Remembering the 2016 Election Campaign:

Temporal Proximity Predicts Free Recall Order

Mitchell G Uitvlugt and M Karl Healey

CBCC LAB

MICHIGAN STATE UNIVERSITY

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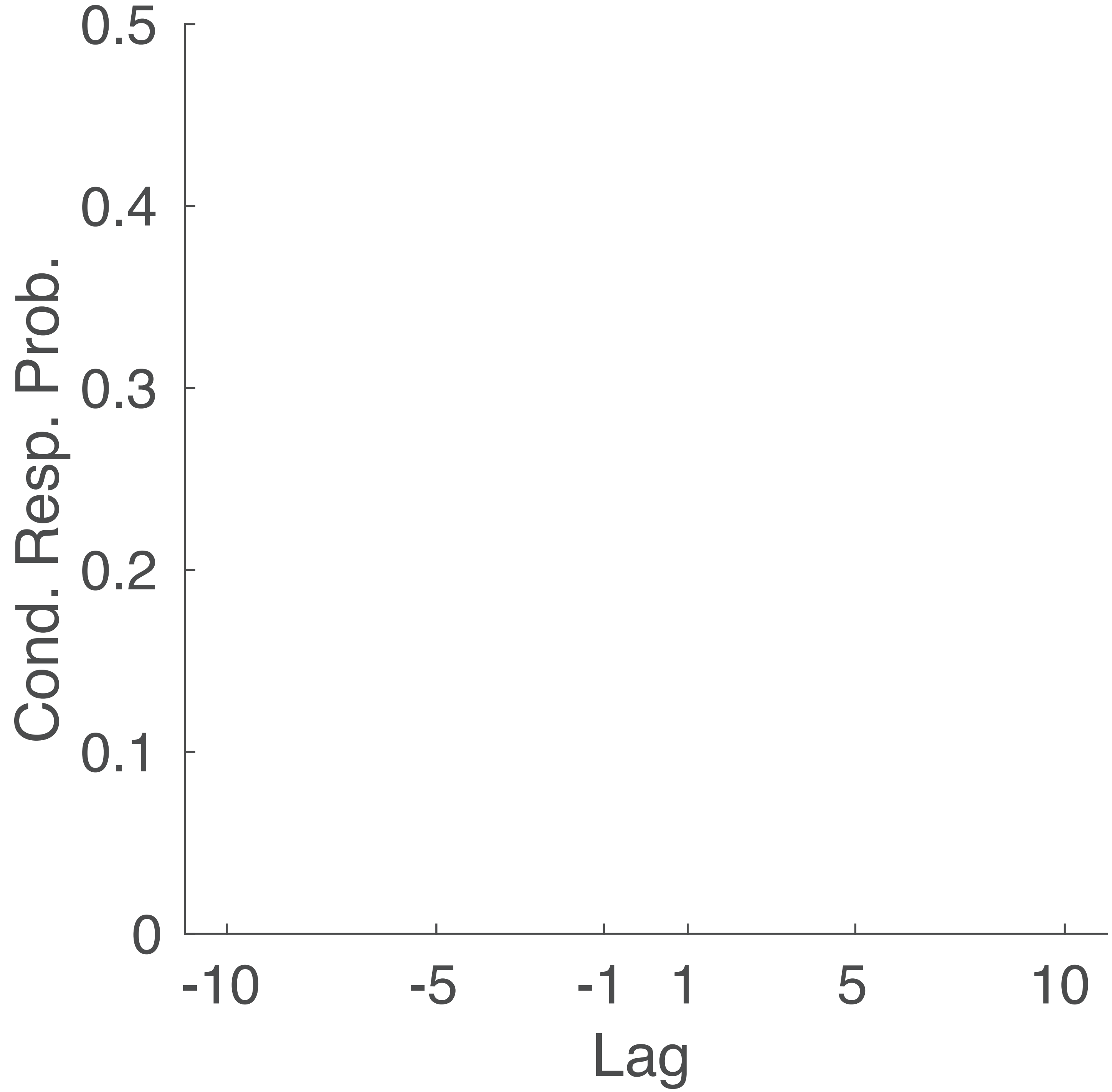

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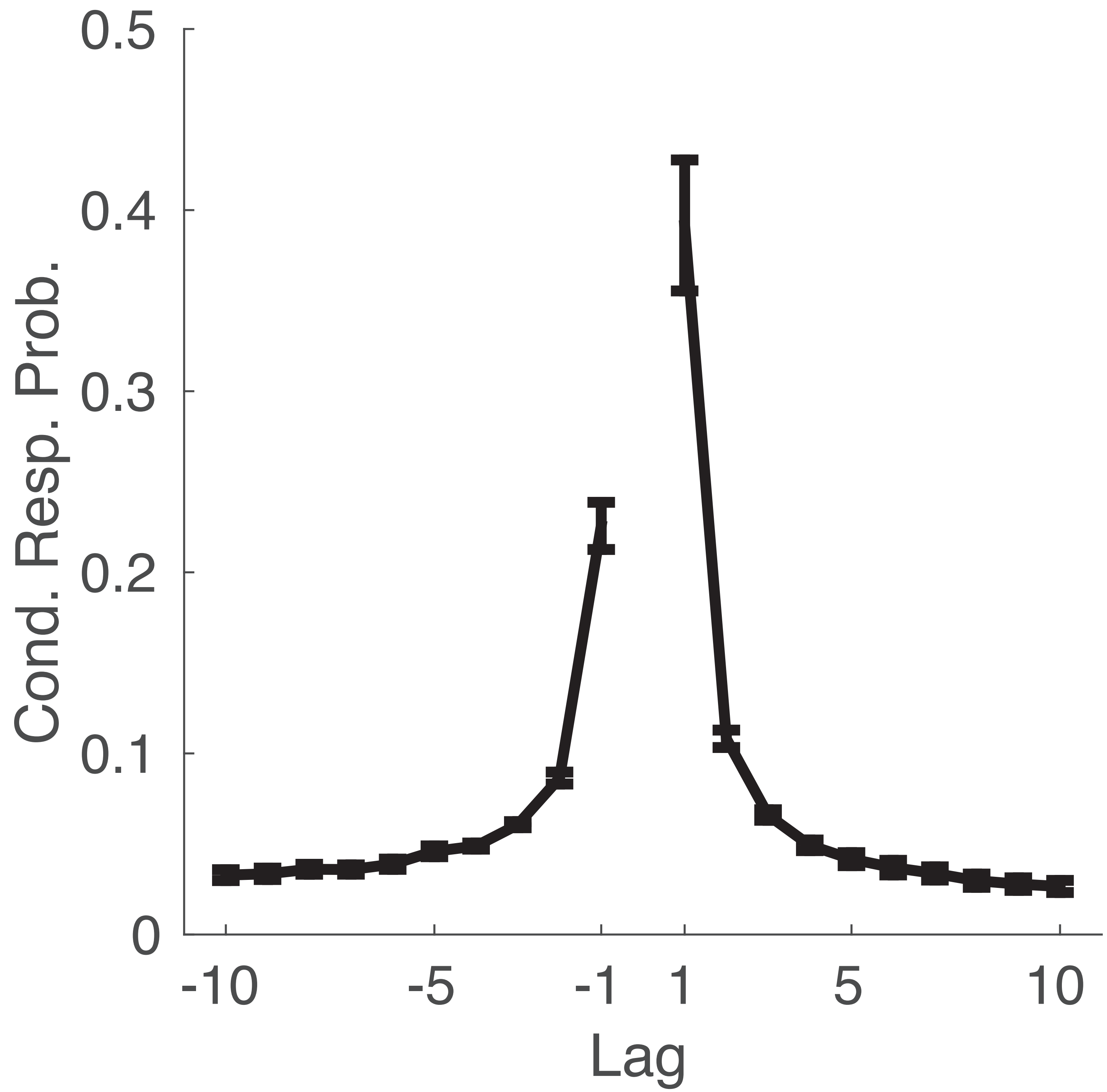

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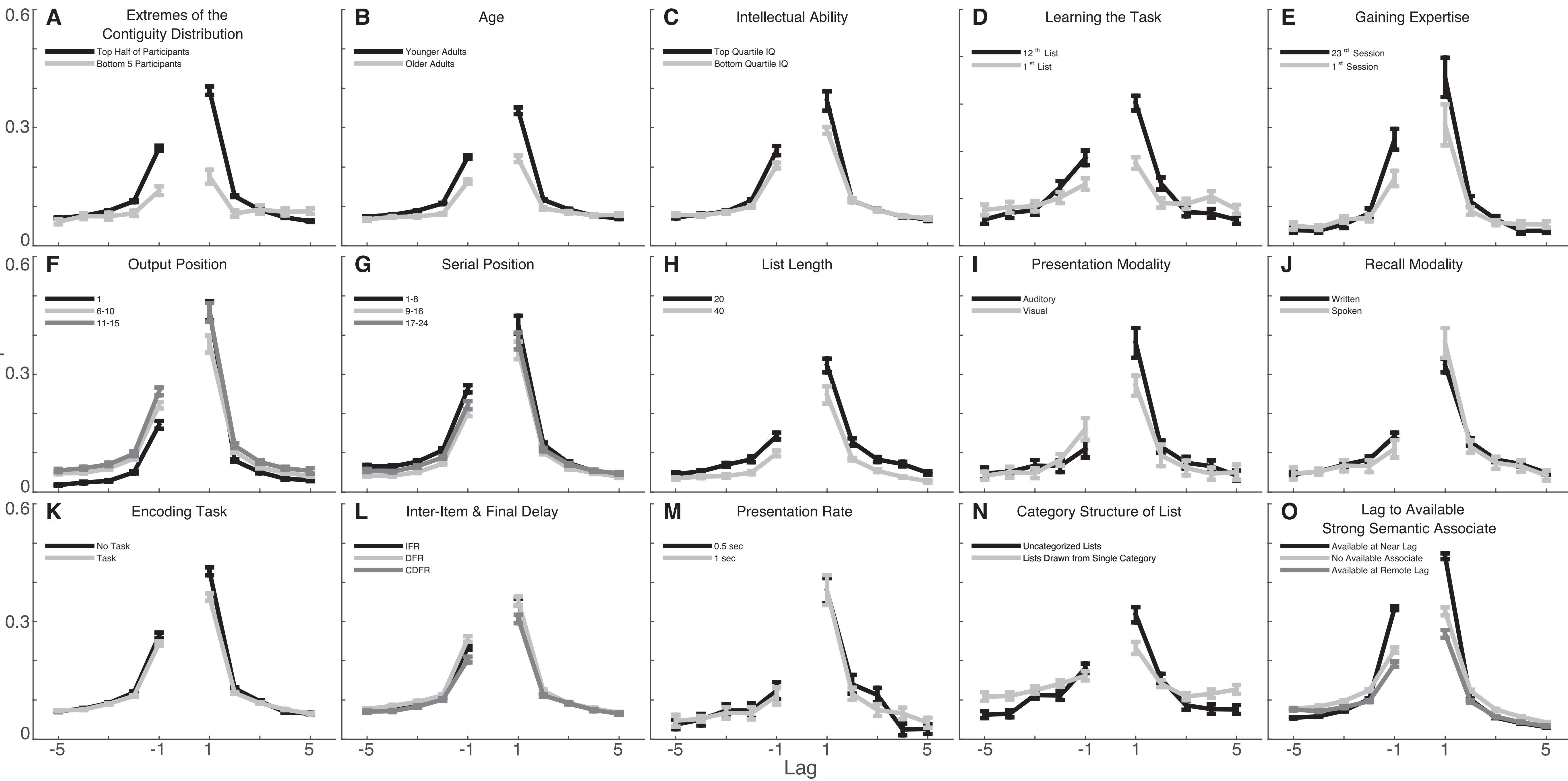

I argued that temporal contiguity supports particular models

- Models that directly encode information about temporal distance (e.g., TCM, SIMPLE)

I left you with some open questions

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  - Evidence is almost exclusively from list learning tasks
    (Moreton & Ward, 2010)
  - List have obvious chain-like structure. Could encourage subjects to recall items as a chain
  - Places claims of universality on shaky ground
    (Hintzman, 2016)

Looking for Temporal Contiguity Outside the Lab

- In the weeks following the 2016 presidential election we looked for temporal contiguity when people recalled details of the election campaign.

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- Election-related news stories are like items in free recall.
    - Except not studied one after another in a chain.
    - Instead, interwoven with other events separated by irregularly spaced intervals of days to months.

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- $N = 1{,}051$ subjects from Amazon Mechanical Turk
- 7,931 headlines ($M = 7.55$, $SD = 4.82$)
- 5,776 transitions ($M = 5.50$, $SD = 4.36$)

Calculating Transition Lags

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- October 7, 2016

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Lag = 599 - 578 = +21

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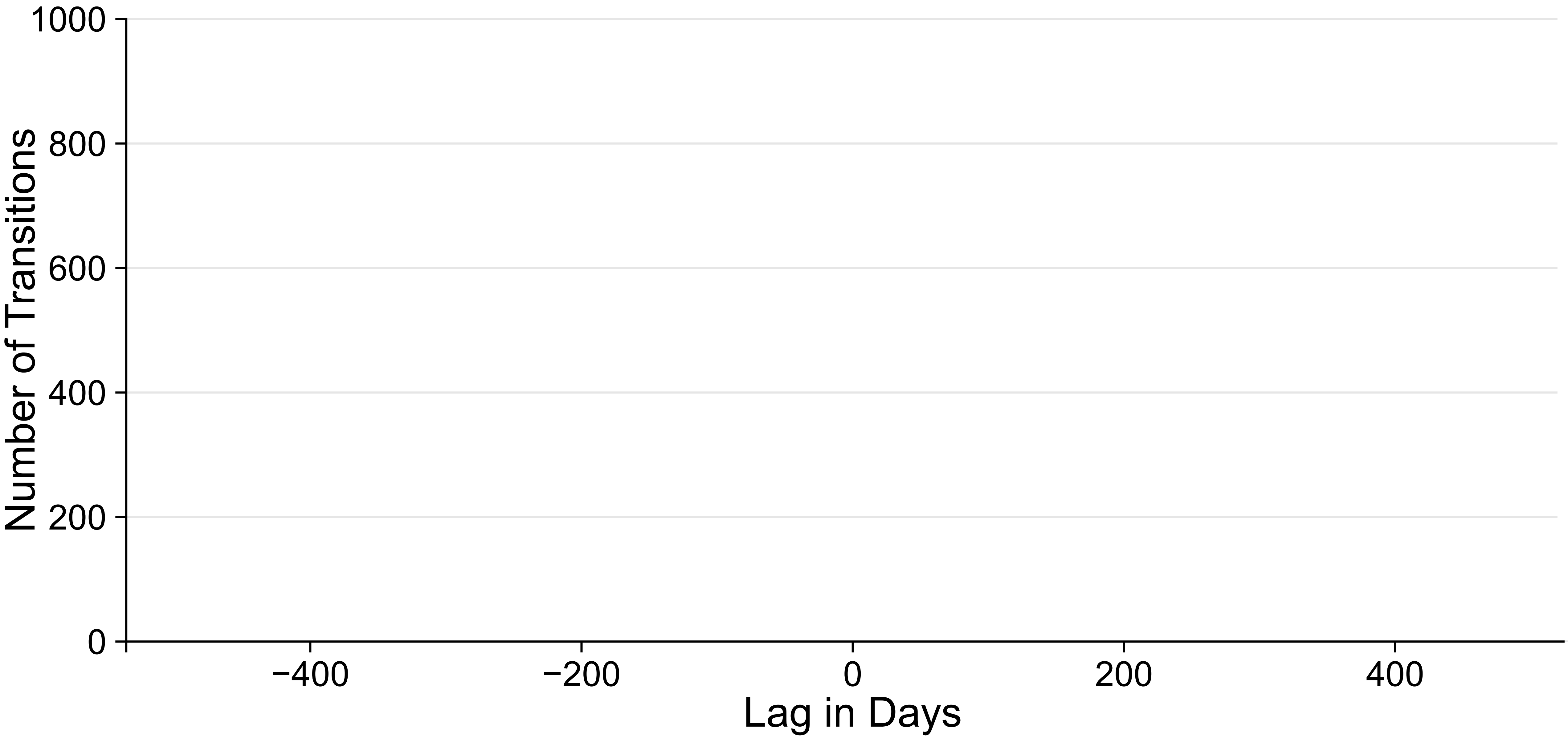
Lag = ? - ? = 0

Transition lags peak at zero days



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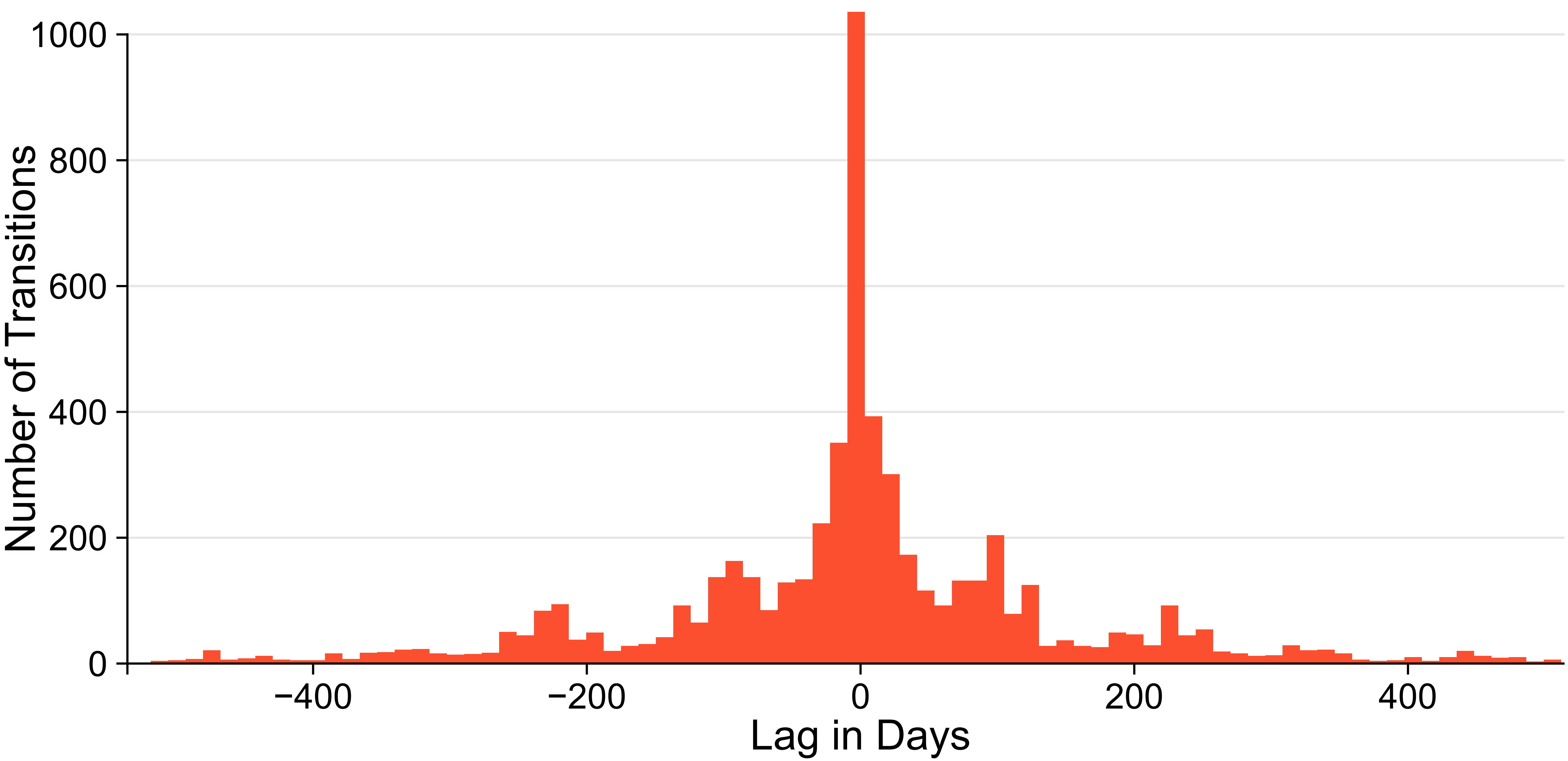

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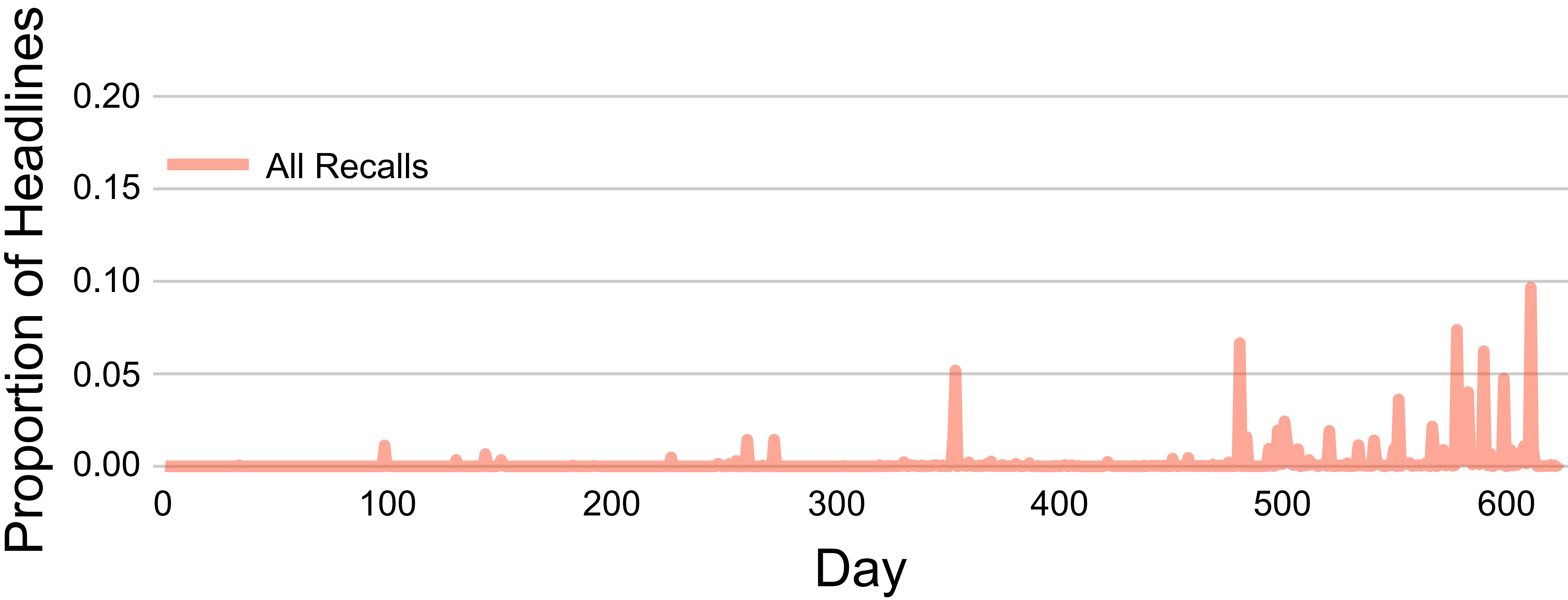
- There would be many ways to make lag-zero transitions, and few ways to make longer transitions
- We'd expect an artificial contiguity effect

Distribution of recalled headlines across days



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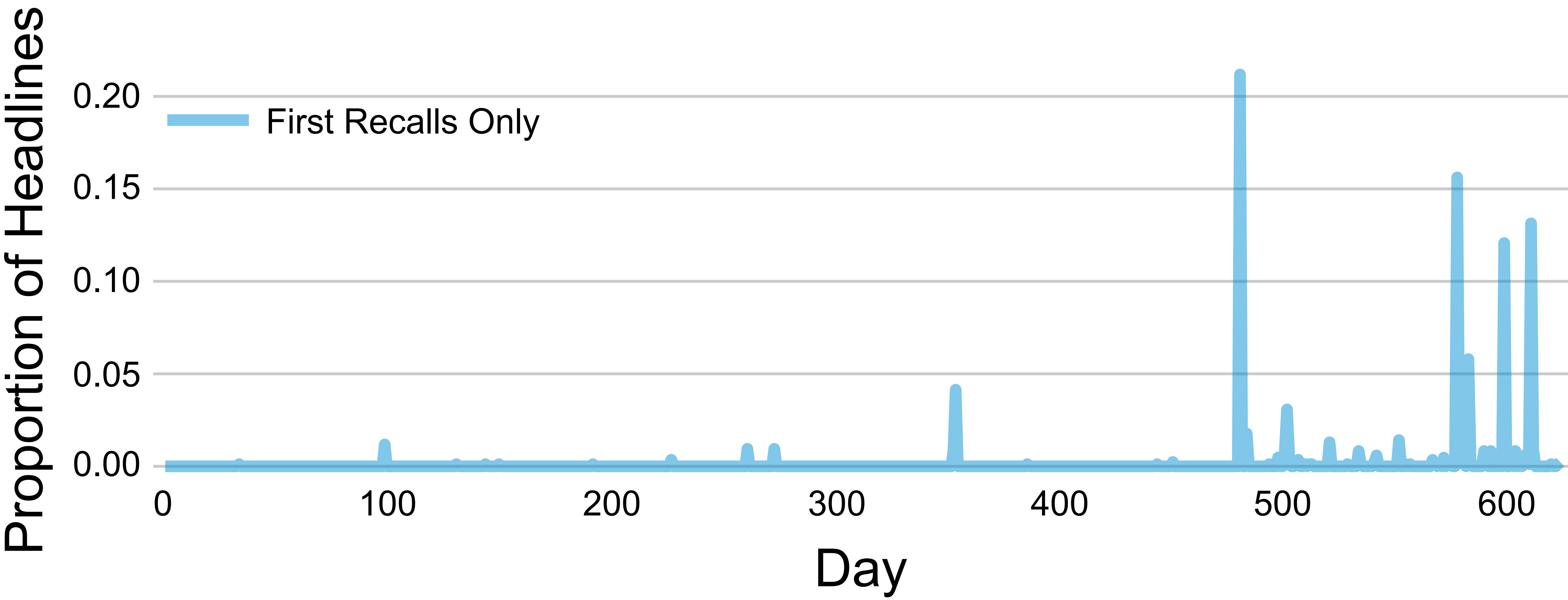

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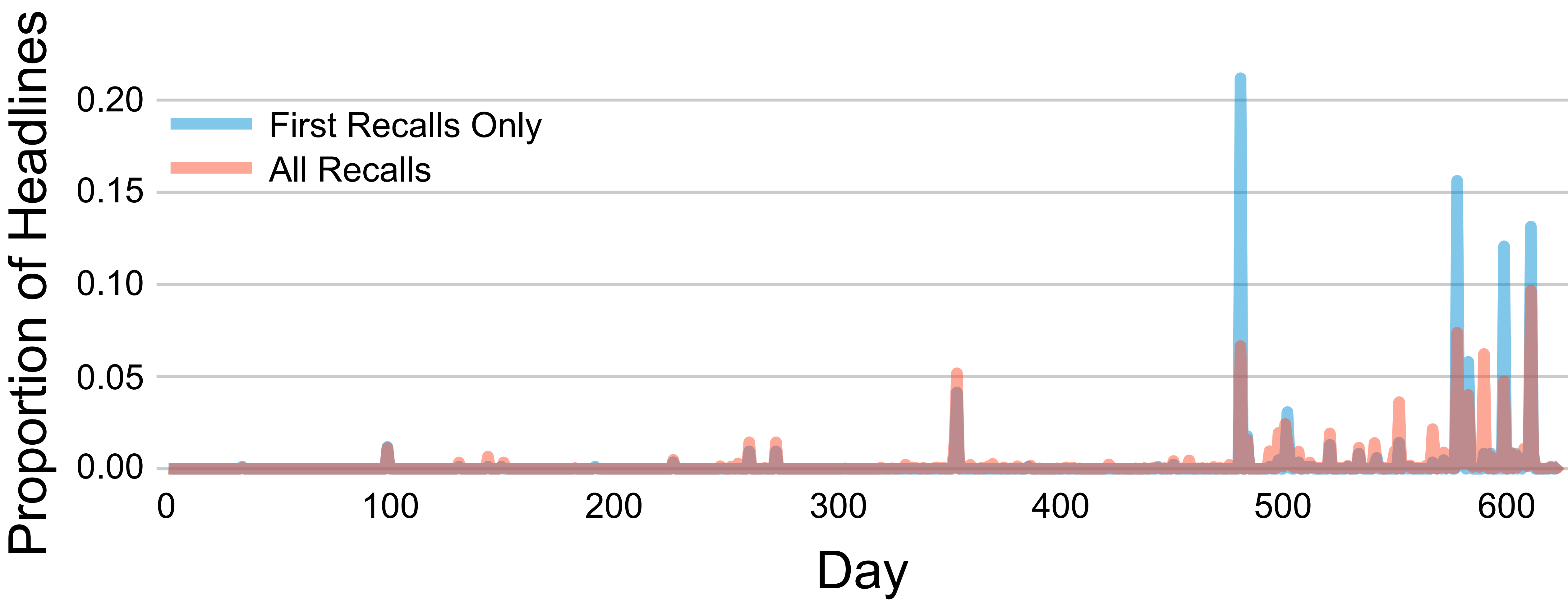

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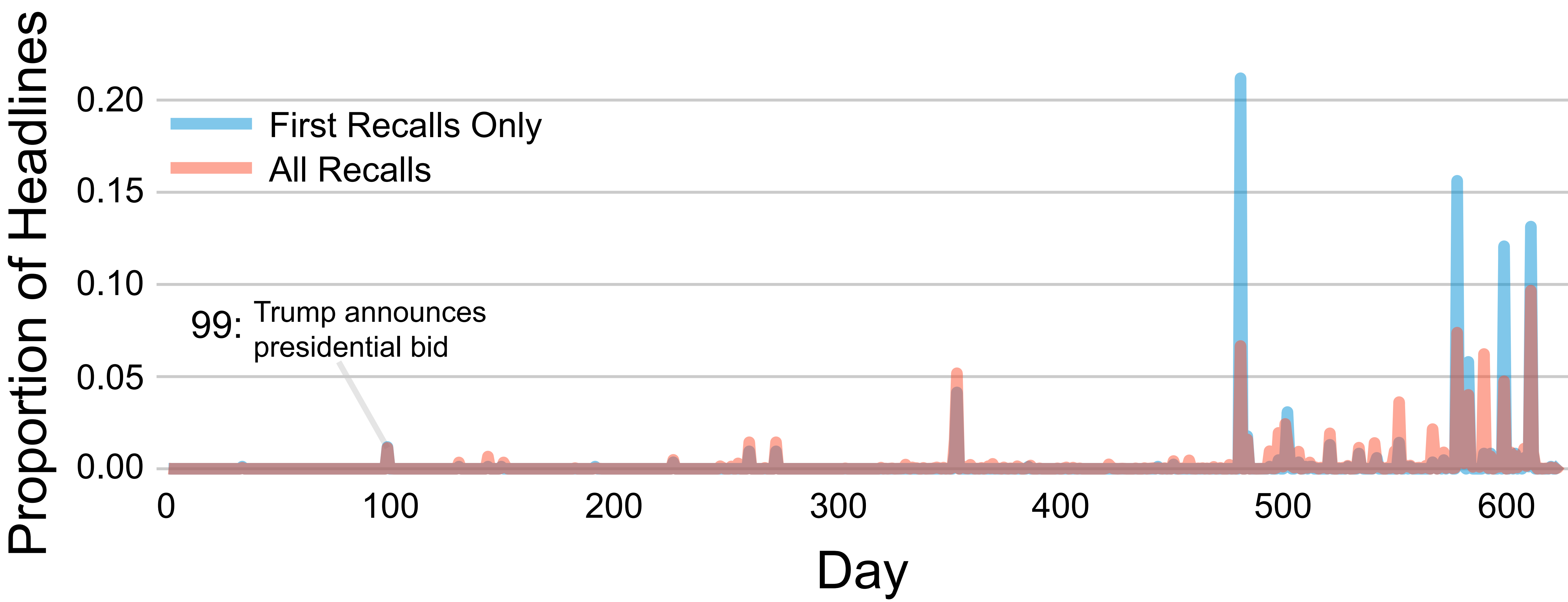

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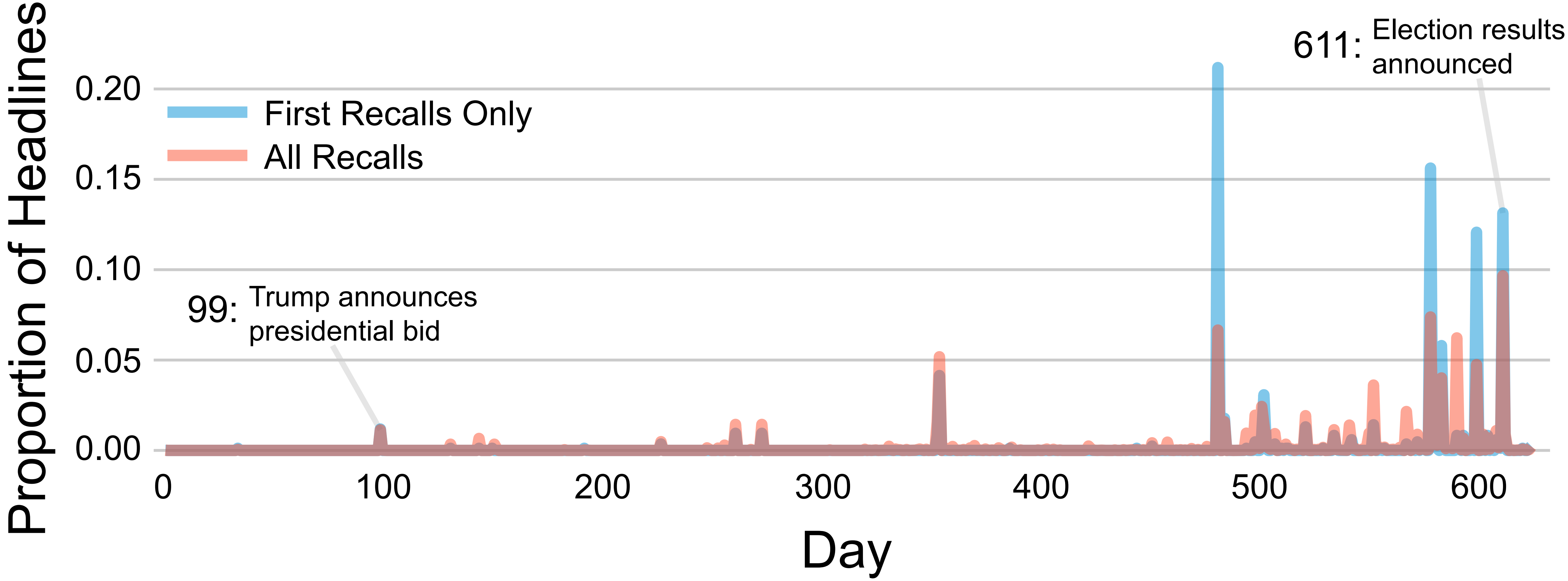

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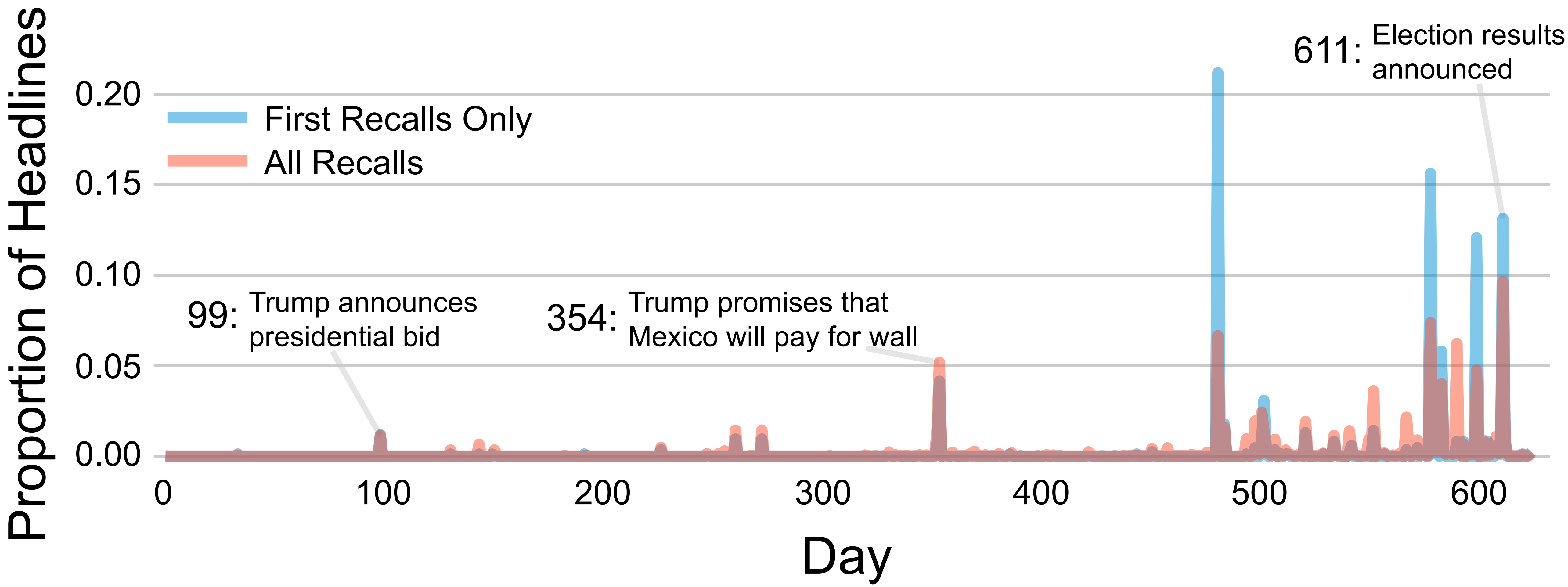

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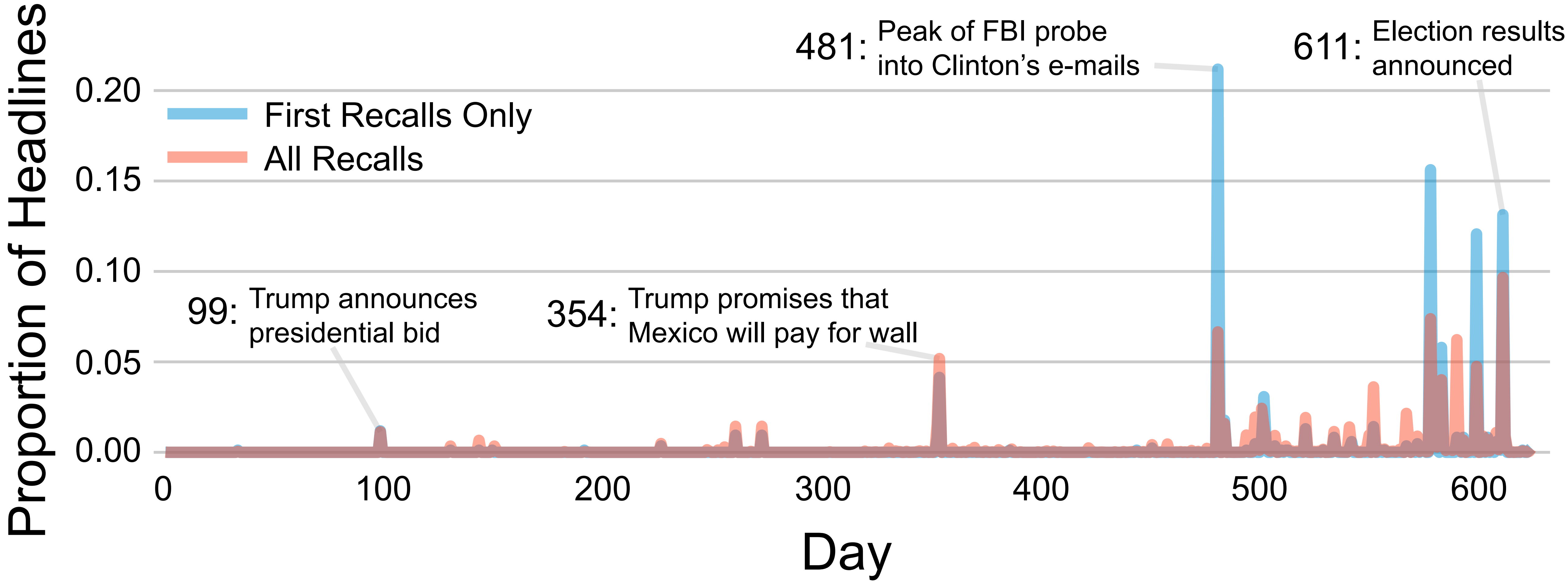

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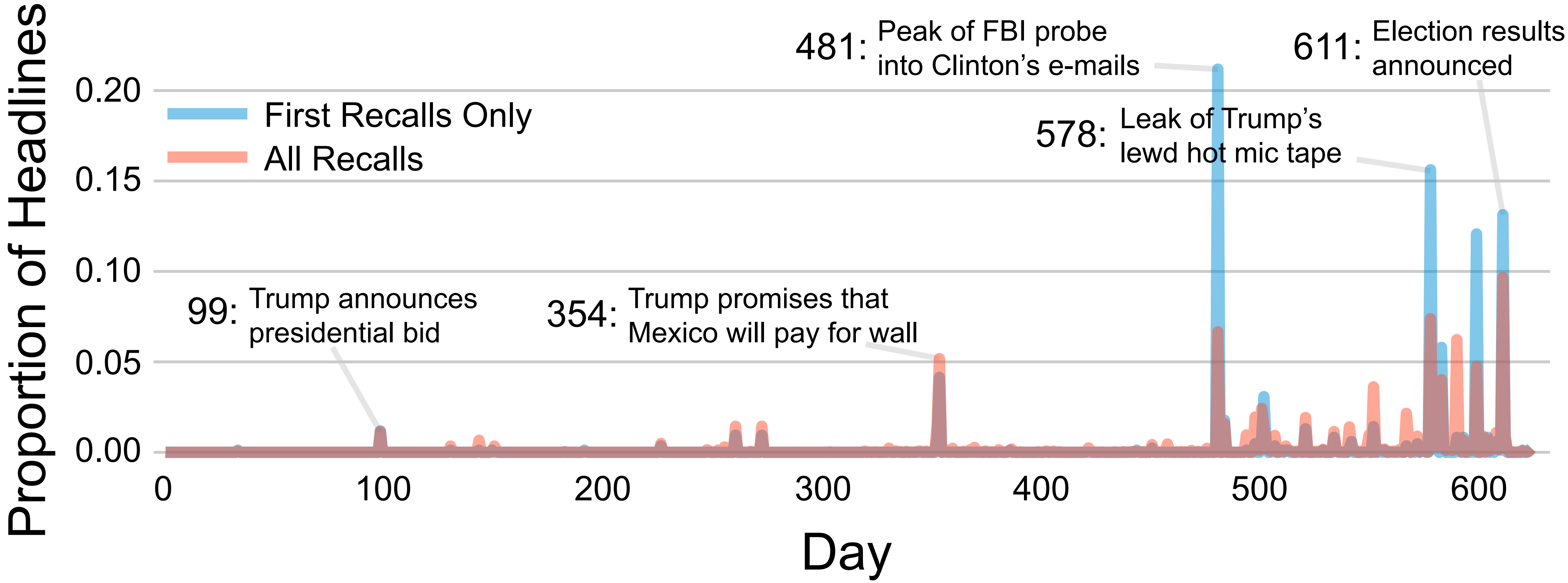

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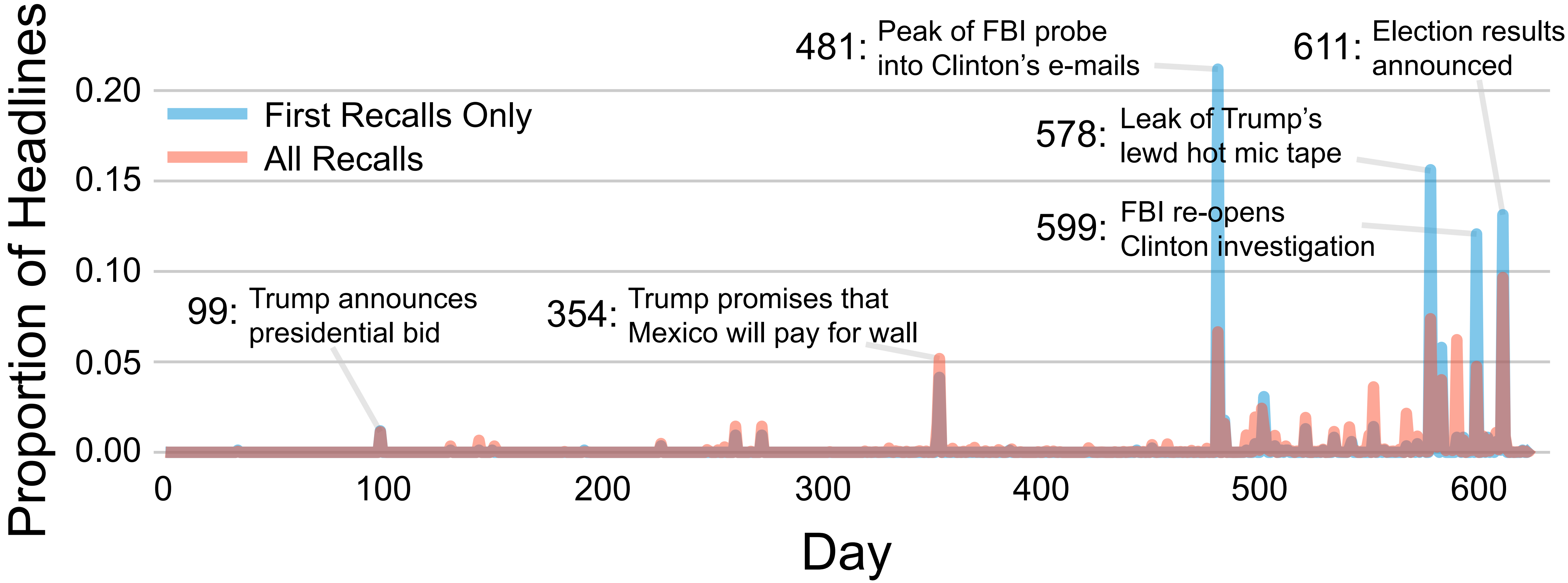

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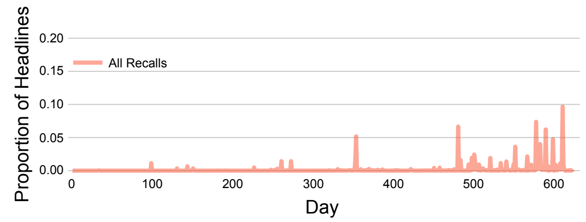
- Simulated subjects recalled *k* headlines by randomly sampling from: 

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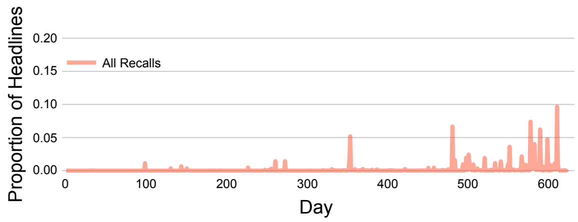
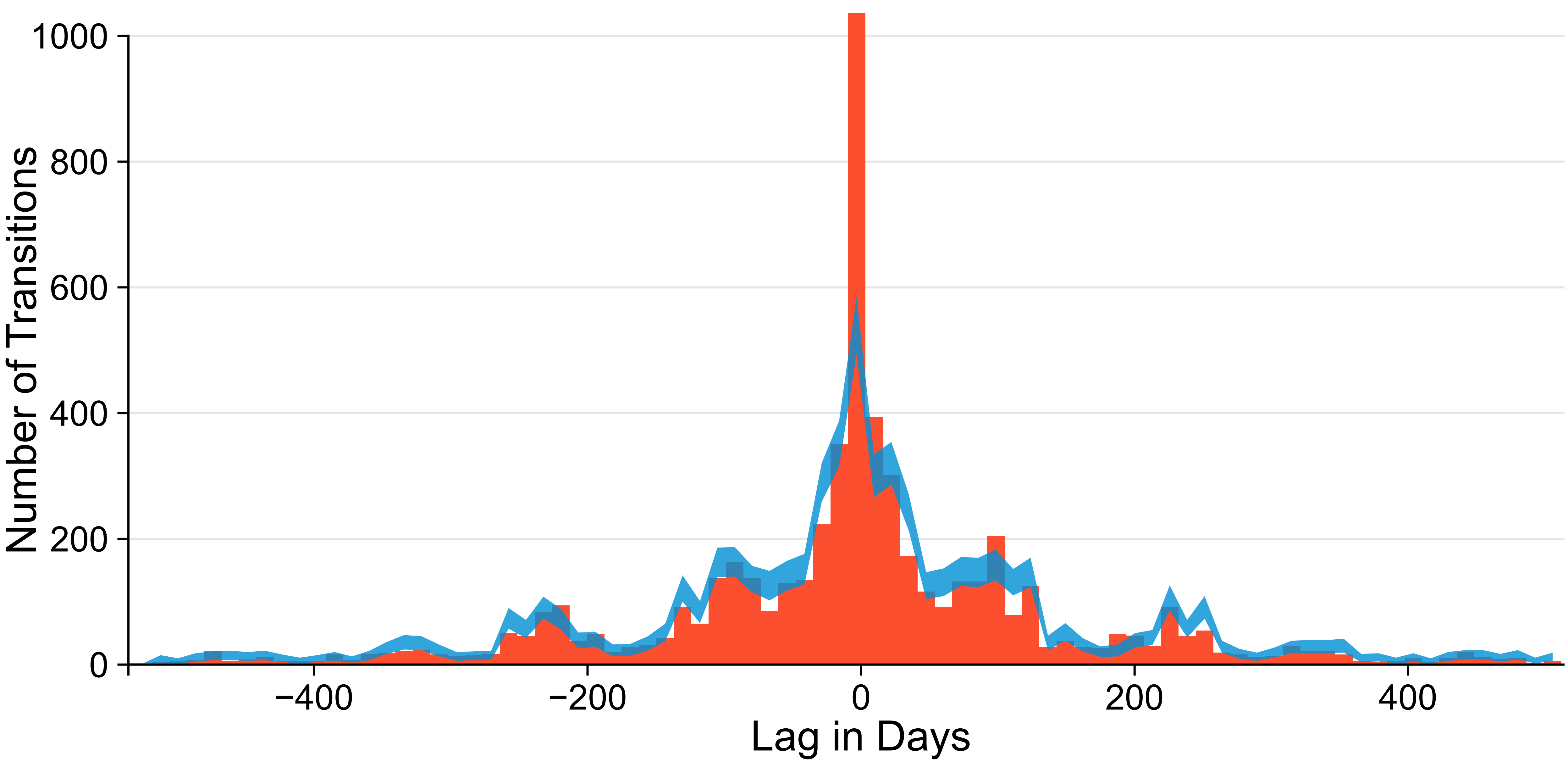
- Simulated subjects recalled *k* headlines by randomly sampling from: 

- Because each draw from the distribution is independent, all links between successive recalls are broken and transition lags depend only on headline-clustering

Near-Lag Transitions More Frequent than Chance



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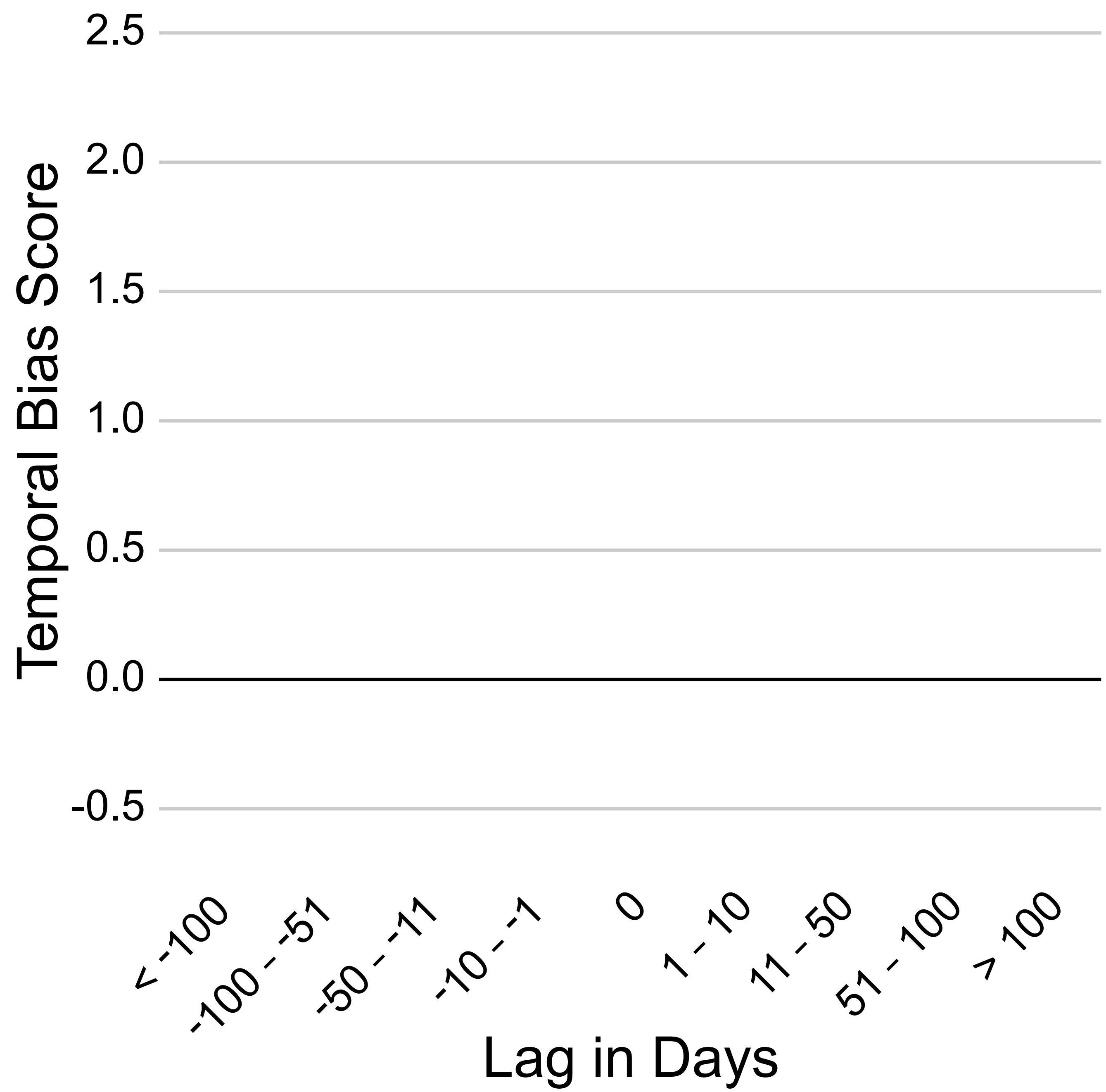
A Bias Toward Near-Lags



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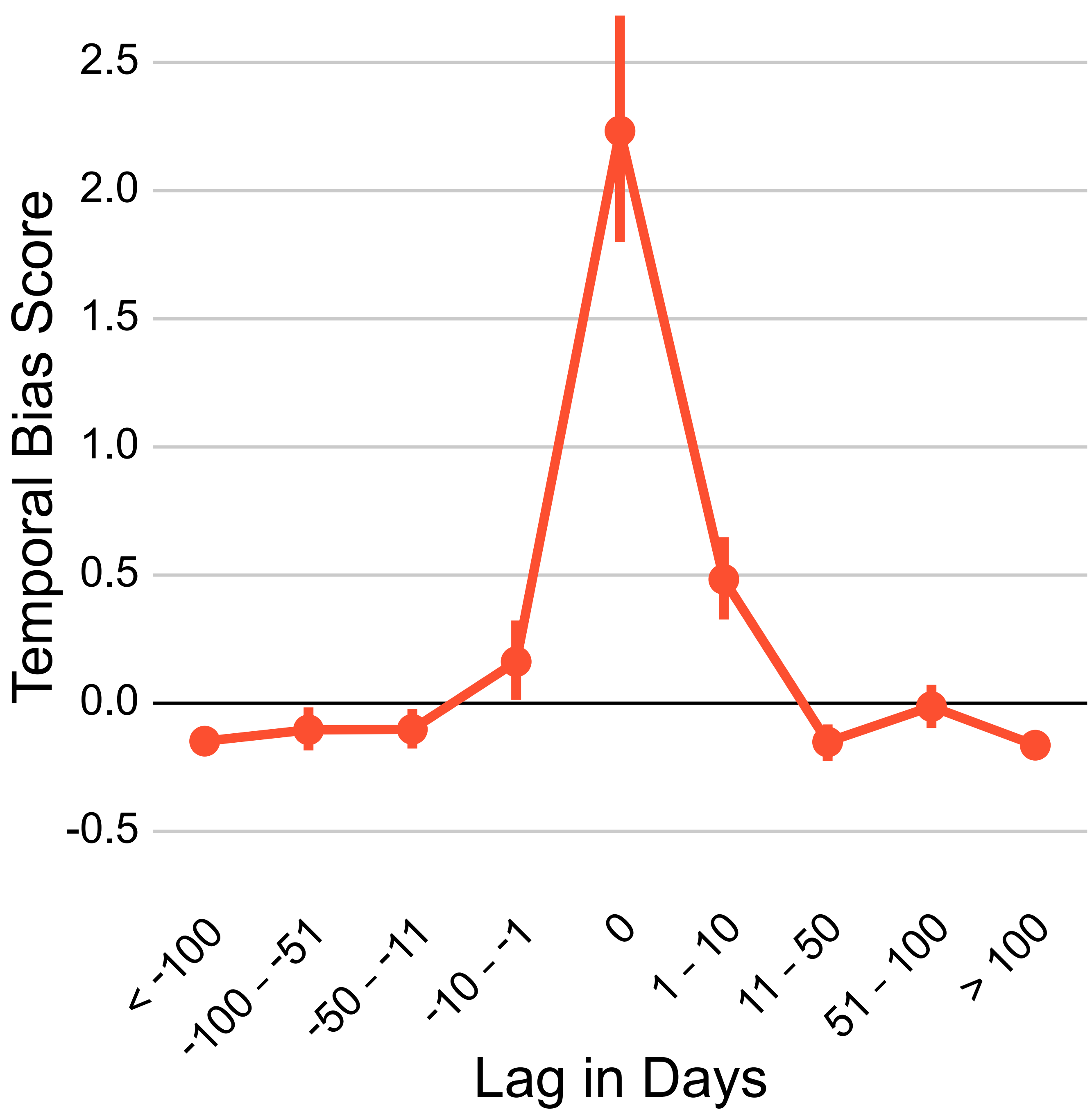

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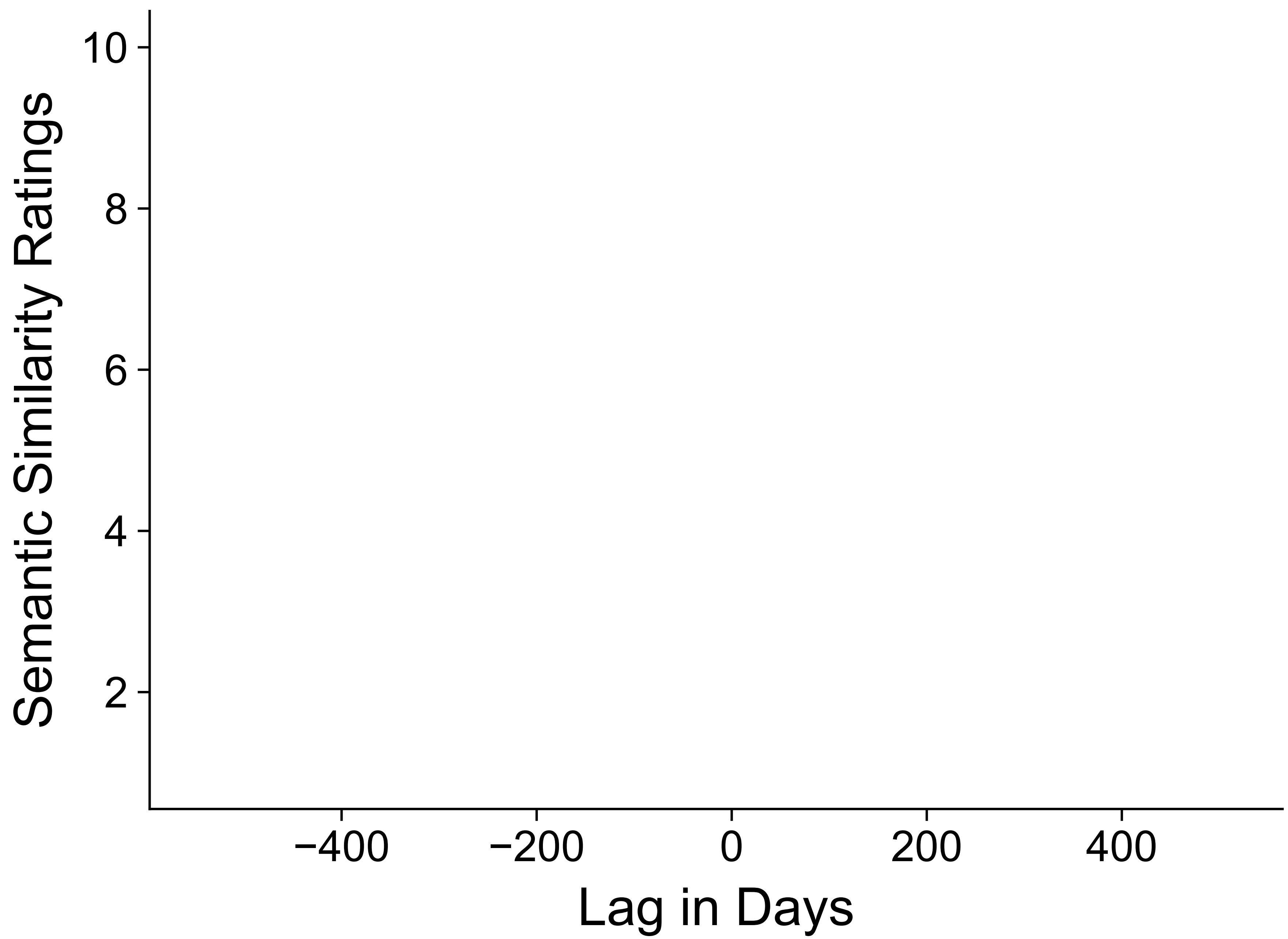
- Could produce a peak at near-lags if news stories that occur near in time to one another tend to be semantically related
- 4+ raters judged the semantic similarity between the headlines in each of the 5,776 transitions.

Lag and semantic similarity are related



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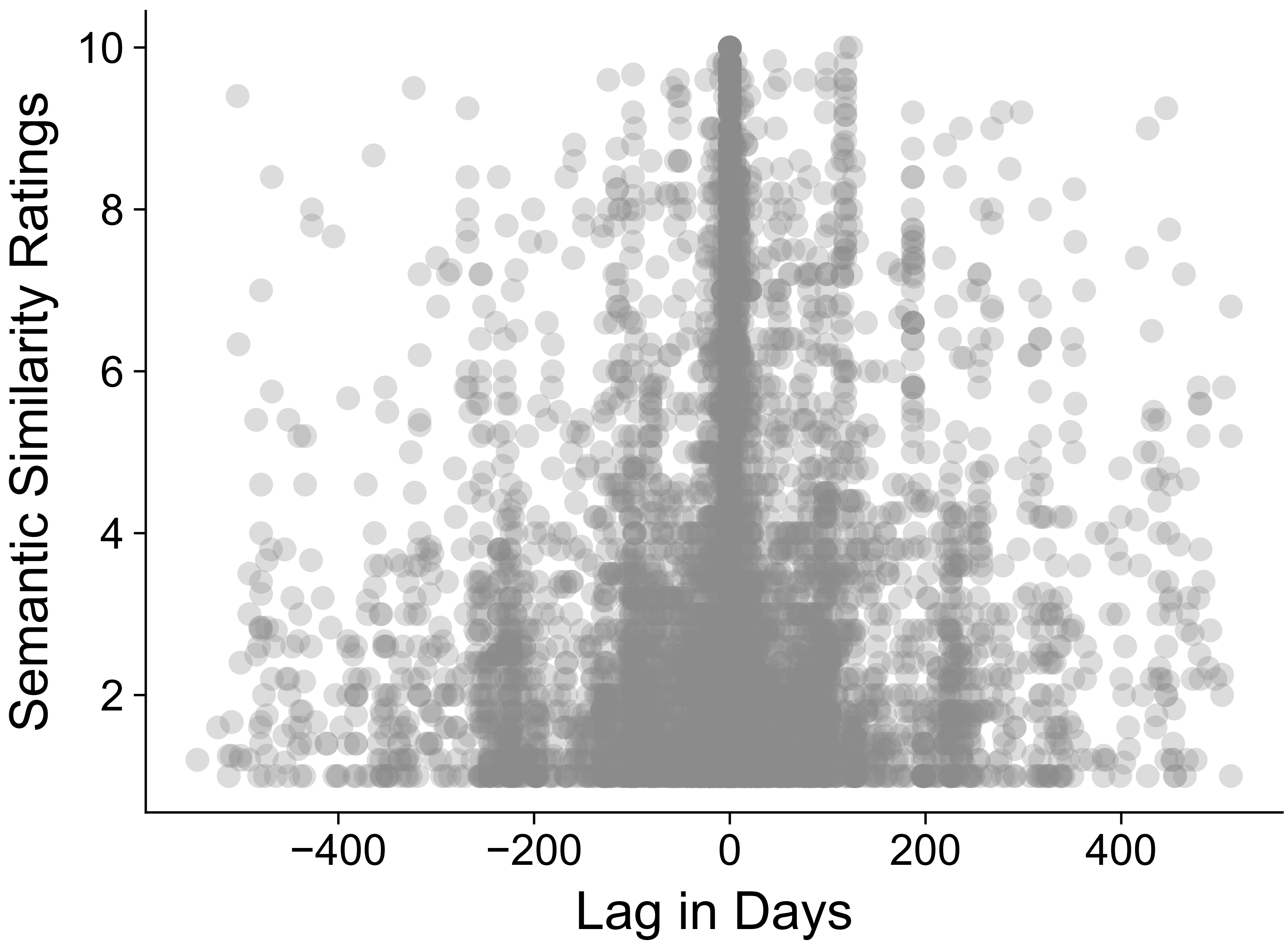

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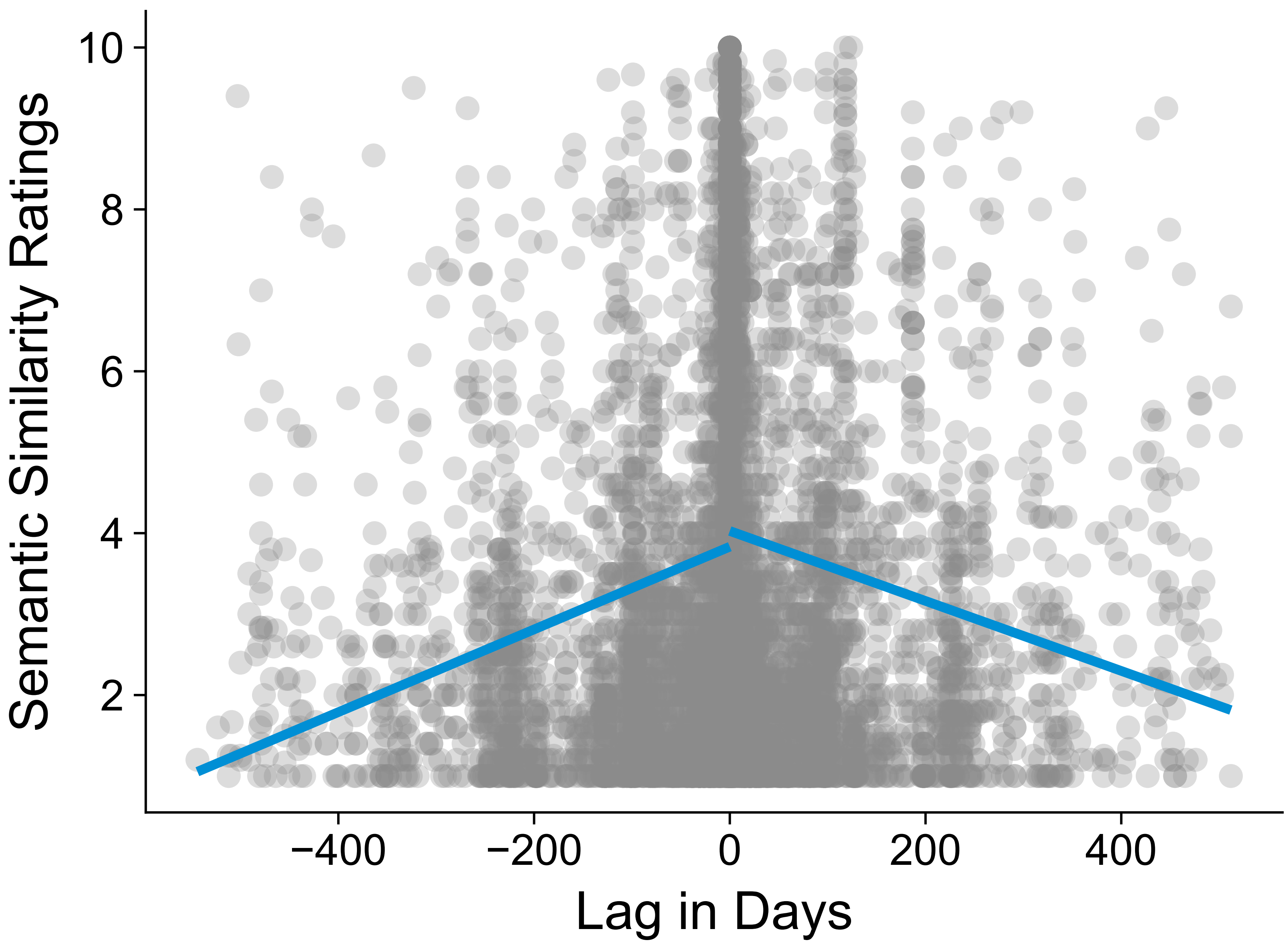

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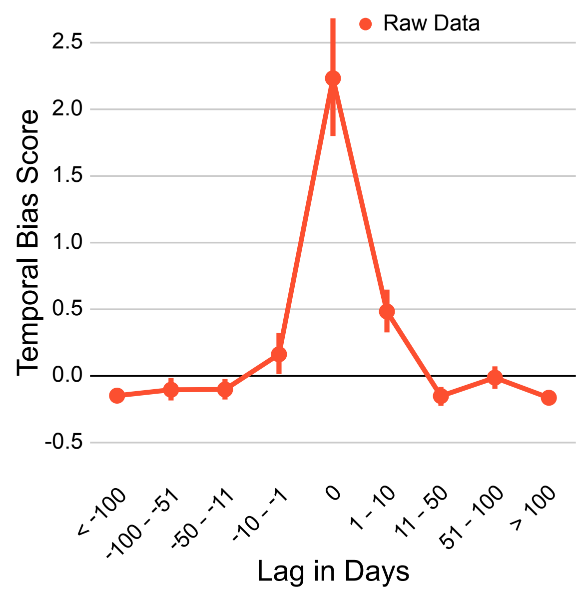

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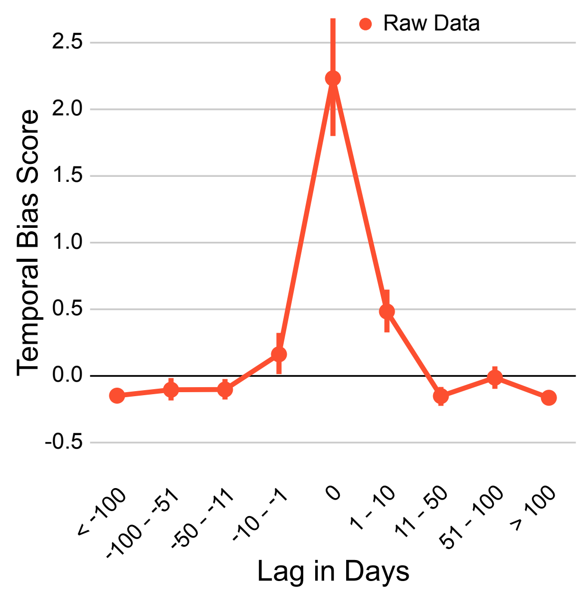

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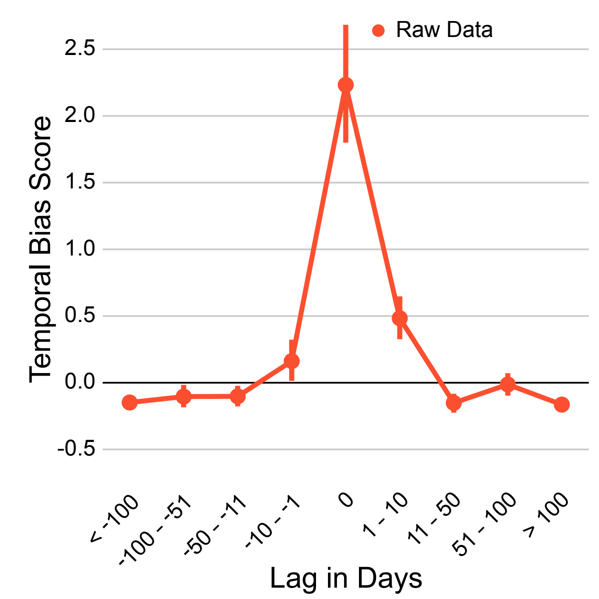

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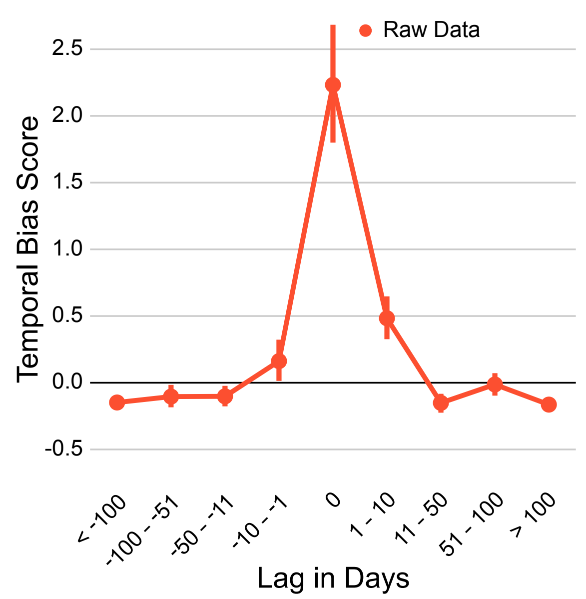
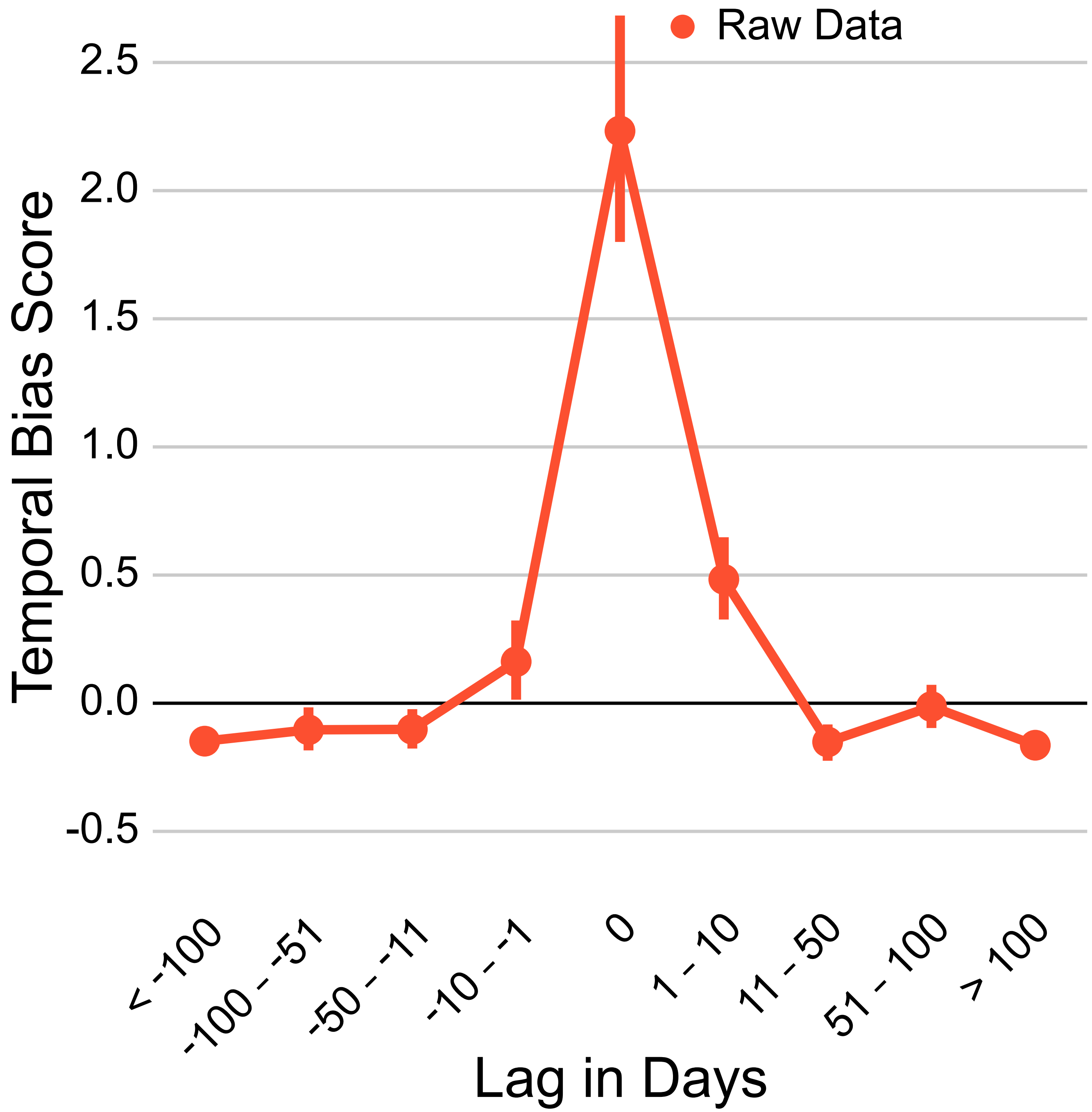
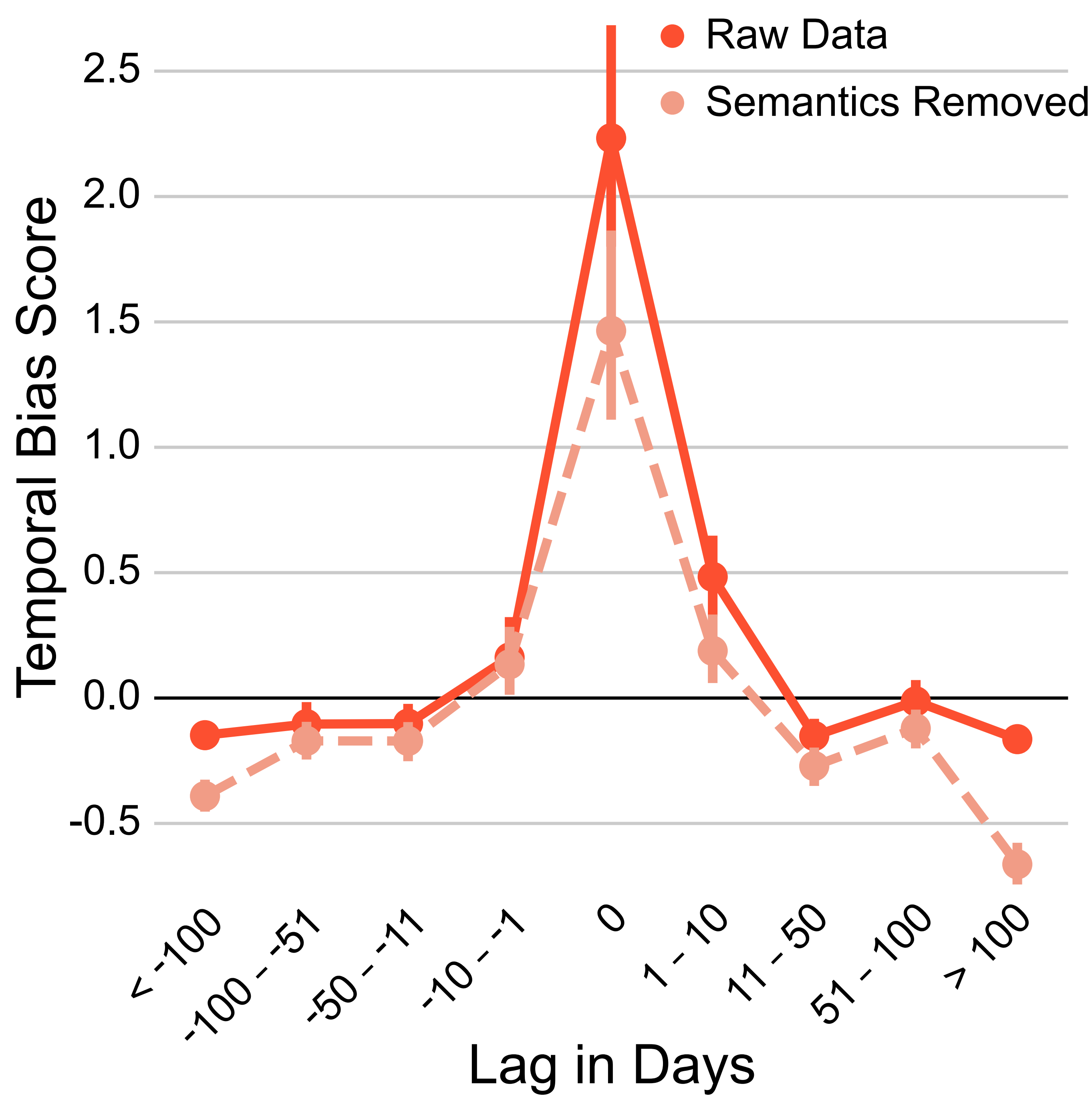


- The residuals give the portion of the temporal bias scores that **cannot** be predicted by semantic similarity.

A Bias Toward Near-Lags



Even After Removing The Influence of Semantics



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  - After controlling for semantic associations

Thanks!

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Zero lag transitions

- Different headlines refer to exact same event:
    - “Hillary Clinton Loses the Election”
    - “Donald Trump is New President Elect”
- Different headlines stemming from one event:
    - E.g., 3rd Presidential Debate
    - “Trump won’t accept the results of election”
    - “Trump invites Obama’s half-brother to third debate”
- Seemingly unrelated:
    - E.g., October 7, 2016
    - “WikiLeaks posts John Podesta’s e-mails”
    - “Trump’s Access Hollywood video surfaces”

Lag calculations

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“Trump gets the White House”

“Hillary Clinton loses in a surprise upset”

Lag calculations

"Trump gets the White House"

- November 8, 2017

"Hillary Clinton loses in a surprise upset"

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Lag calculations

"Trump gets the White House"

- November 8, 2017
- Day 611

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“Trump’s Access Hollywood hot mic”

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“FBI re-opens Clinton’s e-mail investigation”

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Lag calculations

“Trump’s Access Hollywood hot mic”

- October 7, 2016
- Day 578

“FBI re-opens Clinton’s e-mail investigation”

- October 28, 2016
- Day 599

Lag calculations

“Trump’s Access Hollywood hot mic”

- October 7, 2016
- Day 578

“FBI re-opens Clinton’s e-mail investigation”

- October 28, 2016
- Day 599

Lag = 599 - 578 = +21