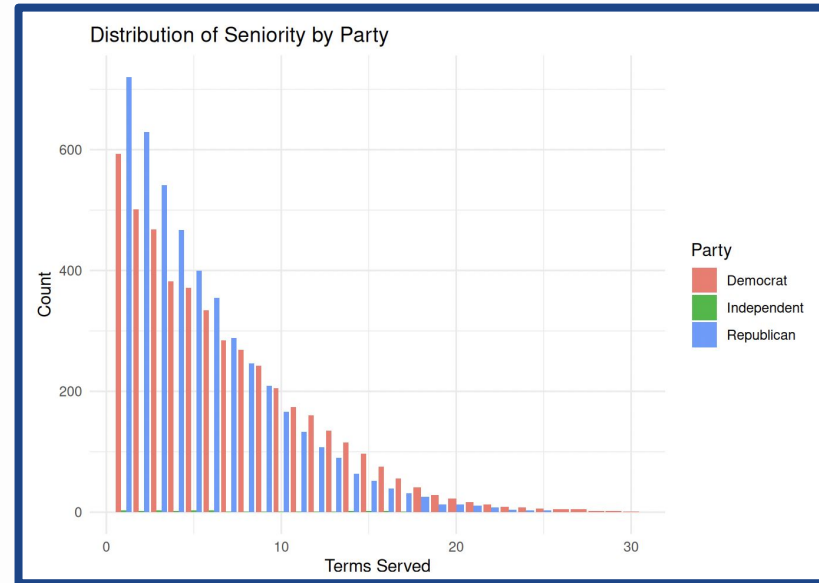
- **Appears normally distributed**
- **Late-entry combined with low "survivability"**

- **Strongly right-skewed**
- **Confirms seniority is not a guarantee for older congresspersons**

Seniority by Political Party

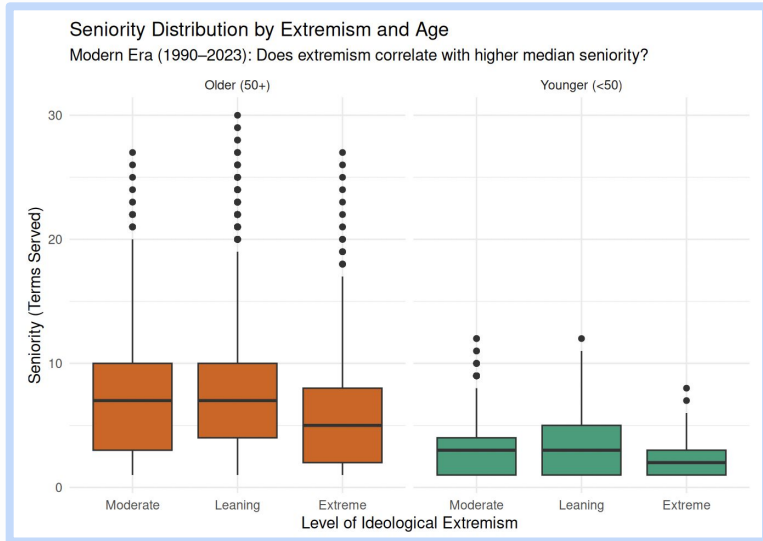


- **Minimal difference in median cumulative number of terms served by political party**



- **Confirms consistency of right-skew for “seniority” for all political parties**

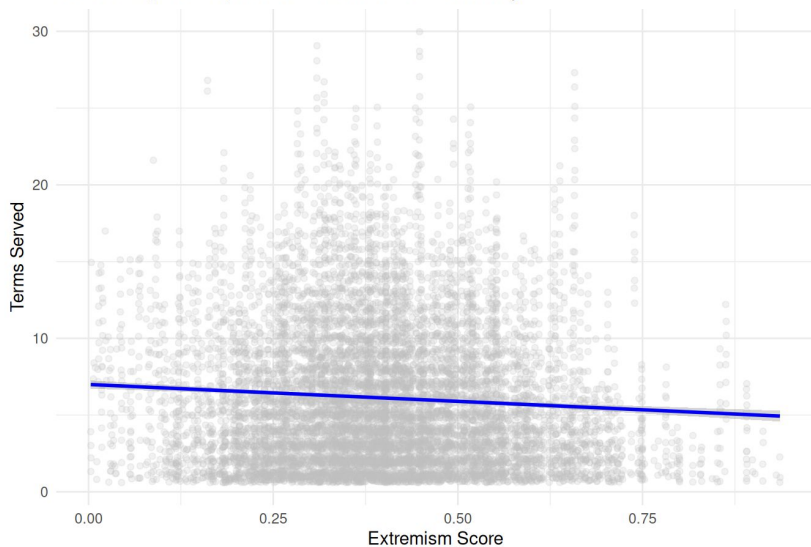
Extremism



- Older members (50+) have slightly higher seniority, but the difference is not significant
- Moderate and leaning ideologies show similar median terms served
- Extremism is not related to increased seniority and may be associated with fewer terms

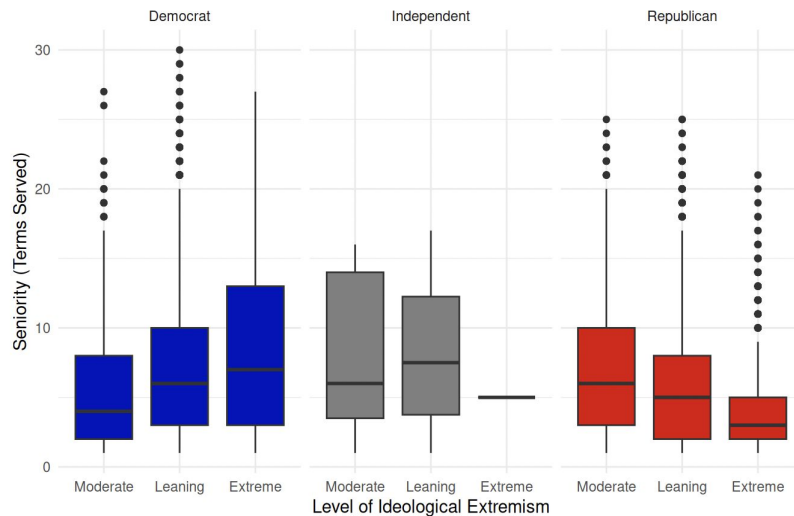
Extremism

Visualizing the Impact of Extremism on Seniority



- Slight negative trend: more extremism → fewer terms
- Intercept = 6.99 terms at extremism = 0
- Slope = -2.20 (higher extremism lowers predicted seniority)
- Weak overall relationship

Seniority Distribution by Extremism and Party
Modern Era (1990–2023)



- **Party differences matter:** Extremism has opposite patterns by party
- **Democrats:** Higher extremism → slightly higher seniority
- **Republicans:** Higher extremism → lower seniority
- **Implication:** Weakens overall hypothesis → effects of extremism depend on party

Conclusions/Discussion/Critique

Conclusions:

- There is a weak negative relationship between extremism and seniority, with more extreme legislators serving slightly fewer terms while moderates tend to have higher median tenure

Discussion:

- Moderation offers only a slight advantage, party affiliation does not strongly explain seniority differences, the effect size remains small

Critique:

- NOMINATE scores oversimplify ideology, seniority is an incomplete measure of political power, and the model omits key variables like fundraising, district composition, and competitiveness



Conclusions/Discussion/Critique

Conclusions:

- Weak negative relationship between extremism and seniority.
- More extreme legislators serve slightly fewer terms.
- Moderates consistently showed higher median tenure.

Discussion:

- Moderation only provides a slight advantage.
- Party affiliation does not strongly explain seniority differences.
- Statistically significant negative coefficient ($\beta = -2.20$), but effect size is small

Critique:

- NOMINATE scores oversimplify ideology (one-dimensional).
- Seniority is an incomplete measure of political power.
- Model omits variables like fundraising, district composition and competitiveness.

