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Disentangling Polarization:
Ideological and Affective Dimensions of Partisan Divergence

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Introduction

The literature usually presents a near-consensus on the existence of polarization wherever it is pointed out; however, its nature is more contested.[1] The study of how a society may split into camps and grow antagonistic over party politics can be seen from two angles. The first is whether a society is increasingly torn along the lines of exclusive party identities, or affective polarization. Independently, the second is whether the parties – and their followers – are moving further away from each other in terms of political stance, or ideological polarization. The Annual Review of Political Science asserts that affective and ideological polarization are "theoretically and empirically distinct concepts" but have distinct effects on each other.[2] Furthermore, they have can be at significantly different levels from each other.[3] Hence, saying that a country is "polarized" does not necessarily clarify the political situation. Not only does how we approach polarization shape its operationalization and measurement, but it also has the potential to reveal different paths of development. However, not only is most of the research on the issue based on the United States of America, there also exists few cross-country analyses separating the two measurements.[4]

This paper aims to compare two measures for "polarization" that pertains to these two different dimensions, with the main puzzle being: **"Does ideological divergence in party systems predict social antagonism between partisans between 2010-2019?"**. This question forms the basis of further research delving into the contemporary dynamics between the two dimensions, including case selection based on potential deviant cases arising from analysis.

Ideological Polarization

Conceptualizing polarization has been the main political science approach to the issue of partisan polarization until recently, and Some studies define ideological polarization as the "the dispersion of the public's mean perception of a party's Left-Right position in each nation",[5] while some look at the qualitative difference between the increasing difference between the parties' or electorates' stances on policy areas.[6] I employ Russell Dalton's Party System Polarization Index for this variable, based on Comparative Study of Electoral Systems data measuring voters' perception of each national party's left-right position: "the public's mean perception of a party's Left-Right position in each nation, weighted by the vote share for each party."[7] His reasoning is that the misconception of party positions would even out with the aggregation of more and more opinions, giving a reliable estimate.[8] Since CSES data (and the the measurement of party polarization) is centered around election times, each country score in the the index is based on one run of surveys per module. The calculation formula is as follows:

$$\text{Party Polarisation Index} = \sqrt{\left\{\sum (\text{Party vote share}_i) \times \left(\frac{[\text{Party LR score}_i - \text{Party system average LR score}]}{5}\right)^2\right\}}$$

Affective Polarization

Affective polarization, in its conceptualization and operationalization, has been integrated from the social psychology discipline. Individuals instinctively think of themselves as representing broader categories of people, which crystallize as stable and psychologically significant group identities.[9] Tajfel and Turner state that once we identify with a political party, we divide the world into our own party (the in-group, or "us") and opposing parties (the out-group, or "them"). Hobolt, Leeper and Tilley conceptualize the three main components of affective polarization as

identification with the in-group, differentiation from the out-group including prejudice and animosity, and bias in decision-making and perceptions of the world.[10]

There is currently no widely-operationalized cross-county measure or dataset for affective polarization.[11] For my analysis, I am utilizing the Varieties of Democracy Project's "political polarization" index. The index, obtained by the aggregation of expert opinions from their respective country, captures societal partisan animosity that leads to social distancing between political camps. The full question and measurement criteria are below:[12]

> **Question:** Political polarization
> *Is society polarized into antagonistic, political camps?*
> **Clarification:** Here we refer to the extent to which political differences affect social relationships beyond political discussions. Societies are highly polarized if supporters of opposing political camps are reluctant to engage in friendly interactions, for example, in family functions, civic associations, their free time activities and workplaces
> **Responses**: 0: Not at all. Supporters of opposing political camps generally interact in a friendly manner. 1: Mainly not. Supporters of opposing political camps are more likely to interact in a friendly than a hostile manner. 2: Somewhat. Supporters of opposing political camps are equally likely to interact in a friendly or hostile manner. 3: Yes, to noticeable extent. Supporters of opposing political camps are more likely to interact in a hostile than friendly manner. 4: Yes, to a large extent. Supporters of opposing political camps generally interact in a hostile manner.
> **Scale:** Ordinal, converted to interval by the measurement model.
> **Cross-coder aggregation:** Bayesian item response theory measurement model

Method

Research Question: "Does ideological divergence in party systems predict social antagonism between partisans between 2010-2019?"

H₀: Ideological polarization levels do not significantly diverge from affective polarization levels.

H₁: Ideological polarization and affective polarization in party systems are correlated.

The main purpose of this study is to compare the two measurements for partisan polarization in order to seek possible inconsistencies between different approaches to the phenomenon. For this reason, no additional control variables are employed aside from the predictor Ideological Polarization and the response variable Affective Polarization.

Ideological polarization, as mentioned before, comes from Dalton's Party Polarization Index based on CSES data. I tabulated all results obtained between 2010-2019, as per the time range based on Democratic Erosion project's paradigm analysis.[13] I have taken affective polarization scores as the mean of V-Dem's Political Polarization index scores between 2010-2019 for each case. Cross-referencing the available data for the two variables, 29 countries remain for analysis: Austria, Brazil, Bulgaria, Canada, Czech Republic, Finland, France, Germany, Iceland, Ireland, Israel, Japan, Mexico, Montenegro, New Zealand, Norway, Philippines, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, South Africa, South Korea, Sweden, Switzerland, Turkey, United Kingdom.

Ideological Polarization was measured on a 0-10 scale, while Affective Polarization was on a 0-4 scale. After scaling these two to make them comparable, I have employed an ordinary least squares regression to test my hypothesis.

Furthermore, not only is the sample is relatively small, but also the Affective Polarization measure is an aggregate of time-series data that has been released on May 2020 which has not been utilized much before. Thus, I have treated it as noisy data in a Gaussian Process regression. The

Ideological Polarization data was used to train the model first, later testing for whether Affective Polarization would be able to predict which countries corresponded to which observation.

Lastly, I visualized the comparison between ideological and affective polarization to show both the clustering and the extreme differences of the two.

Country	Module	Year	Ideological	Affective
Austria	4	2013	2.88	1.8701
Brazil	4	2014	0.1	3.2675
Bulgaria	4	2014	4.73	1.5965
Canada	4	2011	3.27	1.563
Czech Republic	4	2013	4.77	0.9893
Finland	4	2015	3.06	1.3345
France	4	2012	4.43	1.8801
Germany	4	2013	3.34	1.0271
Iceland	4	2013	3.85	1.411
Ireland	4	2011	2.52	0.126
Israel	4	2013	2.33	2.8408
Japan	4	2013	2.53	1.2944
Mexico	4	2015	3	1.9133
Montenegro	4	2012	1.1	2.9627
New Zealand	4	2014	3.88	0.896
Norway	4	2013	4.12	0.8844
Philippines	4	2016	0.26	2.2428
Poland	4	2011	2.92	3.2371
Portugal	4	2015	5.09	0.565
Romania	4	2012	3.02	0.9843
Serbia	4	2012	1.2	2.1464
Slovakia	4	2016	3.74	1.7713
Slovenia	4	2011	3.96	2.4164
South Africa	4	2014	1.42	2.196
South Korea	4	2012	3.92	2.702
Sweden	4	2014	4.32	1.24
Switzerland	4	2011	4.04	0.709
Turkey	3	2011	5.26	3.9016
United Kingdom	4	2015	3.52	1.3279

Table 1: Polarization Scores (the years denote Ideological Polarization scores)

Results and Discussion

The initial OLS regression results are below:

Slope: -0.23782406497272232

Correlation Coefficient = r value: -0.3052086745177408

Standard Error: 0.14280526274633756

Confidence Interval: [-0.597731994613285, -0.012685354422196649]

p-value: 0.10740124510769342 (> alpha=0.05)

The regression shows a weak potential negative relationship between ideological and affective polarization, with a correlation coefficient of -0.306 and a rather wide confidence interval of -0.598 to -0.013. The the p-value normally indicates strong support for the null hypothesis (H_0: Ideological polarization levels do not significantly diverge from affective polarization levels.). However, the confidence interval's not-quite brush with 0 retains the minuscule possibility of an actual lowering effect of ideological divergence on social antagonism between partisans – a fragile inference at best without any country-specific controls. The mean square-error from the Gaussian Process model was 1.2992207967113747e-22. Overall, the results point to Iyengar's and Abramowitz's aforementioned arguments of ideological and affective polarization being independent concepts.

The main aim of this study was to compare the two measures as support for future studies that take as a basis the independence of ideological party polarization from partisans' increased social distance. Moreover, I am also interested in extreme or deviant cases for individual studies; especially those that show the largest difference between the two variables. From Graph 1, it is apparent that Brazil and Philippines are of interest as low ideological – high affective polarization cases; whereas Ireland provides an outstanding case of high ideological – low affective polarization.

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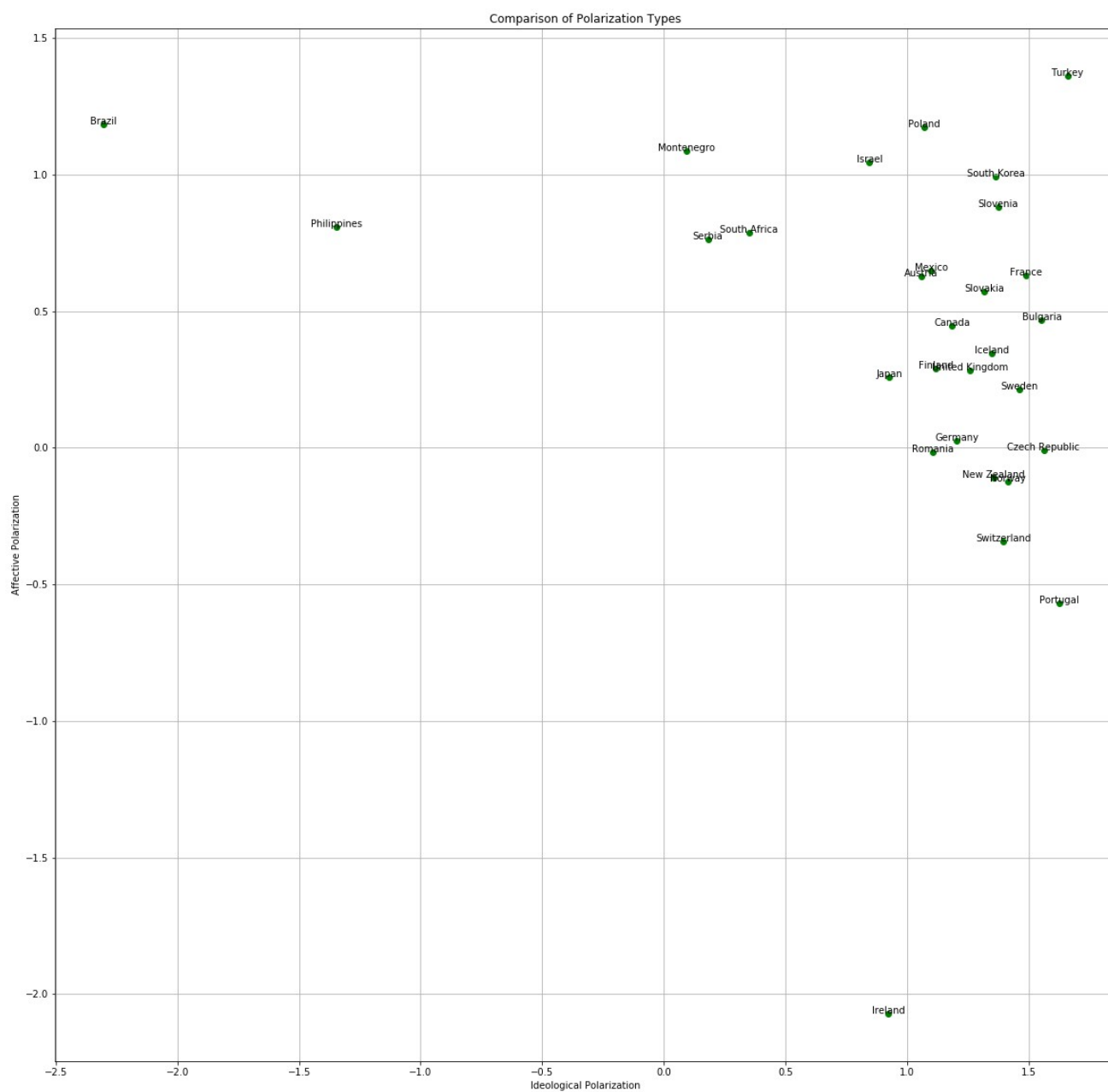
Graph 1: Cross-country comparison of Ideological and Affective Partisan Polarization[14]

1   Iyengar, S., Lelkes, Y., Levendusky, M., Malhotra, N. and Westwood, S. The Origins and Consequences of Affective Polarization in the United States. *Annual Review of Political Science*, (2019). 22(1), pp.129-146.

2   Ibid.

3   Alan I. Abramowitz and Kyle L. Saunders, "Is Polarization A Myth?", *The Journal Of Politics* 70, no. 2 (2008): 542-555, doi:10.1017/s0022381608080493.

4   Prominent examples include: Druckman, James and Matthew Levendusky. 2019. What do we measure when we measure affective polarization? Public Opinion Quarterly. 81(3): 114–122; Reiljan, Andres. ''Fear and loathing across party lines' (also) in Europe: Affective polarisation in European party systems." European Journal of Political Research, 59: 376-396. doi:10.1111/1475-6765.12351. (2020).

5   Reiljan, Andres. ''Fear and loathing across party lines' (also) in Europe: Affective polarisation in European party systems." European Journal of Political Research, 59: 376-396. doi:10.1111/1475-6765.12351. (2020).

6   Stimson, James. "Belief Systems: Constraint, Complexity, and the 1972 Election." American Journal of Political Science (1975). 19 (3): 393–417.

7   Dalton, R. J. (2008). The quantity and the quality of party systems party system polarisation, its measurement, and its consequences. Comparative Political Studies 41(7): 899-920.

8   Ibid.

9   Tajfel H, Turner J. (1979) An integrative theory of intergroup conflict. In The Social Psychology of Intergroup Relations, ed. WG Austin, S Worchel, pp. 33–47. Monterey, CA: Brooks Cole

10 Hobolt, Sara B. Thomas Leeper. James Tilley. Divided by the Vote: Affective Polarization in the Wake of Brexit (2018)

11 Iyengar, S., Lelkes, Y., Levendusky, M., Malhotra, N. and Westwood, S. The Origins and Consequences of Affective Polarization in the United States. *Annual Review of Political Science*, (2019). 22(1), pp.129-146.

12 Coppedge, Michael, John Gerring, Carl Henrik Knutsen, Staffan I. Lindberg, Jan Teorell, David Altman, Michael Bernhard, M. Steven Fish, Adam Glynn, Allen Hicken, Anna Lührmann, Kyle L. Marquardt, Kelly McMann, Pamela Paxton, Daniel Pemstein, Brigitte Seim, Rachel Sigman, Svend-Erik Skaaning, Jeffrey Staton, Agnes Cornell, Lisa Gastaldi, Haakon Gjerløw, Valeriya Mechkova, Johannes von Römer, Aksel Sundtröm, Eitan Tzelgov, Luca Uberti, Yi-ting Wang, Tore Wig, and Daniel Ziblatt. 2020. "V-Dem Codebook v10" Varieties of Democracy (V-Dem) Project.

13 Bairey, Charlotte, Rob Blair, Hannah Baron, Dakota Fenn, Jessica Gottlieb, Isabela Karibjanian, Meryl Seah, and Carter Squires. 2019. "Democratic Erosion Event Dataset Codebook v3." Democratic Erosion: A Cross-University Collaboration.

14 Please see my GitHub page for a higher resolution image.