

# Who stands next to whom? Voting lines and political polarization

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July 19, 2023

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  - | "Time tax" that causes people to leave the line (Mukherjee 2013, Lamb 2021)
  - | Negative spillover effects for future turnout (Pettigrew 2021, Cottrell, Herron and Smith 2020)
- | But could we re-frame voting lines as a site for potential cross-party interactions?

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- | Using voter check-in data, we can look at voting neighbors to determine potential for cross-party interaction
  - | Difference between a line that fosters interactions (DRDRDR)
  - | ... and one that doesn't (DDDRRR)

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- | Two theories:
  - | High geographic polarization when voting Election Day? (Bishop 2007)
  - | Partisan homophily when given a choice on Early Voting? (Enos 2016)



# Research Question

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  - | Line similarity as a proxy for political interactions/dialogue
- | How does Early and Election Day Voting change line similarity?

# Findings

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# Findings

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  - | This is robust to alternative specification, where we account for how much more homogeneous the line is compared to the precinct
- | Republicans are more likely than Democrats to stand next to co-partisans in both Early Voting and Election Day Voting

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  - | 42% and 24% of Early, Election Day voters waited > 10 mins



# Data

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  - | After taking out PPP elections, left with around 4 million observations
- | Each observation has a voter ID, check-in time (to the minute or second), and a voting location

# Check-in Times by Party

Figure 1: Check-in Times by Party, General Election

# Check-in Times by Race

Figure 2: Check-in Times by Race, General Election

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  - | This is a line. Voter A checks in at 08:03:05 11/01/2020. Voter B checks in at 08:03:45 11/01/2020.
  - | This is not a line. Voter A checks in at 08:05 11/01/2020. Voter B checks in at 08:07 11/01/2020.

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- | This is different than a Precinct Similarity DV { a precinct could be 50% Democrat, 50% Republican but could be (DRDRDR) or (DDRRRR)

# Means { Line Similarity

Table 1: Mean Line Similarity by Party

Type	Party	Early	Election	Difference
General	Democrat	0.465	0.369	-0.095
General	Republican	0.525	0.511	-0.014
General	No Party Affiliation	0.316	0.348	0.032
General	Other	0.131	0.169	0.038
Primary	Democrat	0.574	0.444	-0.13
Primary	Republican	0.580	0.602	0.021
Primary	No Party Affiliation	0.352	0.296	-0.056
Primary	Other	0.313	0.231	-0.082

# Results { Line Similarity

Table 2: Election Day Voting x Party on Line Similarity

	General	General	Primary	Primary
Election Day	0:065 (0:014)	0:062 (0:013)	0:106 (0:010)	0:097 (0:007)
Republican	0:025 (0:012)	0:025 (0:012)	0:002 (0:014)	0:006 (0:011)
Election Day x Republican	-0:041 (0:016)	0:040 (0:016)	0:117 (0:016)	0:110 (0:014)
Precinct Similarity	0:537 (0:041)	0:540 (0:041)	0:234 (0:030)	0:236 (0:029)
No Party Affiliation	0:046 (0:007)	0:046 (0:007)	0:103 (0:013)	0:101 (0:012)
Election Day x NPA	0:070 (0:013)	0:069 (0:013)	0:046 (0:035)	0:041 (0:034)
Other Party	0:114 (0:010)	0:113 (0:010)	0:120 (0:018)	0:118 (0:018)
Election Day x Other Party	0:098 (0:026)	0:097 (0:026)	0:024 (0:042)	0:019 (0:042)
Constant	0:236 (0:016)		0:425 (0:015)	
County-Level Fixed Effects		X		X
Race/Gender Covariates	X	X	X	X
Observations	3077253	3077253	624137	624137
R <sup>2</sup> (full model)	0.126	0.128	0.134	0.138
R <sup>2</sup> (proj model)		0.123		0.128
Counties		30		30

Note: OLS with and without fixed effects by county, standard errors clustered by county. The dependent variable is partisan line similarity, which ranges from 0 to 1. Baseline of Early Voting and Democrat.

# Alternative DV { Line Premium

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  - | Location A is 90% Democrat, 10% Republican. If lines were randomly assigned, you would stand next to a Democrat 90% of the time. But what if line similarity was 94%?

## Alternative DV { Line Premium

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- | Line Premium DV measures the "additional clustering" by the line beyond what's expected from the baseline homogeneity of a precinct



# Means { Line Premium

**Table 3:** Mean Line Premium (Line Similarity - Precinct Similarity) by Party

Type	Party	Early	Election	Difference
General	Democrat	0.046	0.007	-0.039
General	Republican	0.035	0.003	-0.032
General	No Party Affiliation	0.084	0.067	-0.017
General	Other	0.116	0.146	0.03
Primary	Democrat	-0.027	-0.057	-0.03
Primary	Republican	-0.056	-0.083	-0.027
Primary	No Party Affiliation	0.26	0.182	-0.078
Primary	Other	0.308	0.219	-0.089

# Results { Line Premium

Table 4: Election Day Voting x Party on Line Premium

	General	General	Primary	Primary
Election Day	0:042 (0:017)	0:040 (0:017)	0:040 (0:022)	0:032 (0:021)
Republican	0:031 (0:017)	0:029 (0:017)	0:105 (0:054)	0:090 (0:057)
Election Day x Republican	:011 (0:020)	0009 (0:020)	0017 (0:031)	0007 (0:030)
No Party Affiliation	0:022 (0:008)	0:022 (0:008)	0:224 (0:045)	0:229 (0:045)
Other Party	0055 (0:009)	0:054 (0:009)	0:279 (0:040)	0:284 (0:042)
Election Day x NPA	0025 (0:017)	0023 (0:016)	0:039 (0:043)	0:045 (0:042)
Election Day x Other Party	0071 (0:029)	0:069 (0:029)	0:054 (0:054)	0:063 (0:055)
Constant	0065 (0:011)		0:042 (0:032)	
County-Level Fixed Effects		X		X
Race/Gender Covariates	X	X	X	X
Observations	3077253	3077253	624137	624137
R <sup>2</sup> (full model)	0010	0013	0088	0103
R <sup>2</sup> (proj model)		0009		0080
Counties		30		30

Note: OLS with and without fixed effects by county, standard errors clustered by county. The dependent variable is the line premium, which is the difference between the line similarity and the precinct similarity measure. Baseline of Early Voting and Democrat.

# Discussion

- | Baseline differences in line similarity between Republicans and Democrats { COVID?

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- | No causal mechanism identified { Souls to the Polls? Voting before work/during lunch versus voting after work (polls closer to work)?

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- | Baseline differences in line similarity between Republicans and Democrats { COVID?
- | Partisan homophily during Early Voting (choice of location), even against the backdrop of geographic polarization during Election Day voting
- | No causal mechanism identified { Souls to the Polls? Voting before work/during lunch versus voting after work (polls closer to work)?
- | Why care about homophily in voting lines? More potential for cross-party interaction during Election Day

# Thank you!

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# Means { Race Similarity

Table 5: Mean Racial Similarity by Race

Type	Race	Early	Election	Difference
General	White	0.683	0.679	-0.005
General	Asian	0.182	0.200	0.018
General	Black	0.448	0.312	-0.137
General	Hispanic	0.563	0.360	-0.203
General	Other	0.158	0.207	0.049
Primary	White	0.598	0.667	0.07
Primary	Asian	0.339	0.249	-0.09
Primary	Black	0.573	0.397	-0.176
Primary	Hispanic	0.590	0.408	-0.182
Primary	Other	0.319	0.257	-0.062



# Results { Race Similarity

Table 6: Election Day Voting x Race on Racial Line Similarity

	General	Primary	General	Primary
Election Day	0:086 (0:015)	0:087 (0:014)	0:014 (0:010)	0:012 (0:010)
Asian	0:057 (0:019)	0:057 (0:021)	0:045 (0:013)	0:046 (0:013)
Black	0:018 (0:015)	0:015 (0:017)	0:040 (0:011)	0:041 (0:013)
Hispanic	0:001 (0:024)	0:003 (0:030)	0:040 (0:020)	0:046 (0:024)
Other Race	0:099 (0:016)	0:097 (0:019)	0:071 (0:010)	0:069 (0:011)
Precinct Similarity	0:647 (0:028)	0:646 (0:029)	0:279 (0:013)	0:281 (0:013)
Election Day x Asian	0:236 (0:036)	0:236 (0:036)	0:066 (0:031)	0:065 (0:031)
Election Day x Black	0:098 (0:024)	0:097 (0:024)	0:030 (0:015)	0:033 (0:015)
Election Day x Hispanic	0:061 (0:063)	0:060 (0:063)	0:041 (0:031)	0:044 (0:032)
Election Day x Other Race	0:258 (0:026)	0:257 (0:026)	0:079 (0:027)	0:078 (0:027)
Constant	0:219 (0:023)		0:380 (0:014)	
County Fixed Effects		X		X
Party/Gender Covariates	X	X	X	X
Observations	2933964	2933964	523538	523538
R <sup>2</sup> (full model)	0:336	0:338	0:132	0:136
R <sup>2</sup> (proj model)		0:308		0:122
Counties		30		30

Note: OLS with and without fixed effects by county, standard errors clustered by county. Dependent variable is racial line similarity, which ranges from 0 to 1. Baseline of Early Voting and White.

# Results { Precinct (Party) Similarity

Table 7: Election Day Voting x Party on Precinct Similarity

	General	General	Primary	Primary
Election Day	0:060 (0:010)	0:059 (0:009)	0:092 (0:022)	0:080 (0:019)
Republican	0:120 (0:050)	0:109 (0:046)	0:136 (0:081)	0:128 (0:075)
No Party Affiliation	0:147 (0:029)	0:133 (0:025)	0:429 (0:067)	0:387 (0:059)
Other Party	0:365 (0:028)	0:329 (0:022)	0:524 (0:056)	0:473 (0:047)
Line Similarity		0:118 (0:012)		0:213 (0:019)
Election Day x Republican	-0:078 (0:018)	0:075 (0:015)	0:138 (0:035)	0:127 (0:031)
Election Day x NPA	0:110 (0:015)	0:096 (0:014)	0:119 (0:026)	0:092 (0:022)
Election Day x Other Party	-0:071 (0:011)	0:049 (0:011)	0:108 (0:025)	0:081 (0:026)
Constant	0:370 (0:027)	0:319 (0:020)	0:504 (0:050)	0:388 (0:037)
Line Similarity		X		X
Race/Gender Covariates	X	X	X	X
Observations	2933964	2933964	523538	523538
R <sup>2</sup>	0:429	0:469	0:438	0:471

Note: OLS with and without fixed effects by county, standard errors clustered by county. The dependent variable is precinct similarity, which ranges from 0 to 1. Baseline of Early Voting and Democrat.

## Results – Gender Similarity

Table 8: Mean Gender Similarity by Gender

Type	gender	Early	Election	Difference
General	F	0.496	0.479	-0.017
General	M	0.436	0.472	0.036
General	U	0.131	0.326	0.195
Primary	F	0.500	0.489	-0.012
Primary	M	0.447	0.467	0.02
Primary	U	0.292	0.384	0.092

