

# Political Attitude Networks in Brazil using ResIN.

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**Abstract.** Recent advances in network psychometrics allow researchers to examine the structural coherence of political attitudes. The Response Item Network (ResIN) method provides a framework to capture how beliefs interconnect, revealing the architecture of ideological identities beyond mean comparisons. A recent U.S.-based application found that the political right exhibits greater internal diversity than the left, a result attributed to the Republican Party's "big tent" strategy. Here, we apply the same questionnaire and methodology to Brazilian survey data. The results confirm a reversal: the Brazilian left exhibits greater heterogeneity than the right. This outcome reflects the institutional structure of the Brazilian Workers' Party (PT), which organizes itself into formally recognized ideological "currents" functioning as quasi-parties within the party. We argue that such institutionalized internal pluralism explains why left-wing ideological networks in Brazil are more fragmented than those of the right, just as the Republican Party's heterogeneous coalition explains the opposite pattern in the United States. Our findings contribute to comparative political psychology by showing how party organization strategies condition the architecture of mass ideological networks.

**Keywords.** Polarization, Attitude networks, ResIN (Response Item Network), Party organization, Political psychology, Brazilian politics, Comparative politics.

## 1. Introduction

The comparative study of ideological polarization has often relied on mean differences in issue preferences, yet recent approaches highlight the need to consider the structural interconnections among attitudes. Political identities are not only collections of discrete policy stances but also networks of interdependent beliefs that cohere into broader worldviews (Dalege et al., 2016; Lüders, Carpentras & Quayle, 2023).

The Response Item Network (ResIN) method (Carpentras, Lüders & Quayle, 2024) captures

these interconnections by treating response options as nodes and co-endorsement correlations as edges. Applied to political survey data, ResIN reveals whether ideological camps are internally cohesive or fragmented into clusters.

A key finding in the U.S. context is that the right is structurally more diverse than the left (Lüders et al., 2023). This result was interpreted through the lens of the Republican Party's "big tent" strategy, which unifies multiple ideological factions—economic libertarians, religious conservatives, nationalists—under a single partisan umbrella. Conversely, the

Democratic Party, while broad, is more programmatically unified in terms of policy commitments, producing tighter left-wing networks.

In Brazil, however, partisan organization differs. The Workers' Party (PT), Brazil's main leftist party, institutionalizes ideological diversity through a system of currents (*tendências internas*). These factions have their own leadership, publications, and mobilization capacity, operating almost as parties within the party. The right, in contrast, has historically been less structured by such internal pluralism, with conservative identities often coalescing around leadership figures or broad issue dimensions (Hunter, 2010).

This study tests the hypothesis that these party organizational logics produce mirrored network patterns: the U.S. right is more heterogeneous than the left, whereas in Brazil, the left is more heterogeneous than the right. By replicating the U.S. questionnaire with Brazilian respondents and analyzing the data through ResIN, we confirm that the Brazilian left exhibits greater internal modularity and fragmentation, while the right shows higher density and coherence.

## 2. Methods

### 2.1 Dataset

The data derives from the *Política Brasil* survey, in which participants responded to eight items adapted directly from the U.S. study (see Lüders et al., 2023). The items covered abortion, redistribution, immigration, welfare spending, LGBTQ+ rights, environmental regulation, gun control, and racial inequality. Responses were recorded on a Likert-type scale, later recoded into binary endorsement variables for ResIN construction.

### 2.2 Groups

Respondents were categorized into Left and Right self-identifications. Center or unaffiliated respondents were excluded to ensure

comparability.

### 2.3 Analytical Approach

Following Carpentras et al. (2024), we constructed separate ResIN networks for the Left and Right:

Nodes: specific response options (e.g., Q3: Strongly Disagree).

Edges: Pearson correlation coefficients of co-endorsement.

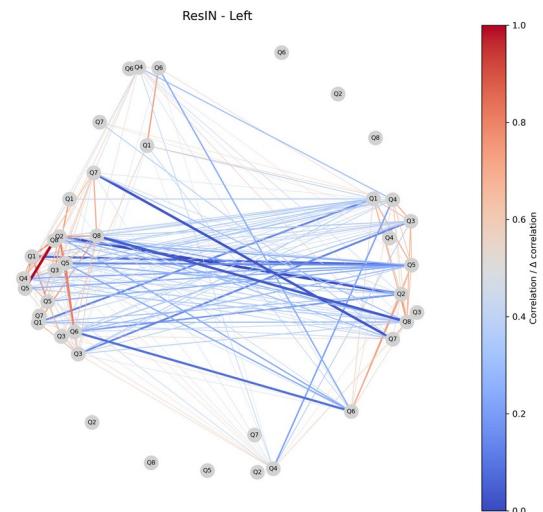
Thresholding: weak correlations ( $< .1$ ) removed for clarity.

We then:

1. Computed network density, average strength, and modularity.
2. Constructed a difference network ( $\Delta$  Left – Right) highlighting attitudinal associations disproportionately strong in one group.
3. Compared results to U.S. findings.

## 3. Results

### 3.1 Left Network

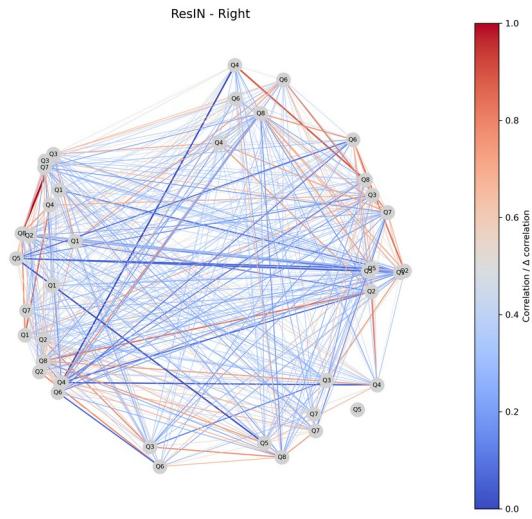


**Fig. 1 - Left Network.**

The Left network exhibits modular clustering. Issues relating to redistribution, social programs, minority rights, and environmental

protection are strongly interconnected, forming dense clusters. However, several nodes (e.g., firearm regulation, abortion) show weaker integration, producing a more fragmented overall structure.

### 3.2 Right Network

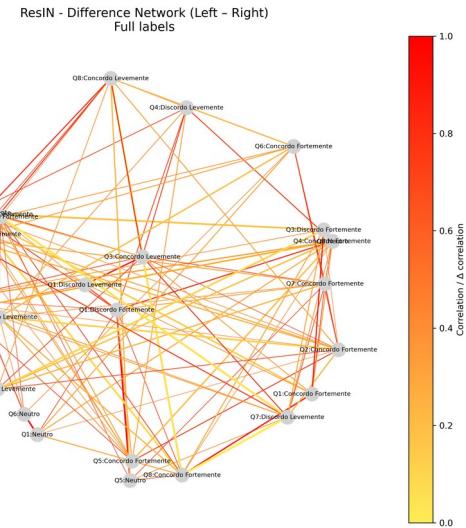
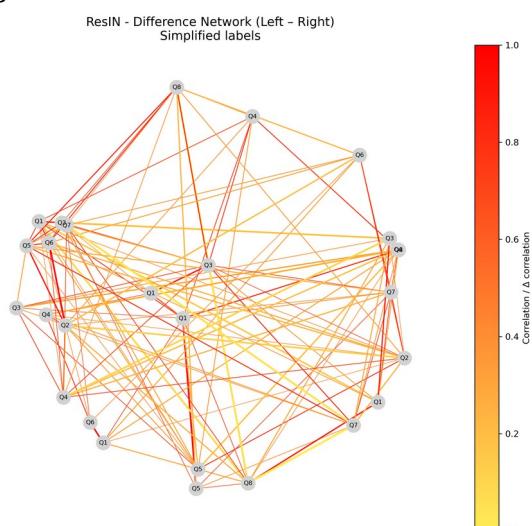


**Fig. 2** - Right Network.

The Right network shows a denser structure overall, with consistent associations across diverse issues. Immigration and firearm attitudes strongly interconnect, and economic conservatism aligns more broadly with cultural conservatism. Compared to the Left, the Right network has fewer isolated clusters and higher global cohesion.

### 3.3 Difference Network

**Fig. 3** - Difference Network.



**Fig. 4** - Difference Network – Simplified.

- The  $\Delta$  network highlights the fault lines of divergence:
  - Red edges: stronger within the Left (e.g., redistribution + minority rights).
  - Yellow edges: stronger within the Right (e.g., immigration + firearms).

This visualization confirms that Left and Right not only disagree on issue positions but also differ in how issues interrelate structurally.

### 3.4 Homogeneity Metrics

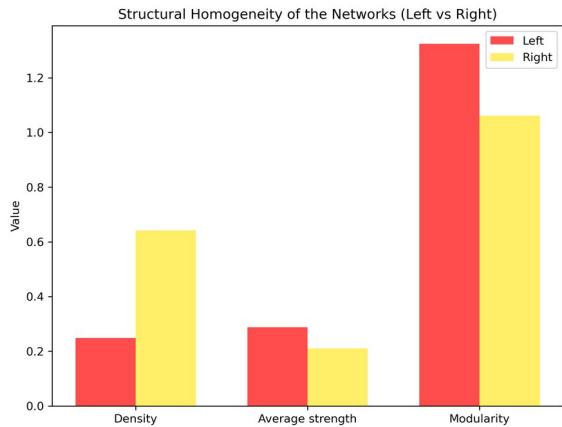


Fig. 5 - Homogeneity Metrics.

- Density: higher for the Right.
- Average strength: slightly higher for the Left.
- Modularity: higher for the Left, confirming greater fragmentation.

## 4. Discussion

The results confirm the theoretical expectation that party organizational logics shape mass ideological structures.

In the United States, the Republican Party's big tent strategy—absorbing libertarians, evangelicals, nationalists—creates heterogeneous right-wing networks, while the Democrats' more programmatic structure fosters greater left-wing cohesion.

In Brazil, this asymmetry flips. The Workers' Party (PT) institutionalizes factional pluralism through the currents system, allowing divergent ideological strands to coexist within a single partisan identity. As a result, left-wing respondents exhibit higher modularity and less overall density. The right, lacking such institutionalized pluralism, displays greater homogeneity.

This finding highlights how organizational strategies of parties cascade downward to shape the psychological architecture of ideological identities. Rather than being universal, the structural coherence of left and right depends on national institutional contexts.

## 5. Conclusion

This study provides cross-national evidence that ideological network structures are contingent on party organization strategies. By replicating a U.S. study in Brazil with identical survey items, we confirm a mirrored pattern:

- In the U.S., the right is more heterogeneous than the left.
- In Brazil, the left is more heterogeneous than the right.

The ResIN method proves powerful in capturing not only the content of ideological differences but also the architecture of belief systems. Future work should extend this comparative approach to multi-party democracies beyond Brazil and two-party systems beyond the U.S., clarifying how institutional logics condition polarization dynamics worldwide.

## 6. Acknowledgement

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## 7. Data Availability

The survey data, analysis code, and generated figures are publicly available at the following GitHub repository:

[https://github.com/dezugin/  
Political Attitude Networks Brazil ResIN](https://github.com/dezugin/Political_Attitude_Networks_Brazil_ResIN)

## 8. References

- [1] Lüders, A., Carpentras, D., & Quayle, M.

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