How Do Environments Shape Interpersonal Political Interaction?

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Environments and Networks

Today, individuals can form communities irrespective of geography – indeed, the rise of the internet and its concomitant changes in communication have led some to question the importance of the sub-national contexts for political behavior [1]. But scholars have long noted how environments may constrain the choices individuals make about their political interactions [2], and there is still reason to think that offline interactions remain subject to local dynamics.

Accordingly, we examine how two types of environments potentially shape interpersonal interactions: **Demographic Environments** and **Built Environments**.

- Do individuals report more interactions with Republicans (Democrats) if they reside in counties that have more Republicans (Democrats)?
- Does the walkability of a county determine whether its partisan composition translates into more interactions?

Data

Core and Acquaintance Networks: The Covid States Project

We included questions gauging individuals' core and acquaintance networks on wave 24 of the Covid States Project (fielded 08/11/2022 to 09/13/2022).

- **Core network** information was collected via a name generator, and asked individuals to "think about the 3 people living outside your household with whom you have the strongest, closest relationship."
- **Acquaintance network** information was gathered with an aggregate relational data ("ARD") battery [e.g. 3]: "Think of all the people that you are acquainted with (meaning that you know their name and would stop and talk at least for a moment if you ran into the person on the street or in a store). How many of these people are you pretty sure have the following attributes?" We asked about 23 different attributes, but here focus on people who "Identify as Republicans" and people who "Identify as Democrats."

County Partisan Index

To capture the demographic environment of each respondent, we source a partisan index at the county level [4]. This index measures the level of Republican partisanship by % votes cast for the past 6 years in each county.

The Built Environment

We use a measure of walkability developed by the Environmental Protection Agency (EPA) in 2019 to operationalize the built environment. The EPA measures the walkability of every Census block group in the United States using the following formula:

$$\text{National Walkability Index} = \frac{w}{3} + \frac{x}{3} + \frac{y}{6} + \frac{z}{6}$$

- $w = intersection\ density$
- $x = proximity\ to\ transit\ stops$
- $y = employment\ mix$
- $z = employment\ and\ household\ mix$

The index ranges from 1 (lowest walkability) to 20 (highest walkability). To match the demographic environmental information (county-level), we average the walkability scores to the **county level**.

Descriptive Statistics

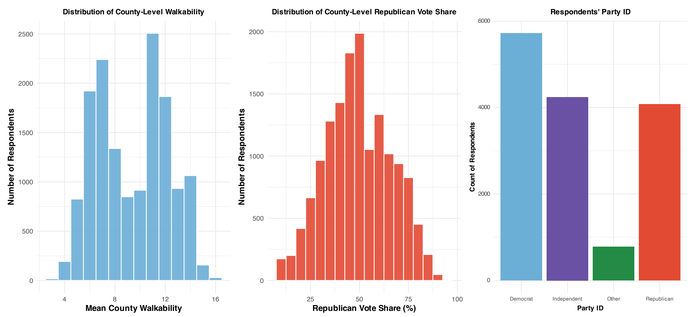

Figure 1. Descriptive Statistics: Walkability; County Partisan Index; Party ID

Core Network Composition Reflects County-Level Partisanship...

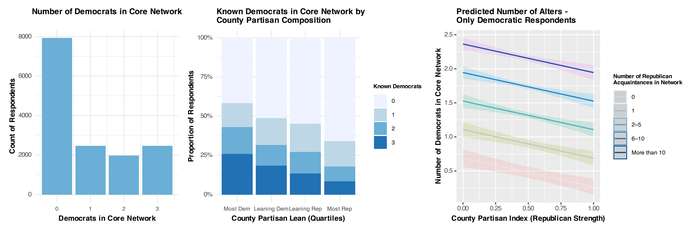

Figure 2. Democratic Core Network Composition

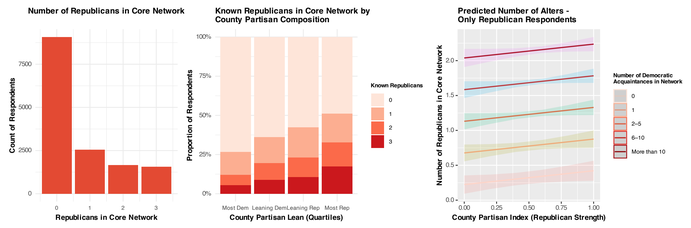

Figure 3. Republican Core Network Composition

Acquaintance Network Composition Reflects County-Level Partisanship...

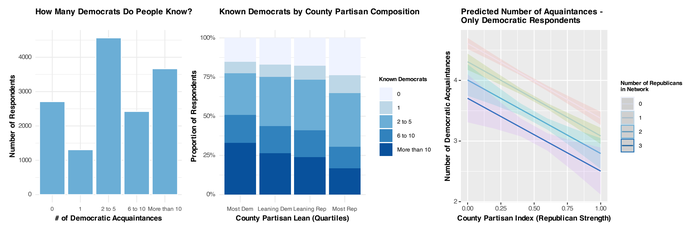

Figure 4. Democratic Acquaintance Network Composition

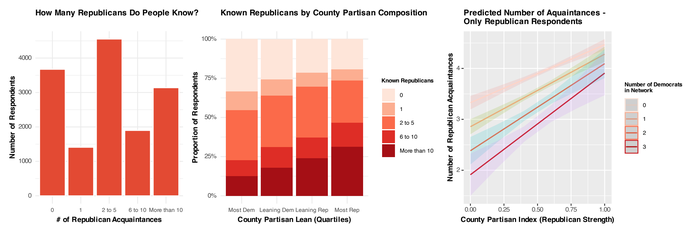

Figure 5. Republican Acquaintance Network Composition

But the Built Environment Does Not Condition These Relationships...

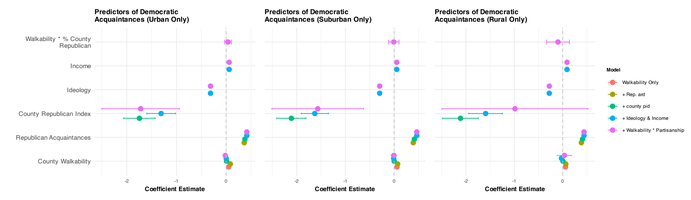

Figure 6. Coefficient Plots Across Different Model Specifications

Results

Our analysis suggests the demographic (partisan) environment predicts the partisan composition of both core networks and acquaintance networks. The built environment predicts neither core nor acquaintance networks.

- In **core networks**, we observe a relationship between the number of partisan alters named and the environmental supply of partisans in counties of residence (Figures 2 and 3). The rightmost tiles display the predicted number of partisans' inparty alters from models that include county partisanship, measures of in- and outparty acquaintances, and an interaction between county partisanship and the number of outparty acquaintances. The effects are more additive than interactive – people with more copartisans in their core networks tend to also have more (outparty) acquaintances.
- For **acquaintance networks** (Figures 4 and 5), we find even stronger relationships. As the environmental supply of Republicans increases, Democrats report fewer Democratic acquaintances (the opposite dynamic emerges for Republicans). In the case of acquaintance networks, we see some evidence that the relationship between broader exposure and environmental (county-partisan) supply is conditional on core networks. The rightmost tiles display the predicted number of inparty acquaintances from models that include a measure of outparty acquaintances, county partisanship, the number of outparty core alters, and an interaction between county partisanship and the number of outparty alters. There is some evidence of conditioning for Republicans, with those surrounded by outpartisans in their core networks being more responsive to the county context.
- When we include county **walkability** (Figure 6) in models predicting named acquaintances – and even after stratifying by urban, suburban, and rural location – we find little evidence of built environments structuring reports of interaction, or conditioning relationships with county partisan context. The coefficient plots show specifications that begin with the bivariate relationship between walkability and Democratic acquaintances, before introducing other variables.

Discussion

- The patterns suggest that local environments remain important for structuring interpersonal political interaction.
- The findings for acquaintances are a reminder that only looking at core networks paints an incomplete picture of social interaction.
- While we find no effects for the built environment, further inquiry is needed. Physical distance has been shown to matter for network dynamics and demographic exposure [5][6], not to mention political participation [7][8].
- We suspect that aggregating the built environment measure to the county level mutes considerable variation in local contexts, and more specifically in how respondents experience their local contexts. More granular measures are needed to more effectively study the built environment's effect on interpersonal interaction.
- We are not able to determine whether these relationships have changed over time.

Key Highlights

- We investigate how two types of environments shape interpersonal political interactions: demographic environments and built environments.
- We find relationships between the demographic (partisan) environment effects and both core and acquaintance network composition.
- Individuals residing in counties with more Democrats (Republicans) name more Democrats (Republicans) in their core networks, as well as in their acquaintance networks.
- We find little support that the built environment – at least as measured – predicts patterns of interpersonal political interaction.

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