

# First Year Paper:

Iyengar, Sood and Lelkes (2012)

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# 1 Introduction

The question “Has the mass public polarized alongside elites?” has been the subject of an enormous amount of scholarly debate. This debate has been held largely in terms of ideology, with scholars leveraging competing evidence showing (Abramowitz, 2010) or not showing (Fiorina and Abrams, 2012) mass-level polarization. Iyengar, Sood and Lelkes (2012) argue that affect (one’s emotional valence towards a stimulus) rather than ideology should be used to evaluate levels of mass polarization.

While The authors leverage a variety of publicly available observational datasets (further discussed in the body of this work) to demonstrate that Democrats and Republicans exhibit increasing animosity towards out-partisans. In this paper, I replicate the findings of Iyengar, Sood and Lelkes (2012) as they relate to the effect (or lack thereof) of policy preferences on affective polarization, and extend the original work by including both respondents’ status as primary voters and their trust in democracy as interaction terms in the model. With primary vote status, I expect to find that policy preferences have a greater effect on out-party affect among primary voters than their non-voting co-partisans. Further, I expect to find similar levels of out-party animus between those who are dissatisfied with democracy and those who are not, but lower levels of warmth toward the in-party on the part of dissatisfied partisans.

## 2 Summary of Iyengar, Sood and Lelkes (2012)

*Affect, Not Ideology* is an ambitious work; seeking to describe the historical trends of affective polarization and to establish a causal chain between hostile media, party-ID, and mass-level affective polarization. This analysis is done in service of the authors’ central argument: that

Americanist scholars of polarization should study the attitudes of voters towards members of the out-party, not just the ideological differences between opposing parties.

The vast majority of scholars have evaluated polarization in terms of divergent policy preferences between parties and their supporters and have produced contradictory results. While virtually all agree that *elites* have become more polarized, some argue this elite polarization is in response to an increasingly polarized *public* (Abramowitz, 2010) and some argue against the notion of mass polarization altogether (Fiorina and Abrams, 2012; Fiorina, Abrams and Pope, 2005). Still other scholars have argued that observed polarization is not the result of increasingly extreme policy positions on the part of Democrats and Republicans, but the result of previously ideologically heterodox partisans sorting themselves into more appropriate parties (Levendusky, 2009).

Each of the works discussed in the previous paragraph share a common focus on partisans' *ideology*. Iyengar, Sood, and Lelkes identify this commonality and argue that, since most people have a limited conception of their own ideology (Converse, 1964), and tend to have conflicting (McClosky and Zaller, 1984) and ideologically incoherent views (Zaller et al., 1992, p. 76–96), ideological differences are not a suitable metric by which to gauge mass polarization. In the view of the authors, partisans' affect towards their opponents is a more consistent and substantively meaningful diagnostic of the degree of mass polarization.

To demonstrate this, the authors leverage several existing survey datasets and an advertising dataset<sup>1</sup>. The survey data are used first to describe the degree of affective polarization, and are then used in conjunction with the advertisement data to establish a causal link be-

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<sup>1</sup>*ANES Cumulative Study, YouGov/Polimetrix 2008 Election Study, a YouGov 2011 multi-national study, Almond & Verba (1960), Blair Center Election Study, an AP Yahoo! News 2008 Election Study and the Wisconsin Advertising Project.* The implications for validity in using survey data will be discussed in greater detail in section 3.

tween exposure to hostile political media and affective polarization. Survey data from the United Kingdom is included in the descriptive portion of the research, intended by the authors to serve as a pseudo-control for country-level effects (Iyengar, Sood and Lelkes, 2012, p. 407), comparing a country with parties whose ideology is more salient (the U.K.) to the U.S.

The authors find evidence supporting their claim that the U.S. has undergone a large increase in affective polarization, while the U.K. has polarized “only modestly” (p. 417) since the 1960s. Further, they find little evidence to suggest the animosity in the U.S. is driven by ideological differences between partisans, contending instead that the “mere act of identifying with a political party is sufficient to trigger negative evaluations of the opposition” (Iyengar, Sood and Lelkes, 2012, p. 407). Replicating this finding and extending it through a subgroup analysis of party factions and the addition of more recent data will be the principal focus of my paper.

Finally, the authors find support for their claim that exposure to hostile media campaigns strengthens individuals’ partisan convictions (Iyengar, Sood and Lelkes, 2012, p. 407), though problems with their finding will be discussed in Section 3.3 of this paper. They close the paper by reiterating their call for a broader investigation of affect by scholars.

In short: Iyengar, Sood and Lelkes identify a shortcoming in the ongoing debate over the existence of mass-level polarization—that scholars have focused exclusively on partisans’ ideology. Instead, they argue that analyses of ideology are insufficient means by which to evaluate mass polarization. The authors argue for a new conception of division: partisans’ affect towards their opponents. Iyengar et al. show that partisans are becoming increasingly divided from (and hostile towards) one another and posit that this division is the result of

increasingly hostile media, rather than ideological differences between partisans. Therefore, ideological homogeneity between Democrats and Republicans is not sufficient evidence of a broader lack of polarization. I replicate the findings as they relate to the role of ideology in affective polarization, and extend the model to distinguish between groups of primary (non)voters and those who feel dissatisfied with democracy.

### 2.0.1 Authors' Model of Affective Polarization

The core hypothesis (**H1**) of Iyengar et al. is that the U.S. is subject to increasing levels of affective polarization. This polarization, by definition, is dependent *exclusively* on individual level animus towards out-partisans. Working backwards up the causal chain, animus towards the outparty is caused by salient partisan identity (**H2**). The salience of party ID is then increased by politically charged media (**H3**). This chain is represented in *Figure 1's* Directed Acyclic Graph (DAG) by the nodes "Party ID" and "Individual-level Out-party Animus" each of which can be both an outcome or exposure variable, depending on the hypothesis in question.

While the descriptive claim **H1** is articulated clearly in the text, the presentation of the causal claims is more muddled; this becomes a problem when attempting to draw causal inferences from the data. These issues result from an imprecise translation of the theoretical data-generating process to statistical causal inference, and are discussed further in Section 3.3.6.

Fortunately, the core descriptive claim is both sound and a valuable contribution to the polarization literature. Iyengar et al. show unambiguous and increasingly wide attitudinal cleavages between supporters of the major parties, using a previously under-explored set of

## Directed Acyclic Graph

Iyengar, Sood, & Lelkes (2012)

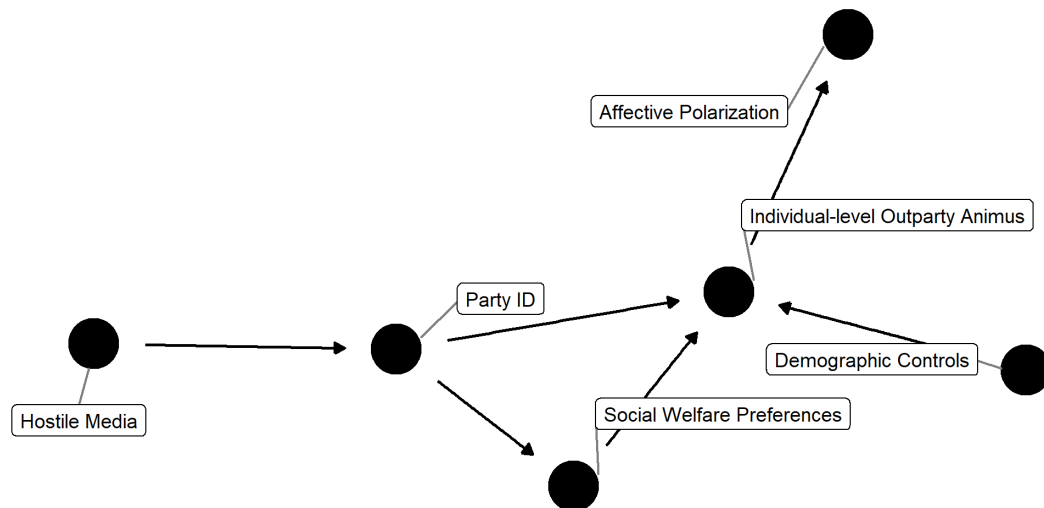


Figure 1: *A Directed Acyclic Graph of the causal processes described by Iyengar, Sood and Lelkes.*

measures. While the authors' causal model is flawed, they succeed in showing the existence of a phenomenon which *can* be modeled.

Still, there is more work to be done even on the descriptive front. This study does not address sub-partisan units of political identity, such as self identification as a member of a specific caucus or faction (e.g. progressive, tea-party, alt-right) within the broader party and the implications these identities may have for animus directed at an outgroup. A subgroup analysis along these lines is proposed in section four.

## 2.1 Role of Ideology in Affective Polarization

Ideology, the authors contend, plays a minimal role in driving out-party animus. This conclusion is reached through the application of a Two-Factor Structural Equation Model in which both respondents' cultural positions (gay rights, women's place, and abortion) and

their economic positions (social security, healthcare, jobs, essential services) are allowed to affect one of three dependent feeling thermometer variables: in-party, out-party, and the difference of the two. Also included in the regression model are several covariates indicating political interest, whether a respondent is a strong partisan, gender, region (whether a respondent is a southerner), and education. The form of the regression equation is:

$$\hat{Y} = \alpha + \hat{\beta}_1 Culture + \hat{\beta}_2 Econ + \hat{\gamma}_3 StrongPartisan + \hat{\beta}_4 Interest + \gamma_5 Female + \hat{\gamma}_6 South + \hat{\gamma}_7 HighSchool + \hat{\gamma}_8 SomeCollege + \hat{\gamma}_9 Advanced + \hat{\gamma} interest * internet \quad (1)$$

where dummy variables are indicated by a gamma coefficient. All variables are rescaled so that the minimum value of each is 0, and the maximum is 1. Missing data are imputed using the `Amelia` and `mitools` packages in the `RStudio` software suite. A total of five datasets are generated, containing estimates of missing observations. The OLS model is applied to each dataset, and the estimate of each coefficient is then averaged across the five datasets and reported.

### 2.1.1 Levels of Measurement

Several Independent variables are (arguably) in violation of the assumption of a quantitative or dichotomous independent variable. With the exception of *South* each IV is constructed from one (or multiple survey questions). *Culture* and *Econ* are comprised of questions which ask respondents to rank their degree of support or agreement for a political or cultural statement. For example: respondents are asked if federal spending on social security should be increased, kept the same, decreased, or cut entirely. These choices, which are coded as 0, .25,

.75, and 1 respectively (most liberal to most conservative); are clearly not quantitative—the size of the interval between each choice is mathematically meaningless—but are nonetheless treated as such in the regression model.

Other variables ask respondents to mark their preferred position on a policy scale, as is **womensrights** (a component of the culture factor) in which a respondent places themselves somewhere between 1-”women and men should have equal roles” and 7-”a woman’s place is in the home”. The use of these Likert type items in regression analysis in social science is fairly common and less troubling than variables which consist of a number of discrete choices which are assumed to be a continuous scale in the statistical analysis, but should be treated with caution all the same. It may be wise to adopt a new coding procedure, or to re-specify the ordinal variables as dummies.

### **2.1.2 Survey Validity Issues**

Iyengar, Sood and Lelkes Operationalize inter-partisan affect using two principal measures. The first, “net partisan affect” (NPA), is the difference between partisans’ rating of their in-party and out-party on a feeling thermometer (p. 411). This measure is supplemented with respondents’ answer to the question:

“How would you feel if you had a son or daughter who married a Republican/Democrat (Conservative/Labor) supporter? Not at all upset, somewhat upset, very upset?” (p.411)

Both of these measures are high in content validity, but should still be treated with some caution, dependent as they are on self-assessed survey data. First, it is not clear the de-



gree to which the authors’ measures of mass polarization are actually picking up antipathy towards party supporters or party *elites*. The marriage question above clearly asks about “supporter(s)”, but the ANES feeling thermometers are more ambiguous, asking respondents to describe “people who are Republicans or Democrats” (Iyengar, Sood and Lelkes, 2012, p. 412). In this second example, the elite status of the fictional Republican or Democrat is not specified, and it may not be clear to the respondent (or researcher) what sort of Republican or Democrat the respondent described.

Second, surveys are notoriously vulnerable to issues of framing, priming, and response instability (Zaller et al., 1992, p. 53–75), which at best introduce noise in the data and at worst (or at the most interesting, depending on one’s perspective) are illustrative of a broader problem with the measurement of public opinion—that many people are simply “Making it up as [they] go along”, to borrow a phrase from Zaller. While these problems are not addressed by Iyengar, Sood and Lelkes *post facto*; surveys (including the ANES, from which much of these data are drawn) take steps to ameliorate some of the threat from other forms of response bias, often randomizing the order in which questions are asked so as to avoid priming respondents. Still, the larger problem of instability is a more fundamental problem, and one that is not addressed in the text.

A third validity concern of these data is the possibility that respondents have under reported their attachment to their party. As people generally express a preference for bipartisanship (Harbridge, Malhotra and Harrison, 2014), there is logical reason to believe respondents’ desire to appear less partisan could lead to Hawthorne effects or social-desirability bias, posing a potential threat to the construct validity of the findings (Shadish, Cook and Campbell, 2002, p. 73, Table 3.1 Item 8). Fortunately, if the results are the product of

social desirability bias they should *underestimate* the degree of affective polarization. Thus the possibility of unaccounted for social desirability bias does not pose a major threat to the core findings of the paper.

## 2.2 Replication

Below, I present the results of the replication of Iyengar, Sood and Lelkes. Please note that these tables are placeholders; the final version of this paper will have much more attractive (and readable) figures.

X1	results	se	(lower	upper)	missInfo
(Intercept)	0.27	0.04	0.18	0.36	15 %
CU01r	0.00	0.04	-0.07	0.08	12 %
SW01r	0.02	0.05	-0.06	0.11	17 %
interest	0.03	0.02	-0.01	0.07	6 %
demrep == 1TRUE	0.06	0.02	0.03	0.09	6 %
genderFEMALE	0.00	0.02	-0.03	0.03	3 %
raceWhite	-0.03	0.02	-0.06	0.01	3 %
south	-0.03	0.02	-0.06	0.00	8 %
educationCollege or Higher	0.03	0.03	-0.04	0.09	2 %
educationHigh school	-0.03	0.02	-0.07	0.00	5 %
educationSome college	0.01	0.03	-0.04	0.06	3 %

Table 1: *Effect of Cultural (CU01r) and Social Welfare (SW01r) positions on affective polarization for Democrats in 1988.*

X1	results	se	(lower	upper)	missInfo
(Intercept)	0.24	0.05	0.14	0.33	11 %
CU01	-0.03	0.04	-0.10	0.04	5 %
SW01	0.06	0.05	-0.03	0.15	8 %
demrep == 7TRUE	0.10	0.02	0.06	0.13	7 %
interest	0.03	0.02	-0.02	0.08	4 %
genderFEMALE	-0.03	0.02	-0.06	0.00	4 %
raceWhite	0.02	0.03	-0.05	0.08	4 %
south	0.02	0.02	-0.01	0.06	5 %
educationCollege or Higher	-0.04	0.04	-0.11	0.04	3 %
educationHigh school	0.01	0.02	-0.04	0.05	4 %
educationSome college	0.01	0.03	-0.04	0.06	3 %

Table 2: *Effect of Cultural (CU01r) and Social Welfare (SW01r) positions on affective polarization for Republicans in 1988.*

X1	results	se	(lower	upper)	missInfo
(Intercept)	0.13	0.08	-0.02	0.29	3 %
CU01r	0.15	0.08	0.00	0.30	14 %
SW01r	0.03	0.07	-0.11	0.17	19 %
internetTRUE	-0.07	0.04	-0.16	0.01	9 %
interest	-0.04	0.05	-0.14	0.06	11 %
demrep == 1TRUE	0.14	0.02	0.10	0.18	2 %
gender2. Female	0.02	0.02	-0.01	0.06	2 %
race50. White (no mention of other race)	-0.04	0.04	-0.11	0.03	0 %
race88. Don't know	0.01	0.16	-0.31	0.33	1 %
race89. Refused	0.13	0.13	-0.13	0.39	0 %
raceOther	-0.08	0.04	-0.15	0.00	1 %
south	0.02	0.02	-0.02	0.06	2 %
educationCollege or Higher	0.08	0.06	-0.04	0.20	3 %
educationHigh school	0.02	0.06	-0.09	0.14	1 %
educationSome college	0.06	0.06	-0.06	0.17	2 %
internetTRUE:interest	0.15	0.06	0.03	0.27	13 %

Table 3: *Effect of Cultural (CU01r) and Social Welfare (SW01r) positions on affective polarization for Democrats in 2004.*

X1	results	se	(lower	upper)	missInfo
(Intercept)	0.07	0.09	-0.11	0.25	1 %
CU01	0.10	0.07	-0.03	0.23	4 %
SW01	0.17	0.07	0.04	0.30	2 %
demrep == 7TRUE	0.12	0.02	0.08	0.17	0 %
interest	0.12	0.06	0.00	0.23	7 %
internetTRUE	0.06	0.06	-0.05	0.17	16 %
gender2. Female	0.02	0.02	-0.02	0.06	1 %
race50. White (no mention of other race)	0.02	0.05	-0.08	0.13	0 %
race88. Don't know	0.22	0.24	-0.24	0.69	1 %
raceOther	0.02	0.07	-0.12	0.15	2 %
south	0.04	0.02	-0.01	0.08	0 %
educationCollege or Higher	-0.05	0.08	-0.20	0.11	2 %
educationHigh school	-0.08	0.08	-0.23	0.07	1 %
educationSome college	-0.05	0.08	-0.20	0.10	2 %
interest:internetTRUE	-0.09	0.07	-0.23	0.06	9 %

Table 4: *Effect of Cultural (CU01r) and Social Welfare (SW01r) positions on affective polarization for Republicans in 2004.*

The coefficients reported here are fairly different from those given in Iyengar, Sood and Lelkes (2012) (presented below). I suspect this may be due to some misunderstanding on my part of the multiple imputation and structural equation methods used to create the datasets on which the OLS regression was performed. I will consult with my advisor, as well as one of the co-authors to diagnose the problem.

**Table 3. Effect of Policy Preferences on Net Partisan Affect, OLS**  
Coefficients (standard errors in parentheses)

Predictors	1988		2004	
	Democrats	Republicans	Democrats	Republicans
Intercept	.23* (.05)	.04 (.05)	.19* (.08)	.00 (.09)
Cultural attitudes	-.06 (.04)	.04 (.04)	.05 (.07)	.04 (.06)
Economic attitudes	.20* (.05)	.12* (.05)	.19* (.07)	.19* (.06)
Strong identifier	.18* (.02)	.17* (.02)	.26* (.02)	.22* (.02)
Political interest	.05 (.02)	.06* (.03)	.07* (.03)	.12* (.03)
Gender: female	.01 (.02)	-.02 (.02)	.04 (.02)	.02 (.02)
Race: White	-.04 (.02)	.11* (.04)	.00 (.02)	.01 (.03)
Region: South	-.03 (.02)	.06* (.02)	.05* (.02)	.05* (.02)
Education: high school	-.05* (.02)	.00 (.03)	-.16* (.06)	.05 (.08)
Education: some college	-.02 (.03)	.00 (.03)	-.16* (.06)	.03 (.08)
Education: college or higher	-.09* (.04)	-.02 (.04)	-.16* (.07)	.02 (.08)
<i>N</i>	830	954	592	485
Adjusted <i>R</i> -squared	.16	.17	.25	.27

NOTE.—\* indicates that the 95-percent confidence interval does not contain zero. Confidence intervals were calculated using Rubin's (1987) multiple-imputation degrees-of-freedom estimate. All variables ranged between 0 and 1. Larger values on the cultural attitudes and economic attitudes variables indicate more liberal attitudes among Democrats and more conservative attitudes among Republicans.

Figure 2: *The original results from Iyengar, Sood, and Lelkes (2012). There are inconsistencies between my replication and the original work. It is fairly likely that these are due to the structural equation model and imputation methods employed by the authors.*

### 3 Intra-Party Affect & Primaries

In this section, I motivate an extension to Iyengar, Sood and Lelkes (2012), drawing on partisanship and feeling thermometer data from the ANES-CDF to present time-series trends

in Democrats’ affect toward their party and the Republican Party. I show, consistent with extant literature, mean out-party feeling thermometers have been decreasing since the late 20<sup>th</sup> Century. However, the mean feeling thermometers of the parties writ-large do not provide a sufficiently nuanced view of citizens’ affect.

### 3.1 Internal Division

Extant scholarship has, in large part, treated the major parties as affectively monolithic; party ID is assumed the least common denominator of political identity. It is also commonly assumed that warmth toward the in-party is (and has been) high across all partisans (Iyengar, Sood and Lelkes, 2012).

While affective polarization between partisans *is* very high at present, there is also reason to be suspicious of internal divisions *within* each party. Mason (2018) finds that, in addition to partisan identity, citizens hold ideological identities. In other words, individuals see themselves not just as “Democrats” and “Republicans”, but as “liberals” and “conservatives”. These ideological and partisan identities are related to one another, but suggest that political identities which cross cut partisanship are theoretically plausible.

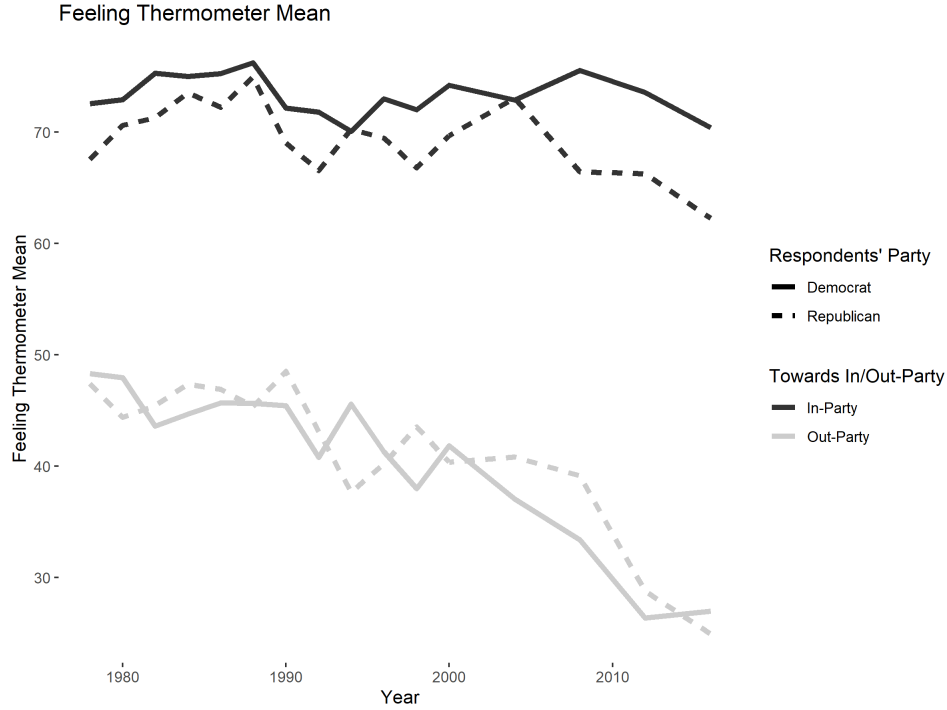


Figure 3: *Yearly mean of partisans' in-party and out-party feeling thermometers, 1978–2016.* Consistent with the extant literature (e.g., Iyengar, Sood and Lelkes (2012), Democrat and Republican in-party FTs are consistently high (with a slight decrease since the first decade of the 2000s).

Figure 3 shows the average in-party and out-party feeling thermometer for Republicans and Democrats from 1978-2016. We clearly see out-party feeling thermometers scores decline; while the in-party remains relatively constant. This is true of both parties.

Unfortunately reliance on annual means as a description of partisan affect paints too simple a picture. The standard deviation of the feeling thermometers, presented in figure 4, shows that the stability of mean in-party affect observed in Figure 3 belies an increase in the variation around that mean. This variation has increased in each iteration of the survey since 2004, both Republicans and Democrats have become less cohesive in their feelings toward their own party than at any other time period for which we have data. It should be noted that, historically, partisans are less cohesive in their feelings towards the out-party, though

the variance in intra-party affect now seems to be on par with out-party feelings.

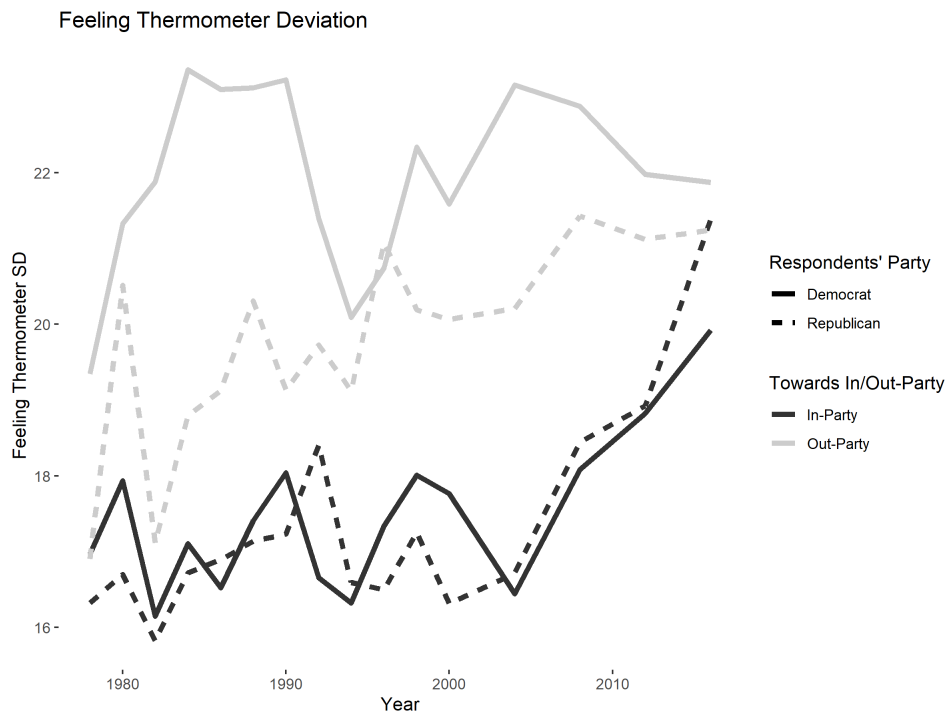


Figure 4: ***Standard Deviation of partisans' in party feeling thermometers, 1978–2016.*** After several decades of minimal change, the variation in in-party feeling thermometer ratings increased substantially between 2004 and 2016. This change is robust to both the Fligner-Killeen and Levene's tests of homogeneity of variance.

The changes in variance observed above between 2004 and 2016, as well as 1978-2016 are robust to both the Levene's and Fligner-Killeen tests of homogeneity of variances. These tests evaluate the null hypothesis that the variance of a variable between two samples or groups is equal, and are robust to non-normally distributed data. Each tests rejects the null at  $p < .05$  (precise p-values to be reported in the appendix).

### 3.2 A Closer Look At Democrats

To assess the degree to which systematic differences in affect exist between members of party factions, I present sub-group analyses of primary voters. Primary elections are substantively



significant events, allowing partisans a voice in the presentation and direction of their party. In a political environment in which the presidential nominee becomes the de facto leader of the party, the primary process affords non-elite voters a voice in the ideological, political, and stylistic future of the party. The political products offered by primary candidates may reflect (or drive) extant divisions in the party. Wronski et al. (2018) and Bankert (forthcoming) find that those scoring highly on measures authoritarian personality traits use their primary vote to “protect” their party from factions they see as threatening group cohesion. Just as voters do not toss a coin to decide their general election vote, they do not randomly select their choice in the primary; these choices are likely to be meaningful.

Journalistic accounts of primary elections and their aftermath abound with assertions of internal division and strife within parties after fraught primary election cycles. Democratic primary elections were surprisingly contentious in both 2008 and 2016. In 2008, a particularly brutal primary season spawned the “Party Unity Means Action” movement (colloquially referred to as the “Party Unity My Ass” movement) which culminated in an estimated 15-20% of Clinton supporters voicing their support for John McCain in that year’s general election<sup>2</sup>.

In 2016 too, primary elections brought to light conflicts between the party’s ascendant left-wing and party leadership. These primary divisions seemed to remain salient to engaged voters during the subsequent election for chair of the Democratic National Committee, where Keith Ellison, favored by Sanders supporters lost the race to Obama Secretary of Labor, Tom Perez. Staffers and executives of the 2016 Sanders campaign went on to create groups like

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<sup>2</sup>[https://www.washingtonpost.com/wp-dyn/content/article/2008/06/26/AR2008062604162\\_pf.html](https://www.washingtonpost.com/wp-dyn/content/article/2008/06/26/AR2008062604162_pf.html)

*Justice Democrats*, which supports left-leaning candidates in primaries against more centrist Democrats<sup>3</sup>.

### 3.3 Differences in Affect Among Democratic Primary Voters

I turn now to subgroup analyses of participants and non-participants in the 2008 and 2016 Democratic primaries. I present data from the three largest categories of ANES respondents in each year. In 2008 these were supporters of Barack Obama and Hillary Clinton; in 2016, Hillary Clinton and Bernie Sanders. In each year non-voters made up a majority of respondents.

Year	Vote Choice	Net Partisan Affect	Dem Affect	Rep Affect
2008	Didn't Vote	47.43	78.55	31.76
2008	Hillary Clinton	48.37	76.51	28.14
2008	Barack Obama	53.63	80.40	26.77
2016	Didn't Vote	45.80	71.99	28.60
2016	Hillary Clinton	60.19	82.62	22.48
2016	Bernie Sanders	48.34	67.70	21.45

Table 5: ***In-party, out-party, and net-affect of supporters of major Democratic primary candidates.*** Other candidates have been excluded due to very low sample size. These data are filtered by party-ID; all respondents are Democrats.

In 2008 Democrats were largely warm to the party, with averaged feeling thermometers toward their own party in the high 70s or low 80s, in the case of Obama supporters. Clinton voters profess the lowest NPA (identical to that of Bernie voters' in 2016). Consistent with

<sup>3</sup>Perhaps most notably: *Justice Democrats* supported the campaign of Alexandria Ocasio-Cortez (D-NY), herself a former member of the 2016 Sanders campaign, against former representative Joe Crowley, a high-ranking establishment Democrat.

the observed increase in variation, Clinton and Obama voters' net party affects were more similar than those of Clinton and Sanders supporters in 2016.

As expected, affect toward republicans dropped across voters and non-voters between 2008 and 2016. That year, Clinton voters' NPA was substantially higher than that of any other group, and their warmth toward the Democratic party is the highest of all six groups. Bernie voters' net affect is much lower, at about 48. Examining affect toward the Democratic and Republican parties individually, it is clear that Bernie voters' low NPA is the product of coldness towards the Democratic party on the part of Sanders supporters, rather than any particular warmth towards the Republicans. Bernie supporters reported both the lowest in-party thermometer rating (15 points lower than Clinton supporters in 2016) and the lowest out-party score, a point colder towards Republicans than Clinton voters.

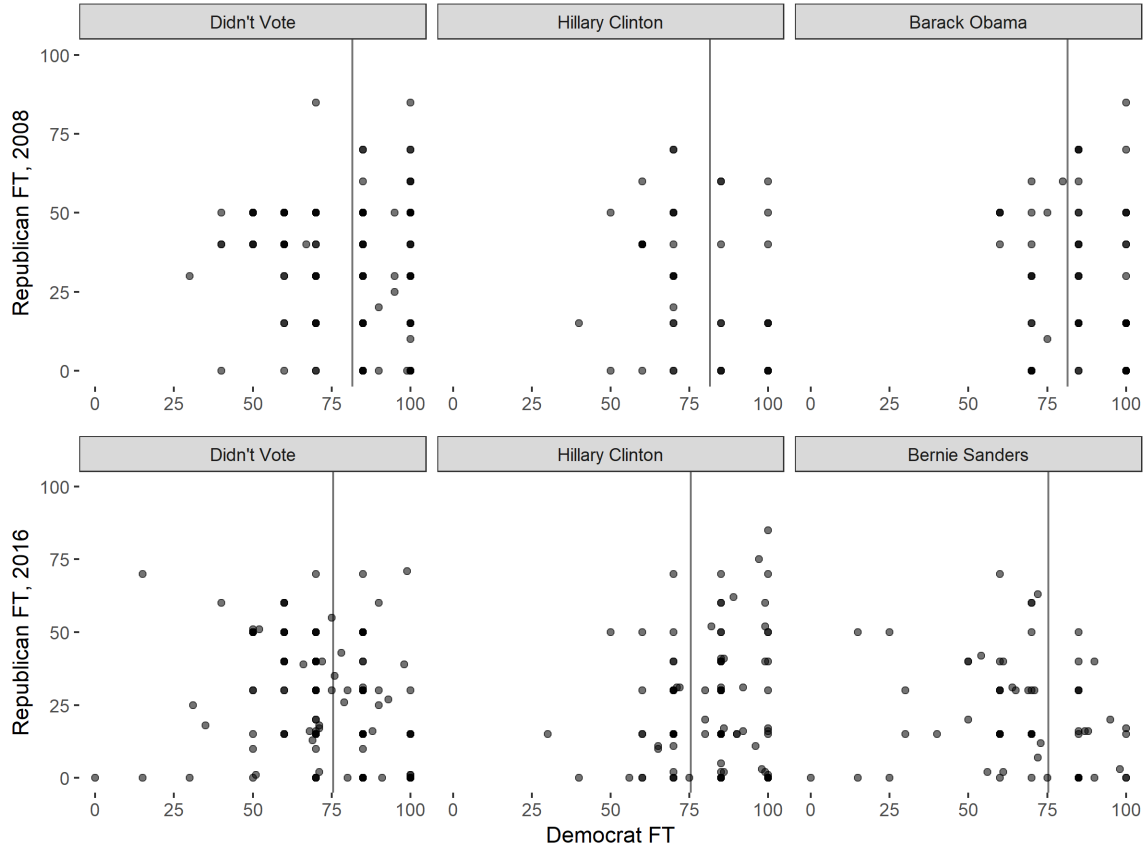


Figure 5: *Scatterplots of 2008 and 2016 Democratic primary voters' Democrat and Republican feeling thermometers. Mean Democratic feeling thermometer for all groups in each year indicated by vertical line.*

When viewing scatterplots of the data presented in table 1, the differences between each group are immediately apparent—particularly in 2016. In 2008, Obama supporters were uniformly warm to the Democratic Party, not a single respondent reported a feeling thermometer below 50. Hillary supporters skewed somewhat colder, but were still generally warm to the Democrats.

Turning to 2016, Most Hillary supporters were overwhelmingly warm to their party. Bernie voters, on the other hand, are much more ambivalent toward their party. Sanders supporters more closely resemble non-voters from 2016 than any other group in the data.

They were less likely than their co-partisans to rate their in-party affect a full 100 and not a single one of those who did rated Republicans above a 25.

Democrats' in-party affect is more heterogenous than has been suggested by existing literature. Variation in Democrats' in-party affect has been increasing since 2004, while mean in-party affect has remained relatively constant, indicating that increasing numbers of Democrats are quite warm to their party, while other groups are lukewarm, or even cold. It is more appropriate to say that Democrats' in-party affect has polarized somewhat, than that to simply claim that it has remained stable.

A potential explanation for these findings is that losing a primary election causes supporters of the losing candidates to dislike the party. Hillary supporters were most cold toward the party in 2008, as were Bernie supporters in 2016. It is also possible that some primary candidates bring new voters into the party, who may not be as friendly towards the organization as existing partisans. This hypothesis seems particularly likely in the case of Sanders in 2016, who did particularly well with those identifying as leaning independents. These hypotheses could be evaluated using panel data to track respondents' changes in partisanship over time.

Finally, the role of ideology in primary vote choice and affect should also be further investigated. While Iyengar, Sood and Lelkes (2012) argue that ideology plays only a minor role in shaping peoples' affective responses, it may be more prevalent among primary voters, who are particularly engaged and attuned to politics (Iyengar, Sood and Lelkes, 2012). The affective cleavages between opposing primary voters may be the product of substantive differences on the issues. It is also possible that primary voters chosen candidate functions as an element of their political identity. Possessing a social identity necessitates an in-group

and an out-group (Brewer, 2001). If a Sanders supporter thinks of their in-group as other Sanders supporters rather than the party writ-large, they may be predisposed to see the party (whose elites overwhelmingly supported Clinton) as a hostile out-group.

## 4 Extension to Iyengar, Sood and Lelkes (2012)

In order to begin assessing the differences in covariate effects between primary voters I propose an extension to Iyengar, Sood and Lelkes (2012) by way of the addition of two independent variables to their models: a multi-category dummy variable for primary vote choice and two interaction terms. The first interaction term is comprised of a vote for a losing candidate and a dummy variable indicating whether or not a respondent is dissatisfied with democracy, the second is cultural preferences interacted with a vote for either candidate—intended to assess whether the cultural concerns of those who vote in a primary are relevant in shaping their partisan affect. Additionally, I would like to extend the analysis to the 2016 iteration of the ANES, in which case the modified functional form of the original model would be as follows:

$$\begin{aligned}
\hat{Y} = & \alpha + \hat{\beta}_1 Culture + \hat{\beta}_2 Econ + \hat{\gamma}_3 StrongPartisan + \hat{\beta}_4 Interest + \hat{\gamma}_5 Female + \\
& \hat{\gamma}_6 South + \hat{\gamma}_7 HighSchool + \hat{\gamma}_8 SomeCollege + \hat{\gamma}_9 Advanced + \hat{\gamma}_{10} interest * internet + \\
& \hat{\gamma}_{11} Clinton + \hat{\gamma}_{12} Sanders + \hat{\gamma}_{13} Sanders * dissatisfaction + \hat{\gamma}_{14} dissatisfaction + \\
& \hat{\gamma}_{15} Culture(Clinton + Sanders),
\end{aligned} \tag{2}$$

where “non-voter” is the reference category for primary vote choice. And the dependent variables on which the covariates are regressed are in-party, out-party, and net affect.

While this specification will not help us to assess the degree to which depressed intra-party affect precedes or is preceded by a primary loss, inclusion of the dissatisfaction interaction term may help to rule out a sore loser effect—it would be difficult to argue that a loss in a primary caused a decrease in in-party FTs if those who voted for the loser and were dissatisfied with democracy showed *greater* warmth to their party. However, I suspect that those who vote for a loser and who are dissatisfied with democracy will exhibit a substantially lower intra-party affect than those who vote for a winning candidate or are satisfied. Additionally, I expect that cultural concerns will increase out-party animosity among primary voters, but have little effect on their in-party feelings.

## 4.1 Data

The data necessary to complete this extension are simple to gather, being acquired from the ANES-CDF and the 2016 iteration of the study, which asks respondents for whom they cast a vote in the primary election. As for democratic satisfaction, the ANES asks respondents to rate their satisfaction as "very" or "somewhat" satisfied or dissatisfied with democracy. I will recode those responses who indicate either level of dissatisfaction as a 1.

## References

- Abramowitz, Alan. 2010. *The Disappearing Center: Engaged Citizens, Polarization, and American Democracy*. Yale University Press.
- Bankert, Alexa. forthcoming. “The Authoritarian Divide in the Democratic Party.” *Working Paper* .
- Brewer, Marilynn B. 2001. “The Many Faces of Socialidentity: Implications for Political Psychology.” *Political psychology* 22(1):115–125.
- Converse, Philip. 1964. “The Nature of Belief Systems in Mass Publics.” *Ideology and discontent* pp. 206–61.
- Fiorina, Morris P and Samuel J Abrams. 2012. *Disconnect: The Breakdown of Representation in American Politics*. Vol. 11 University of Oklahoma Press.
- Fiorina, Morris P, Samuel J Abrams and Jeremy C Pope. 2005. “Culture War? The Myth of a Polarized America.” *The myth of a polarized America* .
- Harbridge, Laurel, Neil Malhotra and Brian F Harrison. 2014. “Public Preferences for Bipartisanship in the Policymaking Process.” *Legislative Studies Quarterly* 39(3):327–355.
- Iyengar, Shanto, Gaurav Sood and Yphtach Lelkes. 2012. “Affect, not Ideology: a Social Identity Perspective on Polarization.” *Public opinion quarterly* 76(3):405–431.
- Levendusky, Matthew. 2009. *The Partisan Sort: How Liberals Became Democrats and Conservatives Became Republicans*. University of Chicago Press.
- Mason, Lilliana. 2018. “Ideologues Without Issues: The Polarizing Consequences of Ideological Identities.” *Public Opinion Quarterly* 82(S1):866–887.
- McClosky, Herbert and John Zaller. 1984. *The American Ethos: Public Attitudes Toward Capitalism and Democracy*. Harvard Univ Pr.
- Shadish, William R, Thomas D Cook and Donald T Campbell. 2002. “Experimental and Quasi-experimental Designs for Generalized Causal Inference.” .
- Wronski, Julie, Alexa Bankert, Karyn Amira, April A Johnson and Lindsey C Levitan. 2018. “A Tale of Two Democrats: How Authoritarianism Divides the Democratic Party.” *The Journal of Politics* 80(4):1384–1388.
- Zaller, John R et al. 1992. *The Nature and Origins of Mass Opinion*. Cambridge university press.

## 5 Appendix