

Affective Polarization and the Destabilization of Core Political Values

Trent Ollerenshaw
Ph.D. Candidate
Duke University
Department of Political Science
trent.ollerenshaw@duke.edu

Word Count: 3,998

Abstract: Longitudinal analyses of survey data from 1992-1996 show that extremity in political values was associated with increased affective polarization among Americans during this period, whereas affective polarization was unrelated to increased value extremity (Enders and Lupton 2021). In this paper, I reevaluate the relationships between value extremity and affective polarization using the recent 2016-2020 ANES panel. Replicating Enders and Lupton's analytical procedures as closely as possible with this new sample, I find that political value extremity is sometimes associated with increased affective polarization during this period, but that affective polarization is consistently and more strongly associated with increased value extremity. These updated findings suggest that values may have become endogenous to Americans' evaluations of salient political objects, such as parties, presidential candidates, and ideological groups.

Competing Interests: The author declares none.

Acknowledgements: The author thanks Christopher D. Johnston, Sunshine D. Hillygus, two anonymous reviewers, and the editors of *Political Science Research and Methods* for their thoughtful comments on the manuscript. The author also thanks Adam M. Enders and Robert N. Lupton for their comments on the manuscript, and for making available their reproduction files, which served as the template for this manuscript's empirical analysis.

Political values are often considered to be a cornerstone of deliberative democracy. Absent widespread subscription to coherent ideologies (Campbell et al. 1960; Kinder and Kalmoe 2017), many scholars argue citizens translate their interests into political decisions through the considered application of core values (Feldman 2003; Schwartz et al. 2010; Zaller 1992). Drawing on this theory, Enders and Lupton (2021) hypothesize affective polarization follows from Americans using values to evaluate salient political groups and elites which are polarized in the values they represent (Lupton et al. 2015). Enders and Lupton (2021) analyze the 1992-1996 American National Election Study (ANES) panel (n=597) and find value extremity was associated with increased affective polarization towards parties and ideological groups over this period. Further, Enders and Lupton (2021) do not find affective polarization is associated with increased value extremity, which implies the relationship between values and affective polarization flowed primarily from the former to latter in the 1990s.

In this note, I reassess the relationship between values and affective polarization using the 2016-2020 ANES panel (n=2,670). Following Enders and Lupton's (2021) analytic procedures as closely as possible, I seek to understand how the relationships between political values and affective polarization may (or may not) have changed since the 1990s. In near-identical statistical models, I find value extremity in 2016 is associated with increased affective polarization towards the parties in 2020, but not towards ideological groups or presidential candidates. However, all three measures of affective polarization in 2016 are consistently associated with increased value extremity in 2020. My findings imply the relationship between values and affective polarization flowed primarily from the latter to the former between 2016 and 2020 (cf. Enders and Lupton [2021]).

This note is structured as follows. I begin by reviewing Enders and Lupton's (2021) cross-sectional (1988–2016) and longitudinal (1992-1996) analyses of the relationships between political values and affective polarization in the US. In the second section, I outline an analytic strategy for replicating Enders and Lupton's (2021) longitudinal analysis with the 2016-2020 ANES panel. In the

third section, I analyze the 2016-2020 ANES and find lagged affective polarization exhibits stronger associations with value extremity than vice versa. In section four, I review possible explanations for why my findings differ from those of Enders and Lupton (2021), such as changes in the electorate's composition, changes in the political environment related to rising affective polarization and socio-political sorting, and random sampling error. Finally, I conclude by outlining the implications of my findings for thinking about values as influencing, but also being influenced by, affective polarization.

1. Enders and Lupton (2021): value extremity contributes to affective polarization

Enders and Lupton (2021) investigate the relationship between political values and affective polarization in the US. Broadly, Enders and Lupton theorize that affective polarization could arise if citizens recognize that different political groups represent distinct values and, in turn, evaluate value-aligned groups more positively than value-misaligned groups. They derive two hypotheses. First, they hypothesize that value extremity—that is, greater distance between an individual's values and political outgroups' values—will be associated with affective polarization. Second, they hypothesize that the associations between value extremity and affective polarization will have strengthened over time as elite-level polarization increases citizens' perceived value distance to political outgroups (see Hetherington 2009; Lupton et al. 2015).

Enders and Lupton (2021) test these hypotheses with American National Election Study (ANES) Time Series cross-sectional and panel surveys. Their key variables are value extremity and affective polarization. To assess value extremity, Enders and Lupton (2021) use items consistently included on the ANES that tap into respondents' beliefs in egalitarianism (four or six items) and moral traditionalism (four items). They generate a unidimensional scale from these items where egalitarianism and moral traditionalism lie on opposite ends of the values scale.¹ They then convert

¹ In their supplementary material, Enders and Lupton (2021) justify generating a unidimensional values measure and focusing on egalitarianism and moral traditionalism as important values in the US context. See also Appendix 3.

the value index into a measure of extremity by “calculating the absolute difference between each respondent’s value orientations score and the mean value orientations score for members of the opposite party.” Enders and Lupton (2021) create standard affective polarization measures using differences in 101-point feeling thermometer ratings toward three targets: parties, ideological groups, and presidential candidates. They subtract respondents’ ratings of ingroups vs. outgroups for each target such that larger values correspond to higher levels of affective polarization.

Enders and Lupton (2021) first assess the associations between value extremity and affective polarization using linear regression on the pooled ANES cross-sections fielded between 1988 and 2016. Their first models separately regress each affective polarization measure on value extremity while controlling for issue extremity², partisan-ideological sorting (Mason 2018), political interest, education, age, income, religiosity, race/ethnicity, gender, southern residence, and sample fixed effects. In subsequent conditional models, they interact value extremity and sample-year to test whether the associations between value extremity and affective polarization have strengthened over time. Their findings are consistent with their hypotheses; value extremity is associated with affective polarization towards parties, ideological groups, and presidential candidates, and these associations strengthened between 1988 and 2016.

Acknowledging that cross-sectional regressions cannot empirically distinguish any potential causal ordering between affective polarization and value extremity, Enders and Lupton (2021) turn to cross-lagged panel modeling (CLPM) on the 1992-1996 ANES panel to assess whether and how value extremity and affective polarization may be related. Enders and Lupton (2021) specify a CLPM for each affective polarization measure. Each CLPM includes two equations estimated via structural equation models and full information maximum likelihood. One equation predicts value extremity in

² Issue extremity is the average of absolute differences between individuals’ issue attitudes and the moderate position across five issues: defense spending, government spending and services, government assistance to Blacks, private vs. public healthcare, and government-guaranteed jobs.

1996; the other predicts affective polarization in 1996. The independent variables, all measured in 1992, include value extremity, the respective affective polarization measure, and the same controls included in the cross-sectional models (minus sample fixed effects). The variables are standardized so CLPM coefficients represent the effects of standard deviation changes in independent variables on the dependent variable (also in standard deviations). To be clear, however, CLPMs suffer from many of the same shortcomings as cross-sectional regression, such as the risk of omitted variables and spurious correlations arising from measurement error. Given the assumptions of CLPMs are usually violated (Lucas 2023), CLPMs should generally be interpreted as associational estimates.

In Figure 1, I reproduce the main results from Enders and Lupton's (2021) analysis of the 1992-1996 ANES panel.³ Consistent with their hypotheses, lagged value extremity is associated with increased affective polarization between 1992 and 1996 in two of three cases. Lagged value extremity is associated with standard deviation increases in affective polarization of 0.086 towards ideological groups ($p=0.045$), 0.118 towards parties ($p=0.008$), and 0.050 towards presidential candidates ($p=0.281$). Notably, lagged affective polarization is not significantly associated with changes in value extremity, which suggests the association between value extremity and affective polarization flows from values to affective polarization during this period. Additionally, although Enders and Lupton (2021) do not report results from models that incorporate sampling weights, their results are robust to weighting for national representativeness (Appendix 5).

³ There is an error in Enders and Lupton's coding of religiosity where those saying religion was "not important" are coded as missing values. This error makes no difference to their results, so I opt for a direct reproduction.

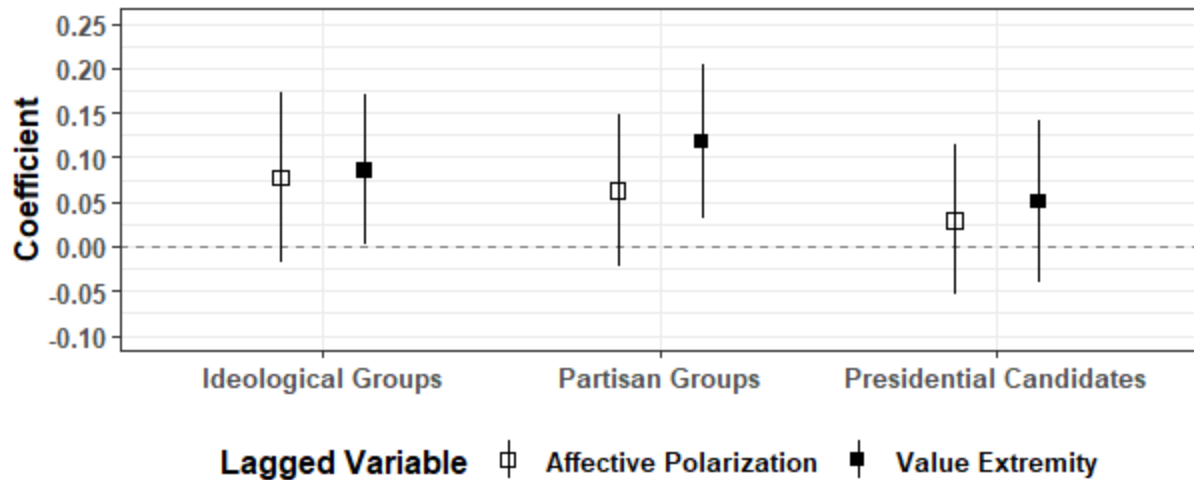


Figure 1—Cross-Lagged Associations Between Value Extremity and Affective Polarization (1992-1996). Points are standardized coefficients of lagged affective polarization measures on value extremity (white) and lagged value extremity on affective polarization (black) with 95 percent confidence intervals. N=597. Source: 1992-1996 ANES panel.

2. Out of sample replication: 2016-2020 ANES panel

At the time of their writing, Enders and Lupton (2021) could only analyze one panel survey that included measures of affective polarization and political values: the 1992-1996 ANES panel. Fortunately, another panel study has since been released with both measures: the 2016-2020 ANES. The 2016-2020 ANES panel includes 2,670 respondents who completed through the post-election wave of the 2020 ANES. The total reinterview rate was 73.2 percent.

The 2016-2020 ANES panel differs from the 1992-1996 ANES panel in several ways. First, although both panels aim for national representativeness, the composition of the voting-eligible US citizenry has changed since the 1990s. Table 1 provides descriptive statistics for each panel in their first wave. Relative to 1992, the electorate in 2016 exhibits slightly more extreme political values and much higher affective polarization toward parties and presidential candidates, though not ideological groups. Partisan-ideological sorting and issue extremity are also slightly more pronounced in 2016. Finally, the 2016 sample is older, less white, and less religious.

Variable (First Wave)	1992-1996 ANES	2016-2020 ANES
Values Extremity (10-item)	0.20 (0.24)	
Values Extremity (6-item)	0.20 (0.24)	0.22 (0.24)
Affective Pol. (Parties)	0.28 (0.24)	0.39 (0.30)
Affective Pol. (Ideo. Groups)	0.35 (0.25)	0.32 (0.30)
Affective Pol. (Candidates)	0.25 (0.24)	0.54 (0.31)
Partisan-Ideological Sorting	0.21 (0.23)	0.24 (0.27)
Issue Extremity	0.46 (0.23)	0.51 (0.25)
Political Interest	0.72 (0.33)	0.68 (0.35)
Religiosity	0.58 (0.40)	0.50 (0.43)
Female	51%	51%
White	83%	70%
Black	13%	11%
Education (Bachelor's)	31%	33%
Southern Residency	35%	38%
Age (Median)	37	48
Income (Median)	\$35,000-\$39,999	\$60,000-\$64,999
N	597	2,670

Table 1—Descriptive Statistics. Table entries are means (standard deviation in parentheses), medians, or percentages. Continuous variables scaled 0 to 1. All variables derived from the first wave (1992 or 2016). Data weighted. Source: 1992-1996 ANES panel, 2016-2020 ANES panel.

Additionally, the 2016-2020 ANES includes only six of the ten political values items in the 1992-1996 panel: four egalitarianism items and two moral traditionalism items. However, these six items still constitute a unidimensional measure (Appendix 3) with acceptable reliabilities ($\alpha_{2016}=0.70$, $\alpha_{2020}=0.75$). Further, in Appendix 6, I replicate Enders and Lupton's (2021) analysis with an identical six-item value extremity measure and find their conclusions are unchanged. There are otherwise no important differences between variables on the 2016-2020 ANES panel and those on the 1992-1996 ANES panel analyzed by Enders and Lupton (2021).

Finally, the 2016-2020 ANES panel has a sample approximately 4.5 times larger than that of the 1992-1996 ANES panel. In light of recent work demonstrating the vast majority of quantitative political science studies are underpowered (Arel-Bundock et al. 2022), this boost to statistical power is beneficial. Given its large sample and near-identical set of variables to those on the 1992-1996 ANES, the 2016-2020 ANES is well-suited for an out-of-sample replication of Enders and Lupton's (2021) longitudinal analysis of the relationships between value extremity and affective polarization.

3. Results: affective polarization contributes to value extremity

I specify three cross-lagged models to predict value extremity and affective polarization with the 2016-2020 ANES panel. Each model includes two equations simultaneously estimated using full information maximum likelihood. The first equation predicts value extremity in 2020; the second predicts affective polarization in 2020. The independent variables are measured in 2016, and include value extremity, the respective affective polarization measure, issue extremity, partisan-ideological sorting, political interest, education, age, income, gender, religiosity, race/ethnicity, and southern residence.⁴ I employ sampling weights in all analyses, and account for the complex sampling design when deriving standard errors. In Figure 2, I display the key results from the CLPMs.⁵ Note that the coefficients in Figure 2 cannot be directly compared to those in Figure 1 because they are derived from samples with standardized variables of different variances.

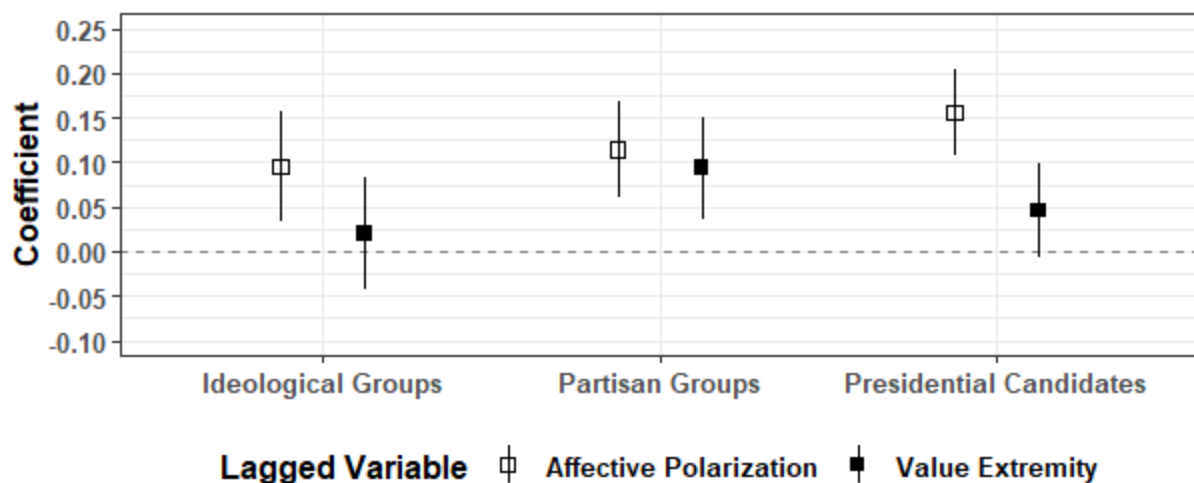


Figure 2—Cross-Lagged Associations Between Value Extremity and Affective Polarization (2016-2020). Points are standardized coefficients of lagged affective polarization measures on value extremity (white) and lagged value extremity on affective polarization (black) with 95 percent confidence intervals. Data weighted. N=2,670. Source: 2016-2020 ANES panel.

⁴ In Appendix 8, I drop controls for issue extremity and sorting, which Enders and Lupton (2021) note could be partly downstream from value extremity. I find the effects of lagged affective polarization and lagged value extremity increase in these less conservative models, but the effects of lagged affective polarization remain consistently stronger.

⁵ See Appendix 4 for full CLPM results.

Looking first at the effects of lagged value extremity on affective polarization, I find lagged value extremity is associated with standard deviation increases in affective polarization of 0.021 toward ideological groups ($p=0.477$), 0.094 toward parties ($p=0.002$), and 0.046 toward presidential candidates ($p=0.095$). I replicate Enders and Lupton's (2021) finding that lagged value extremity is associated with affective polarization towards the parties, but not their finding that value extremity contributes to affective polarization towards ideological groups. I similarly find that value extremity is insignificantly related to changes in affective polarization toward presidential candidates. Overall, I find value extremity had limited associations with increases in affective polarization between 2016 and 2020.

The more striking differences between my results and those of Enders and Lupton (2021) emerge when examining the associations between lagged affective polarization and value extremity. Recall that Enders and Lupton (2021) found insignificant associations between affective polarization and value extremity. In the 2016-2020 ANES panel, however, all three lagged affective polarization measures are associated with increased value extremity in 2020. Specifically, the estimated effects of lagged affective polarization on value extremity in standard deviations are 0.095 for ideological groups ($p=0.004$), 0.115 for party ratings ($p<0.001$), and 0.156 for presidential candidate ratings ($p<0.001$). Notably, in all three cases, the effects of value extremity on affective polarization are smaller than the effects of affective polarization on value extremity—and significantly so in two of three cases.

4. Discussion

In this paper, I evaluated the relationship between value extremity and affective polarization in the US. I reproduced Enders and Lupton's (2021) analyses of the 1992-1996 ANES panel, which show that value extremity was associated with affective polarization towards parties and ideological groups, but not presidential candidates, and that affective polarization was unrelated to changes in

value extremity. I conducted an out-of-sample replication using near-identical models and the more recent 2016-2020 ANES panel. I found value extremity was associated with affective polarization towards parties, but not ideological groups or presidential candidates. Notably, my findings mostly diverge from Enders and Lupton's when assessing affective polarization's effects on value extremity, where I find all three affective polarization measures were associated with increased value extremity.

There are several differences between my analyses and those of Enders and Lupton (2021) that might explain why our findings differ. First, the composition of the electorate has changed since the 1990s. If the relationships between value extremity and affective polarization are conditioned by compositional variables, these relationships may have changed concomitantly with the electorate. In Appendix 7, I test the possibility that compositional differences explain the differences between my findings and Enders and Lupton's by weighting the 2016-2020 to match the covariate distributions in the 1992-1996 panel using entropy balancing (Hainmueller 2012). I find the associations between lagged affective polarization and changes in value extremity are significant in all three cases, whereas lagged value extremity is insignificantly associated with affective polarization in every case, including towards parties (which originally saw a significant association). This analysis suggests differences in electorates likely do not explain why my findings differ from Enders and Lupton's (2021), though I cannot rule out this explanation entirely since balancing on observables will not necessarily obviate unobserved differences.

Another possible reason why my findings diverge from Enders and Lupton (2021) is that the relationship between affective polarization and value extremity changed since the 1990s. While I do not find most of Enders and Lupton's findings "replicate" in 2016-2020, this does not mean their findings were erroneous. Enders and Lupton's (2021) analysis could offer an accurate snapshot of the relationship between values and affective polarization in the 1990s. Affective polarization was lower in this period, and cross-cutting socio-political cleavages were common (Iyengar et al. 2012;

Mason 2018). In this environment, values could have been more central to individuals' political thinking. However, as affective polarization increased during the 21st century and Americans became increasingly well-sorted, values may have become secondary to socio-political ties. If Americans now view values as indicators of group allegiances, affective polarization may be causing Americans to adopt the values of politically similar others (and disassociate from the values of politically dissimilar others). This theory is perhaps especially compelling in light of recent work that finds political identities cause instability in other “core” traits like racial attitudes (Engelhardt 2020), personality (Bakker et al. 2021), and even demographic identities (Egan 2020).

Finally, it is worth considering that the differences between my results and those of Enders and Lupton (2021) emerged by chance due to random sampling error. The 1992-1996 ANES panel has 597 respondents; the 2016-2020 ANES panel has 2,670. This larger sample may have allowed me to uncover associations between affective polarization and value extremity that existed in the 1990s but could not be identified by Enders and Lupton for a lack of statistical power. Additionally, larger samples reduce the variance in estimated effects due to sampling error, which in turn reduces false positive findings (Benjamin et al. 2018; Camerer et al. 2018; Loken and Gelman 2017; Open Science Collaboration 2015). A reduction in random sampling error could explain why I fail to find significant effects of lagged value extremity on affective polarization in one case (ideological groups) where Enders and Lupton (2021) find significant effects. Given research on replicability in the social sciences, we cannot discount the possibility that different studies, even using near-identical analyses, differ in their findings due to sampling error.

5. Conclusion

A foundational literature in political science contends many citizens make political decisions through a considered application of values. And because values are thought to be stable (Searing et al. 2019), they can help produce consistent political behaviors among citizens who do not engage in

ideological thinking (Feldman 2003; Zaller 1992). Indeed, many studies have shown values are associated with political attitudes, identities, and behaviors (e.g., Ciuk 2022; Evans and Neundorff 2020; Feldman 1988; Goren 2012; Jacoby 2006, 2014; Lupton et al. 2020; Ollerenshaw and Johnston 2022; Schwartz et al. 2010). Enders and Lupton (2021) extend this values literature, concluding that affective polarization between 1992 and 1996 increased as Americans made reasonable judgements about the values represented by parties, ideological groups, and presidential candidates.

Looking at recent panel data from 2016-2020, however, I find that affective polarization is the stronger, more consistent predictor of value extremity than vice versa. My findings thus invoke more pessimistic conclusions than those reached by Enders and Lupton (2021) about values and the prospects for deliberative democracy. Amidst rising affective polarization and political sectarianism, values may serve more as endogenous, expressive signals of socio-political identity than deep-seated dispositions which independently drive political behavior. This conclusion is perhaps not particularly surprising in light of research that finds values are less stable than partisanship (Goren 2005); that values are associated with particular parties by Americans (Connors 2023); and that social influences, party cues, and campaigns shape value expression (Connors 2020; Goren et al. 2009; McCann 1997).

My analysis supports a revisionist account of values, one where values are not exogenous to socio-political influences. However, these conclusions should be tempered by the limitations of this study's design. Cross-lagged panel models require untenably strong assumptions to be interpreted as causal effects; my findings, like those of Enders and Lupton (2021), should therefore be viewed as associational. Current data limitations preclude applying stronger designs for inference, such as the random-intercept CLPM, which requires three waves (Lucas 2023). Usefully, however, the ANES plans to reinterview 2016-2020 panelists in 2024. In the spirit of the present study, when 2024 data becomes available, a replication using random-intercept CLPMs to identify what causal relationships exist between values and affective polarization seems an obvious avenue for future research.

References

- Arel-Bundock, Vincent et al. 2022. “Quantitative Political Science Research Is Greatly Underpowered.” <https://osf.io/7vy2f/> (July 12, 2022).
- Bakker, Bert N., Yphtach Lelkes, and Ariel Malka. 2021. “Reconsidering the Link Between Self-Reported Personality Traits and Political Preferences.” *American Political Science Review*: 1–17.
- Benjamin, Daniel J. et al. 2018. “Redefine Statistical Significance.” *Nature Human Behaviour* 2(1): 6–10.
- Camerer, Colin F. et al. 2018. “Evaluating the Replicability of Social Science Experiments in Nature and Science between 2010 and 2015.” *Nature Human Behaviour* 2(9): 637–44.
- Campbell, Angus, Phillip Converse, Warren Miller, and Donald Stokes. 1960. *The American Voter*. University of Chicago Press.
- Ciuk, David J. 2022. “Value Disagreement and Partisan Sorting in the American Mass Public.” *Political Research Quarterly*: 10659129211072558.
- Connors, Elizabeth C. 2020. “The Social Dimension of Political Values.” *Political Behavior* 42(3): 961–82.
- . 2023. “Party Foul: The Effectiveness of Political Value Rhetoric Is Constrained by Party Ownership.” *Political Behavior*.
- Egan, Patrick J. 2020. “Identity as Dependent Variable: How Americans Shift Their Identities to Align with Their Politics.” *American Journal of Political Science* 64(3): 699–716.
- Enders, Adam M., and Robert N. Lupton. 2021. “Value Extremity Contributes to Affective Polarization in the US.” *Political Science Research and Methods* 9(4): 857–66.
- Engelhardt, Andrew M. 2020. “Racial Attitudes through a Partisan Lens.” *British Journal of Political Science*: 1–18.

- Evans, Geoffrey, and Anja Neundorff. 2020. "Core Political Values and the Long-Term Shaping of Partisanship." *British Journal of Political Science* 50(4): 1263–81.
- Feldman, Stanley. 1988. "Structure and Consistency in Public Opinion: The Role of Core Beliefs and Values." *American Journal of Political Science* 32(2): 416–40.
- . 2003. "Values, Ideology, and the Structure of Political Attitudes." In *Oxford Handbook of Political Psychology*, New York, NY, US: Oxford University Press, 477–508.
- Goren, Paul. 2005. "Party Identification and Core Political Values." *American Journal of Political Science* 49(4): 881–96.
- . 2012. *On Voter Competence*. Oxford University Press.
- Goren, Paul, Christopher M. Federico, and Miki Caul Kittilson. 2009. "Source Cues, Partisan Identities, and Political Value Expression." *American Journal of Political Science* 53(4): 805–20.
- Hainmueller, Jens. 2012. "Entropy Balancing for Causal Effects: A Multivariate Reweighting Method to Produce Balanced Samples in Observational Studies." *Political Analysis* 20(1): 25–46.
- Hetherington, Marc J. 2009. "Putting Polarization in Perspective." *British Journal of Political Science* 39(2): 413–48.
- Iyengar, Shanto, Gaurav Sood, and Yphtach Lelkes. 2012. "Affect, Not Ideology: A Social Identity Perspective on Polarization." *Public Opinion Quarterly* 76(3): 405–31.
- Jacoby, William G. 2006. "Value Choices and American Public Opinion." *American Journal of Political Science* 50(3): 706–23.
- . 2014. "Is There a Culture War? Conflicting Value Structures in American Public Opinion." *American Political Science Review* 108(4): 754–71.
- Kinder, Donald R., and Nathan P. Kalmoe. 2017. *Neither Liberal nor Conservative Neither Liberal nor Conservative: Ideological Innocence in the American Public*. University of Chicago Press.

- Loken, Eric, and Andrew Gelman. 2017. "Measurement Error and the Replication Crisis." *Science* 355(6325): 584–85.
- Lucas, Richard E. 2023. "Why the Cross-Lagged Panel Model Is Almost Never the Right Choice." *Advances in Methods and Practices in Psychological Science* 6(1): 25152459231158376.
- Lupton, Robert N., William M. Myers, and Judd R. Thornton. 2015. "Political Sophistication and the Dimensionality of Elite and Mass Attitudes, 1980–2004." *The Journal of Politics* 77(2): 368–80.
- Lupton, Robert N., Steven M. Smallpage, and Adam M. Enders. 2020. "Values and Political Predispositions in the Age of Polarization: Examining the Relationship between Partisanship and Ideology in the United States, 1988–2012." *British Journal of Political Science* 50(1): 241–60.
- Mason, Lilliana. 2018. *Uncivil Agreement: How Politics Became Our Identity*. The University of Chicago Press.
- McCann, James A. 1997. "Electoral Choices and Core Value Change: The 1992 Presidential Campaign." *American Journal of Political Science* 41(2): 564–83.
- Ollerenshaw, Trent, and Christopher D. Johnston. 2022. "The Conditional Relationship of Psychological Needs to Ideology: A Large-Scale Replication." *Public Opinion Quarterly* 86(2): 369–80.
- Open Science Collaboration. 2015. "Estimating the Reproducibility of Psychological Science." *Science* 349(6251): aac4716.
- Schwartz, Shalom H., Gian Vittorio Caprara, and Michele Vecchione. 2010. "Basic Personal Values, Core Political Values, and Voting: A Longitudinal Analysis." *Political Psychology* 31(3): 421–52.
- Searing, Donald D., William G. Jacoby, and Andrew H. Tyner. 2019. "The Endurance of Politicians' Values Over Four Decades: A Panel Study." *American Political Science Review* 113(1): 226–41.
- Zaller, John. 1992. *The Nature and Origins of Mass Opinion*. Cambridge University Press.

Affective Polarization and the Destabilization of Core Political Values

Trent Ollerenshaw
Ph.D. Candidate
Duke University
Department of Political Science
trent.ollerenshaw@duke.edu

Contents:

1. Data Description for 2016-2020 ANES Panel	1
2. Question Wording Bank	2
3. Item Analysis of the 2016-2020 ANES Panel Values Items	5
4. Full Cross-Lagged Panel Model Results	9
5. Robustness Check for Enders and Lupton (2021): Weighting	12
6. Robustness Check for Enders and Lupton (2021): Six-Item Value Scale	14
7. Robustness Check: Reweighting 2016-2020 ANES to 1992-1996 ANES	16
8. Robustness Check: Dropping Issue Extremity and Sorting Controls	19

Appendix 1—Data Description for 2016-2020 ANES Panel

Target Population: The target population of the sample is non-institutional U.S. citizens aged 18 years or older (as of November 8th, 2016) living in the 50 US states or the District of Columbia.

Sample Size: 2,670 (includes only those who finished the 2020 ANES post-election survey wave).

Survey Field Dates: The 2016 pre-election wave was fielded between September 7, 2016 and November 7, 2016. The 2016 post-election wave was fielded between November 9, 2016 and January 8, 2017. The 2020 pre-election wave was fielded between August 18, 2020 and November 3, 2020. The 2020 post-election wave was fielded between November 8, 2020 and January 4, 2021.

Sample Recruitment: Data collection was performed by Westat, Inc. “2016 ANES respondents were invited by email where possible, with letters used if there was no email on file or after an initial non-response...All respondents who completed the post-election survey did so in the same mode used for the pre-election survey” (pg. 4). Respondents who completed the 2016 ANES were invited via email or mail to complete the 2020 ANES.

Interview Mode: Responses in the 2016 wave were collected via self-administered online surveys or in-person interviews. Responses in the 2020 wave were collected via self-administered online surveys. Interviews were conducted in either English or Spanish.

Response Rate and Panel Attrition: The response rate (AAPOR RR1) in the 2016 ANES pre-election wave was 50 percent for the face-to-face sample and 44 percent for the internet sample. Of those who completed the 2016 pre-election wave, 90 percent of the face-to-face sample and 84 percent of the internet sample completed the 2016 post-election wave. The reinterview rate for the 2020 pre-election wave was 77.9 percent. Of those who completed the 2020 pre-election wave, 94.0 percent completed the 2020 post-election wave. Overall panel retention was thus 73.2 percent.

Weights and Sample Design Effects: The 2016-2020 ANES Panel is a probability-based sample collected with a complex sampling design. To accurately represent the target population, the ANES recommends the use of weighting variable V200011b for the 2016-2020 sample that completed the post-election 2020 wave. The strata and cluster variables are V200011d and V200011c, respectively.

References

ANES 2016 Time Series Study Codebook: https://electionstudies.org/wp-content/uploads/2018/12/anes_timeseries_2016_userguidecodebook.pdf

ANES 2020 Time Series Study Codebook: https://electionstudies.org/wp-content/uploads/2022/02/anes_timeseries_2020_userguidecodebook_20220210.pdf

Appendix 2—Question Wording Bank

Affective Polarization – Ideological Groups:

1. (V162101, V202164): How would you rate Conservatives? [0-100]
2. (V162097, V202161): How would you rate Liberals? [0-100]

Affective Polarization – Party Ratings:

1. (V161095, V201156): How would you rate Democrats? [0-100]
2. (V161020, V201157): How would you rate Republicans? [0-100]

Affective Polarization – Presidential Candidates:

1. (V162078): How would you rate Hillary Clinton? [0-100]
2. (V162079): How would you rate Donald Trump? [0-100]
3. (V201151): How would you rate Joe Biden? [0-100]
4. (V201152): How would you rate Donald Trump? [0-100]

Age (V161267): Respondent age in years. [18 to 79, 80 years or older]

Education (V161270): What is the highest level of school you have completed or the highest degree you have received? [1 – Less than 1st grade, 2 – 1st, 2nd, 3rd or 4th grade, 3 – 5th or 6th grade, 4 – 7th or 8th grade, 5 – 9th grade, 6 – 10th grade, 7 – 11th grade, 8 – 12th grade no diploma, 9 – High school graduate- high school diploma or equivalent (for example: GED), 10 – Some college but no degree, 11 – Associate degree in college - occupational/vocational program, 12 – Associate degree in college – academic program, 13 – Bachelor’s degree (for example: BA, AB, BS), 14 – Master’s degree (for example: MA, MS, MENG, MED, MSW, MBA), 15 – Professional school degree (for example: MD, DDS, DVM, LLB, JD), 16 – Doctorate degree (for example: PHD, EDD)]

Egalitarianism:

1. (V162243, V202260): Our society should do whatever is necessary to make sure that everyone has an equal opportunity to succeed. [1 – Agree strongly, 2 – Agree somewhat, 3 – Neither agree nor disagree, 4 – Disagree somewhat, 5 – Disagree strongly]
2. (V162244, V202261): This country would be better off if we worried less about how equal people are. [1 – Agree strongly, 2 – Agree somewhat, 3 – Neither agree nor disagree, 4 – Disagree somewhat, 5 – Disagree strongly]
3. (V162245, V202262): It is not really that big a problem if some people have more of a chance in life than others. [1 – Agree strongly, 2 – Agree somewhat, 3 – Neither agree nor disagree, 4 – Disagree somewhat, 5 – Disagree strongly]
4. (V162246, V202263): If people were treated more equally in this country we would have many fewer problems. [1 – Agree strongly, 2 – Agree somewhat, 3 – Neither agree nor disagree, 4 – Disagree somewhat, 5 – Disagree strongly]

Gender (V161342): What is your gender? [1 – Male, 2 – Female, 3 – Other]

Ideology (V161126, V201200): We hear a lot of talk these days about liberals and conservatives. Here is a seven-point scale on which the political views that people might hold are arranged from extremely liberal to extremely conservative. Where would you place yourself on this scale, or haven't you heard much about this? [1 – Extremely liberal, 2 – Liberal, 3 – Slightly liberal, 4 – Moderate, middle of the road, 5 – Slightly conservative, 6 – Conservative, 7 – Extremely conservative, 99 – Haven't thought much about this]

Income (V161361x): What was [the total income in 2015 of all your family members living here / your total income in 2015]? [1 – Under \$5,000... 28 – \$250,000 or more]

Issue Attitudes:

1. Aid to Blacks (V161198): Where would you place yourself on this scale, or haven't you thought much about this? [1 – Government should help blacks, 2, 3, 4, 5, 6, 7 – Blacks should help themselves, 99 – Haven't thought much about it]
2. Defense Spending (V161181): Where would you place yourself on this scale, or haven't you thought much about this? [1 – Greatly decrease defense spending, 2, 3, 4, 5, 6, 7 – Greatly increase defense spending, 99 – Haven't thought much about it]
3. Government Health Insurance (V161184): Where would you place yourself on this scale, or haven't you thought much about this? [1 – Government insurance plan, 2, 3, 4, 5, 6, 7 – Private insurance plan, 99 – Haven't thought much about it]
4. Government Spending and Services (V161178): Where would you place yourself on this scale, or haven't you thought much about this? [1 – Government should provide many more services; increase spending a lot, 2, 3, 4, 5, 6, 7 – Government should provide many fewer services; reduce spending a lot, 99 – Haven't thought much about it]
5. Job/Income Guarantee (V161189): Where would you place yourself on this scale, or haven't you thought much about this? [1 – Government should see to jobs and standard of living, 2, 3, 4, 5, 6, 7 – Government should let each person get ahead on own, 99 – Haven't thought much about it]

Moral Traditionalism:

1. (V162207, V202264): The world is always changing and we should adjust our view of moral behavior to those changes. [1 – Agree strongly, 2 – Agree somewhat, 3 – Neither agree nor disagree, 4 – Disagree somewhat, 5 – Disagree strongly]
2. (V162210, V202265): This country would have many fewer problems if there were more emphasis on traditional family ties. [1 – Agree strongly, 2 – Agree somewhat, 3 – Neither agree nor disagree, 4 – Disagree somewhat, 5 – Disagree strongly]

Partisanship (V161158x, V201231x): Generally speaking, do you think of yourself as a Republican, a Democrat, an Independent, or what? Would you call yourself a strong Democrat/Republican or a

not very strong Democrat/Republican? Do you think of yourself as closer to the Republican Party or to the Democratic Party? [1 – Strong Democrat, 2 – Weak Democrat, 3 – Independent-Democrat, 4 – Independent-Independent, 5 – Independent-Republican, 6 – Weak Republican, 7 – Strong Republican]

Political Interest (V161004): Some people don't pay much attention to political campaigns. How about you? Would you say that you have been very much interested, somewhat interested or not much interested in the political campaigns so far this year? [0 – Not much interest, 1 – Somewhat interested, 2 – Very much interested.]

Race/Ethnicity (V161310x): Are you White; Black or African American; American Indian or Alaska Native; Asian; or Native Hawaiian or Other Pacific Islander? ... Are you of Hispanic, Latino, or Spanish origin? [1 – White, non-Hispanic, 2 – Black, non-Hispanic, 3 – Asian, native Hawaiian or other Pacific Islander, non-Hispanic, 4 – Native American or Alaska Native, non-Hispanic, 5 – Hispanic, 6 – Other non-Hispanic incl multiple races].

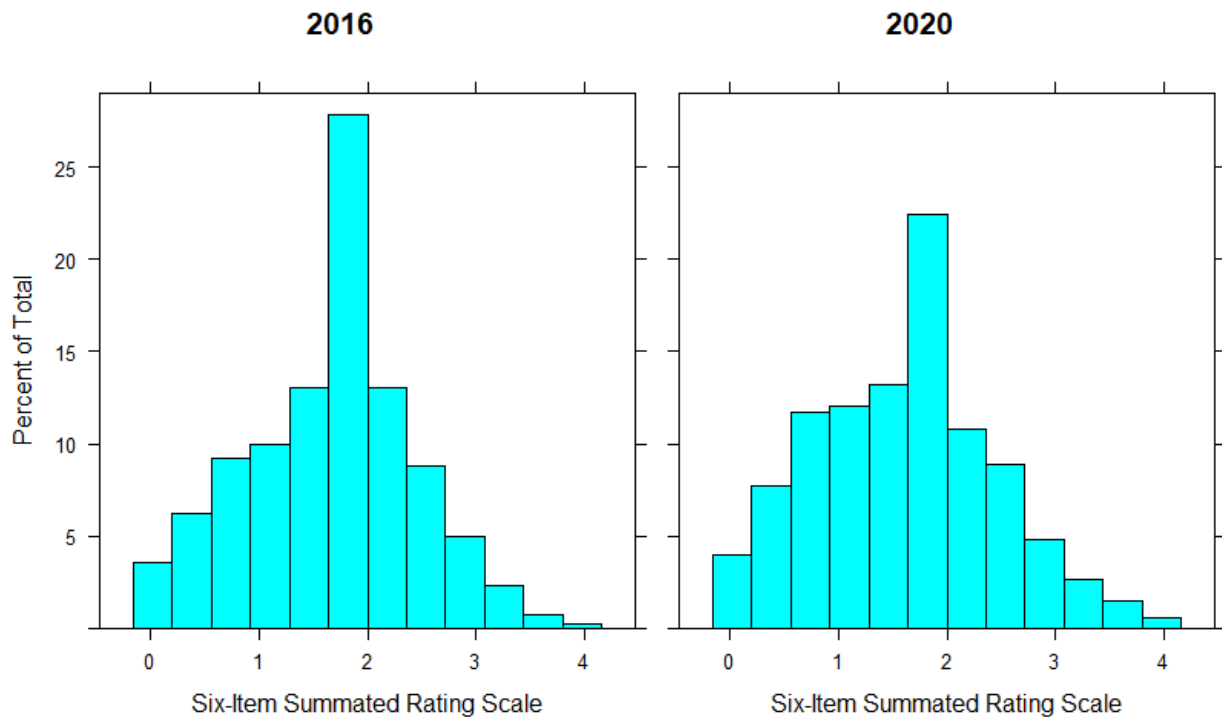
Religiosity (V161241): Now on another topic.... Do you consider religion to be an important part of your life, or not? [1 – Important, 2 – Not important]. (V161242: IF R SAYS THAT RELIGION IS IMPORTANT): Would you say your religion provides [some guidance in your day-to-day living, quite a bit of guidance, or a great deal of guidance / a great deal of guidance in your day-to-day living, quite a bit of guidance, or some guidance]? [1 – Some, 2 – Quite a bit, 3 – A great deal]

South (V163003): Census region. [1 – Northeast, 2 – Midwest, 3 – South, 4 – West]

Appendix 3—Item Analysis of the 2016-2020 ANES Panel Values Items

Consistent with Enders and Lupton (2021), I generate political values scales that are summated rating scales of Likert-type responses to six items designed by the ANES to estimate respondents' core values. I generate one values scale in 2016 and a second in 2020. These items include four egalitarianism items and two moral traditionalism items (see Appendix 2 for full question wordings). Each item is coded such that larger values correspond to more conservative values (i.e., low egalitarianism and high moral traditionalism). The value scales thus range from extremely liberal values to extremely conservative values. I provide the distributions for the 2016 and 2020 values scales in Figure 3A.

Figure 3A: Distributions of Value Scales in 2016-2020 ANES Panel Study



Per Likert (1932), the assumption underlying this scaling approach is that the item response functions are all monotonically non-decreasing. To assess this assumption, I estimate item response functions for each item in Figures 3B-3G. I plot responses for each item against a scale of the five remaining items that reflect an estimate of the latent values dimension with linear fit lines (red) and nonparametric smoothers (black). The non-decreasing monotonicity assumption holds in each case. Thus, the ANES values items can be averaged to create single value orientation scales.

References

- Enders, Adam M., and Robert N. Lupton. 2021. "Value Extremity Contributes to Affective Polarization in the US." *Political Science Research and Methods* 9(4): 857–66.
- Likert, Rensis. 1932. "A Technique for the Measurement of Attitudes." *Archives of Psychology* 140: 5–55.

Figure 3B: Item Analysis of the “Equal Opportunity” Value Item

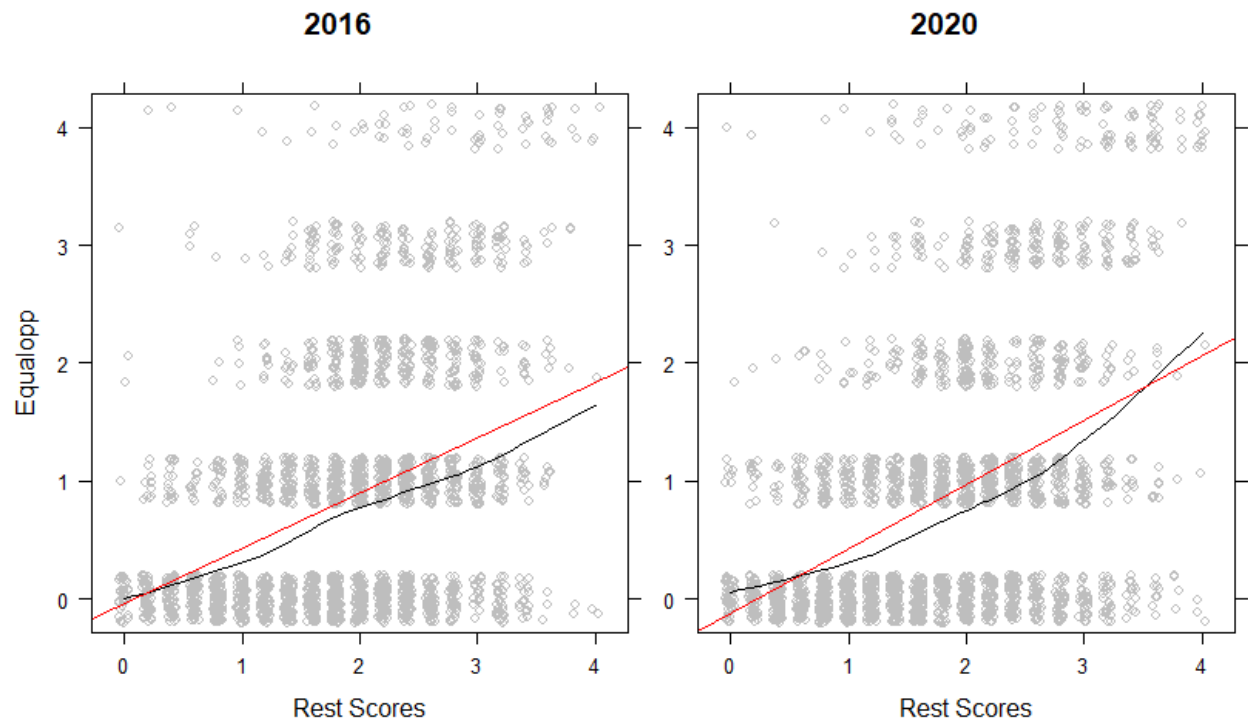


Figure 3C: Item Analysis of the “Less Equal” Value Item

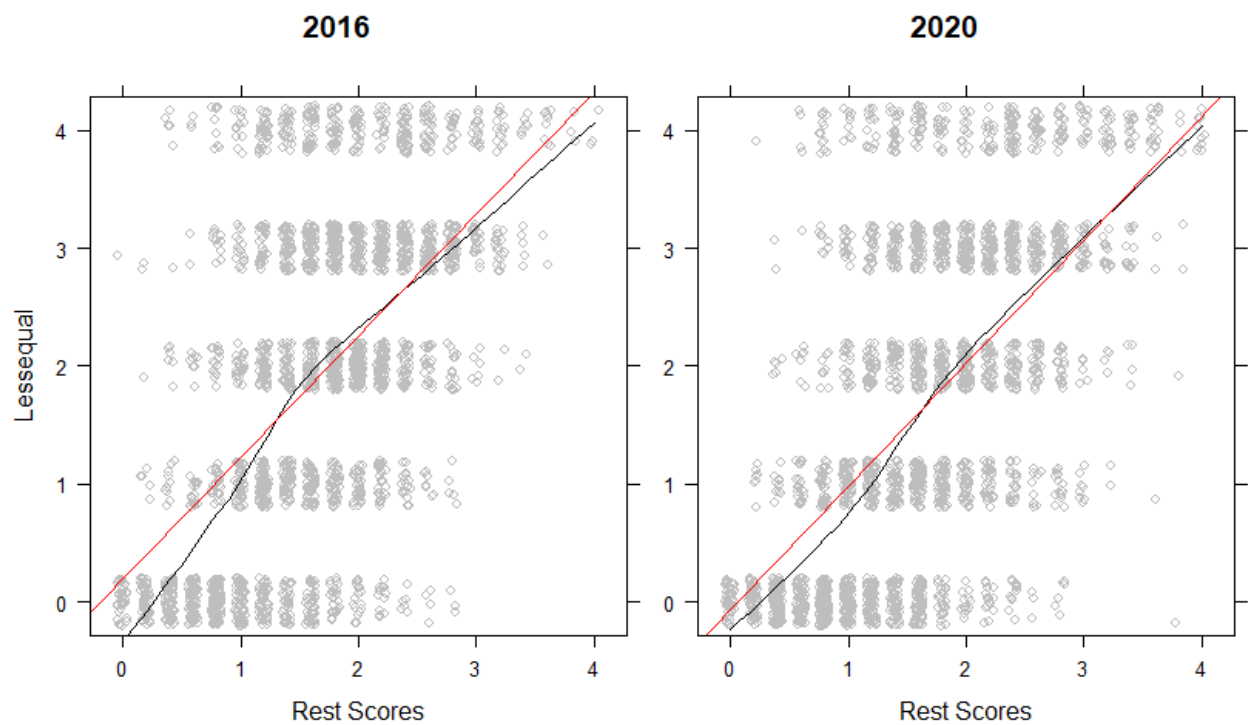


Figure 3D: Item Analysis of the "Unequal Chance" Value Item

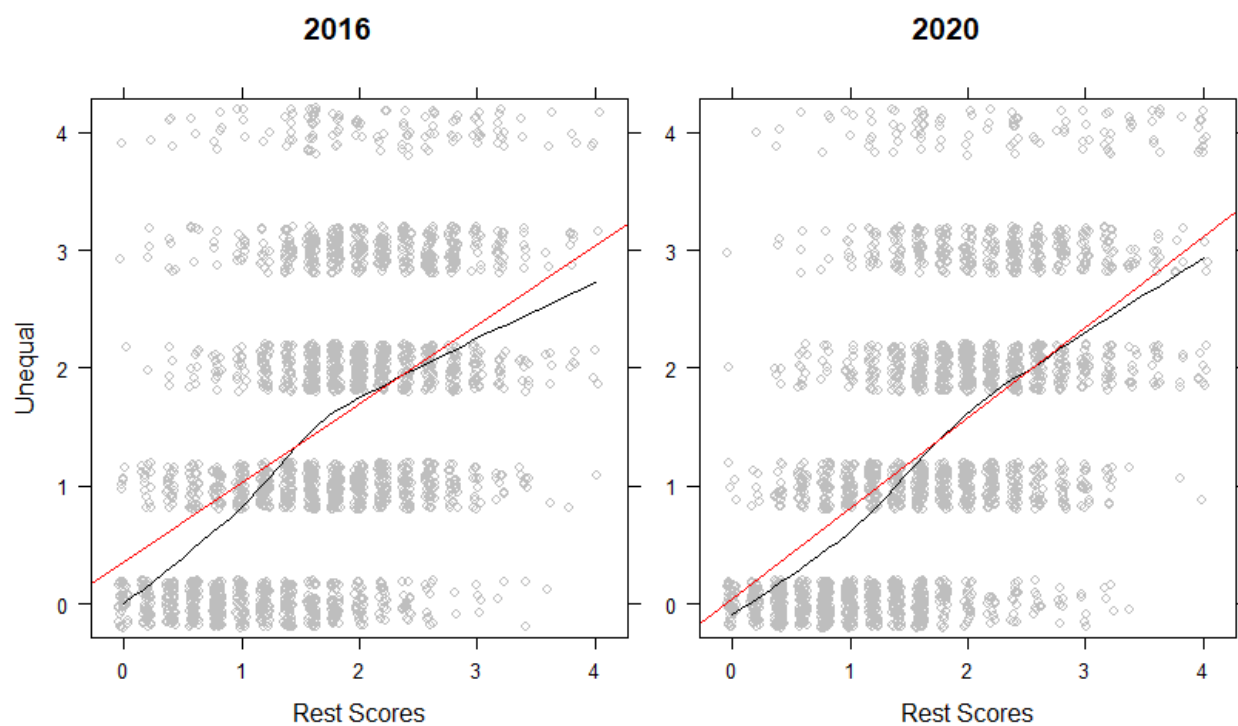


Figure 3E: Item Analysis of the "Fewer Problems" Value Item

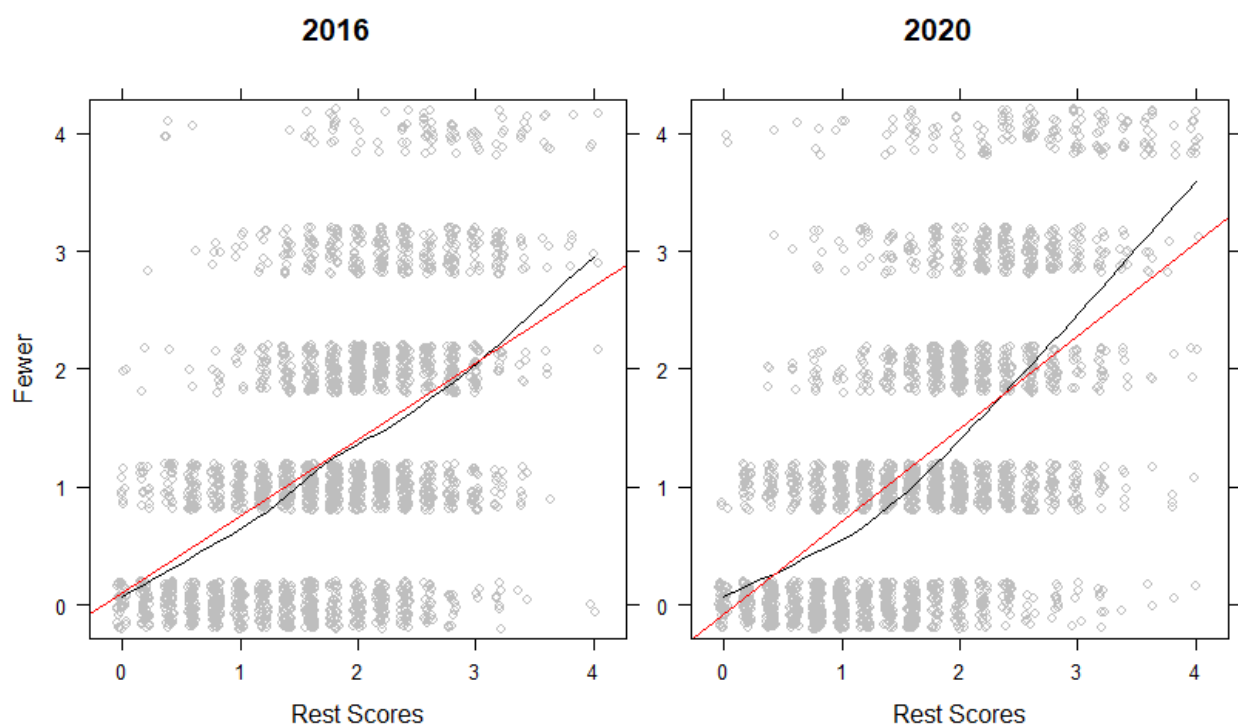


Figure 3F: Item Analysis of the “Changing Norms” Value Item

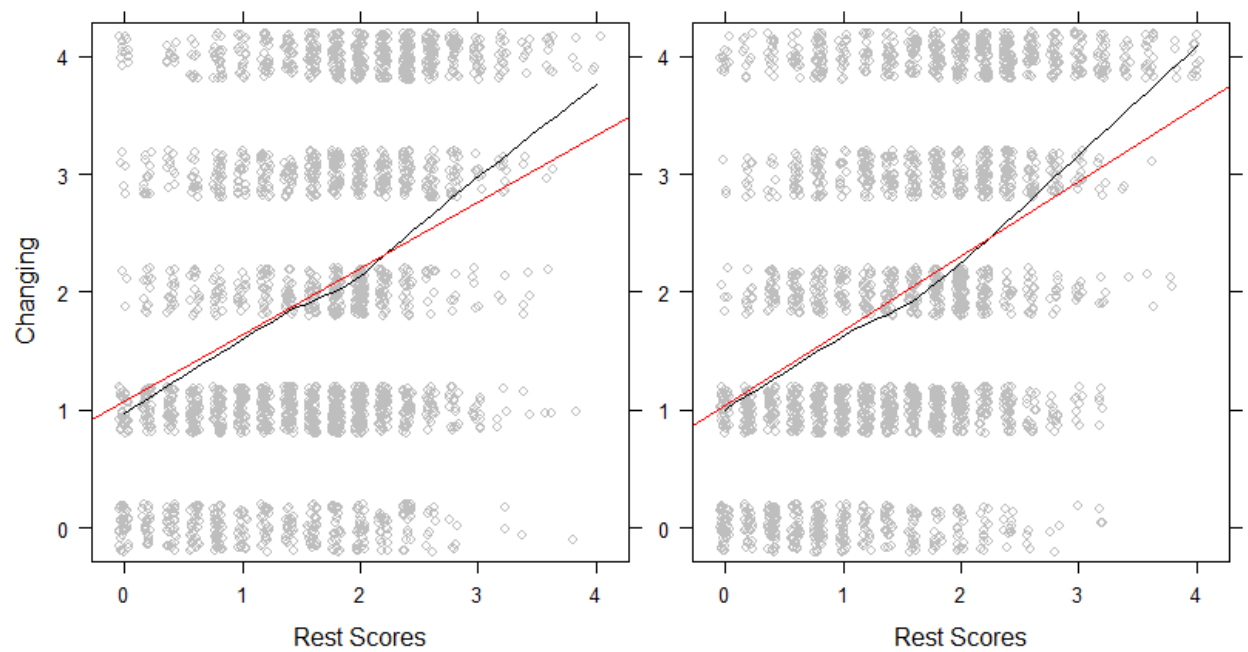
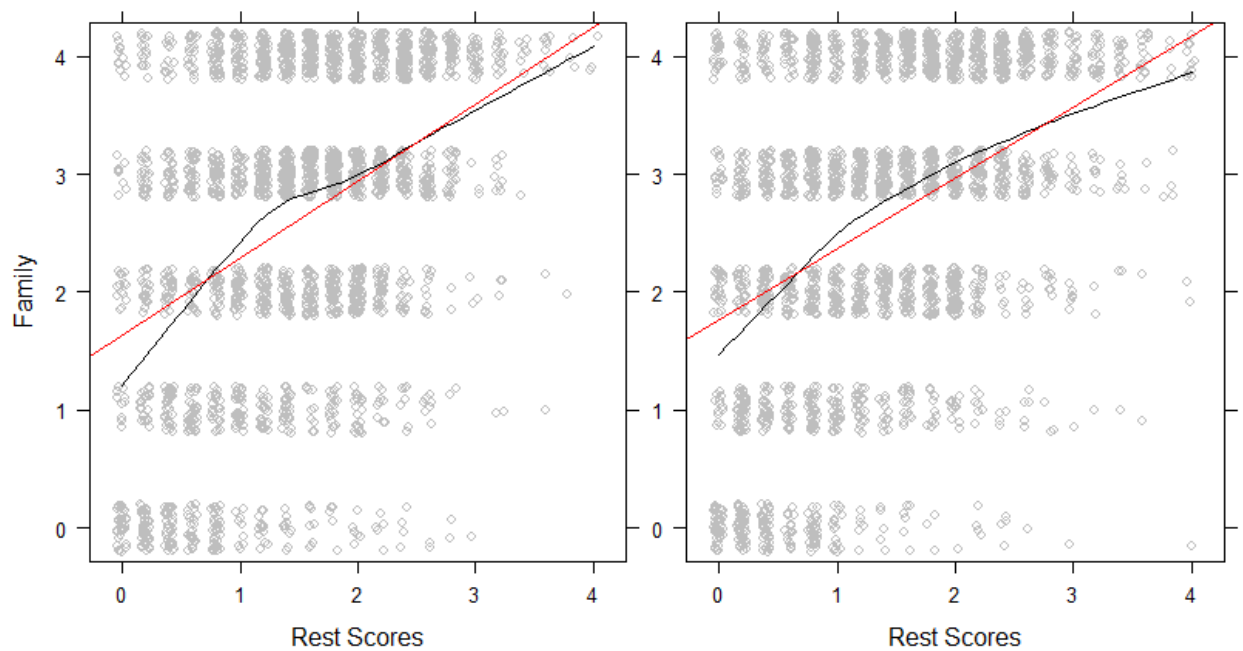


Figure 3G: Item Analysis of the “Traditional Family” Value Item



Appendix 4—Full Cross-Lagged Panel Model Results

Table 4A—Cross-Lagged Panel Model Results (Ideological Group Ratings)

Lagged Variables (2016)	Value Extremity (2020)	Affective Polarization (Ideology Ratings) (2020)
Value Extremity	0.362 (0.033)	0.021 (0.029)
Affective Polarization	0.095 (0.032)	0.407 (0.029)
Sorting	0.170 (0.031)	0.158 (0.027)
Issue Extremity	0.012 (0.021)	0.105 (0.021)
Political Interest	0.039 (0.027)	0.057 (0.024)
Education	0.002 (0.024)	0.055 (0.025)
Age	-0.011 (0.023)	0.001 (0.021)
Income	0.017 (0.023)	0.016 (0.018)
Religiosity	0.042 (0.024)	0.041 (0.022)
Female	0.049 (0.020)	0.039 (0.022)
White	0.020 (0.027)	0.040 (0.026)
Black	0.037 (0.025)	-0.045 (0.029)
South	-0.026 (0.025)	0.019 (0.021)
Constant	0.152 (0.112)	-0.157 (0.130)
N	2,670	2,670

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Data are weighted and standard errors are adjusted for the complex sampling design. Key results bolded. Affective polarization measured with ideological group ratings. Source: 2016-2020 ANES Panel.

Table 4B—Cross-Lagged Panel Model Results (Party Ratings)

Lagged Variables (2016)	Value Extremity (2020)	Affective Polarization (Party Ratings) (2020)
Value Extremity	0.353 (0.032)	0.094 (0.029)
Affective Polarization	0.115 (0.028)	0.369 (0.031)
Sorting	0.115 (0.028)	0.094 (0.033)
Issue Extremity	0.176 (0.030)	0.048 (0.026)
Political Interest	0.029 (0.025)	-0.002 (0.025)
Education	0.006 (0.024)	0.044 (0.025)
Age	-0.013 (0.022)	0.099 (0.027)
Income	0.023 (0.022)	-0.024 (0.023)
Religiosity	0.042 (0.024)	0.055 (0.024)
Female	0.046 (0.020)	0.016 (0.024)
White	0.028 (0.028)	0.078 (0.034)
Black	0.018 (0.024)	0.027 (0.031)
South	-0.027 (0.024)	0.026 (0.025)
Constant	0.130 (0.115)	0.214 (0.169)
N	2,670	2,670

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Data are weighted and standard errors are adjusted for the complex sampling design. Key results bolded. Affective polarization measured with party ratings. Source: 2016-2020 ANES Panel.

Table 4C—Cross-Lagged Panel Model Results (Candidate Ratings)

Lagged Variables (2016)	Value Extremity (2020)	Affective Polarization (Candidate Ratings) (2020)
Value Extremity	0.341 (0.033)	0.046 (0.027)
Affective Polarization	0.156 (0.024)	0.391 (0.029)
Sorting	0.184 (0.029)	0.087 (0.031)
Issue Extremity	0.002 (0.022)	0.014 (0.026)
Political Interest	0.018 (0.025)	0.027 (0.028)
Education	0.000 (0.024)	0.013 (0.025)
Age	-0.015 (0.022)	0.102 (0.027)
Income	0.027 (0.023)	-0.002 (0.027)
Religiosity	0.035 (0.023)	0.027 (0.024)
Female	0.032 (0.020)	-0.020 (0.022)
White	0.022 (0.028)	0.031 (0.031)
Black	0.032 (0.023)	0.107 (0.037)
South	-0.025 (0.024)	-0.016 (0.021)
Constant	0.101 (0.111)	0.811 (0.170)
N	2,670	2,670

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Data are weighted and standard errors are adjusted for the complex sampling design. Key results bolded. Affective polarization measured with presidential candidate ratings. Source: 2016-2020 ANES Panel.

Appendix 5—Robustness Check for Enders and Lupton (2021): Weighting

Table 5A—Cross-Lagged Panel Model Results (Ideological Group Ratings) by Weighting

Lagged Variables (1992)	Value Extremity (1996)	Affective Polarization (Ideology Ratings) (1996)
<i>UNWEIGHTED</i>		
Value Extremity	0.197 (0.047)	0.086 (0.043)
Affective Polarization	0.078 (0.048)	0.472 (0.040)
Constant	0.360 (0.348)	0.368 (0.325)
<i>WEIGHTED</i>		
Value Extremity	0.159 (0.058)	0.135 (0.050)
Affective Polarization	0.052 (0.054)	0.458 (0.050)
Constant	0.258 (0.343)	0.397 (0.326)
N	597	597

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Control variables omitted. Affective polarization measured with ideological group ratings. Source: 1992-1996 ANES Panel.

Table 5B—Cross-Lagged Panel Model Results (Party Ratings) by Weighting

Lagged Variables (1992)	Value Extremity (1996)	Affective Polarization (Party Ratings) (1996)
<i>UNWEIGHTED</i>		
Value Extremity	0.184 (0.048)	0.118 (0.044)
Affective Polarization	0.063 (0.044)	0.332 (0.038)
Constant	0.370 (0.348)	0.040 (0.327)
<i>WEIGHTED</i>		
Value Extremity	0.148 (0.059)	0.148 (0.046)
Affective Polarization	0.065 (0.052)	0.338 (0.045)
Constant	0.259 (0.341)	-0.015 (0.368)
N	597	597

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Control variables omitted. Affective polarization measured with party ratings. Source: 1992-1996 ANES Panel.

Table 5C—Cross-Lagged Panel Model Results (Candidate Ratings) by Weighting

Lagged Variables (1992)	Value Extremity (1996)	Affective Polarization (Candidate Ratings) (1996)
<i>UNWEIGHTED</i>		
Value Extremity	0.193 (0.047)	0.050 (0.046)
Affective Polarization	0.030 (0.043)	0.289 (0.040)
Constant	0.388 (0.348)	0.561 (0.338)
<i>WEIGHTED</i>		
Value Extremity	0.155 (0.058)	0.080 (0.052)
Affective Polarization	0.017 (0.048)	0.258 (0.052)
Constant	0.274 (0.344)	0.355 (0.371)
N	597	597

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses.

Control variables omitted. Affective polarization measured with presidential candidate ratings.

Source: 1992-1996 ANES Panel.

Appendix 6—Robustness Check for Enders and Lupton (2021): Six-Item Value Scale

Table 6A—Cross-Lagged Panel Model Results (Ideological Group Ratings) by Value Scale

Lagged Variables (1992)	Value Extremity (1996)	Affective Polarization (Ideology Ratings) (1996)
<i>TEN-ITEM VALUE SCALE</i>		
Value Extremity	0.197 (0.047)	0.086 (0.043)
Affective Polarization	0.078 (0.048)	0.472 (0.040)
Constant	0.360 (0.348)	0.368 (0.325)
<i>SIX-ITEM VALUE SCALE</i>		
Value Extremity	0.209 (0.045)	0.091 (0.041)
Affective Polarization	0.081 (0.048)	0.474 (0.040)
Constant	0.372 (0.348)	0.372 (0.325)
N	597	597

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Control variables omitted. Affective polarization measured with ideological group ratings. Source: 1992-1996 ANES Panel.

Table 6B—Cross-Lagged Panel Model Results (Party Ratings) by Value Scale

Lagged Variables (1992)	Value Extremity (1996)	Affective Polarization (Party Ratings) (1996)
<i>TEN-ITEM VALUE SCALE</i>		
Value Extremity	0.184 (0.048)	0.118 (0.044)
Affective Polarization	0.063 (0.044)	0.332 (0.038)
Constant	0.370 (0.348)	0.040 (0.327)
<i>SIX-ITEM VALUE SCALE</i>		
Value Extremity	0.199 (0.046)	0.117 (0.043)
Affective Polarization	0.063 (0.044)	0.333 (0.038)
Constant	0.382 (0.348)	0.033 (0.327)
N	597	597

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Control variables omitted. Affective polarization measured with party ratings. Source: 1992-1996 ANES Panel.

Table 6C—Cross-Lagged Panel Model Results (Candidate Ratings) by Value Scale

Lagged Variables (1992)	Value Extremity (1996)	Affective Polarization (Candidate Ratings) (1996)
<i>TEN-ITEM VALUE SCALE</i>		
Value Extremity	0.193 (0.047)	0.050 (0.046)
Affective Polarization	0.030 (0.043)	0.289 (0.040)
Constant	0.388 (0.348)	0.561 (0.338)
<i>SIX-ITEM VALUE SCALE</i>		
Value Extremity	0.207 (0.045)	0.061 (0.045)
Affective Polarization	0.040 (0.043)	0.290 (0.040)
Constant	0.400 (0.348)	0.561 (0.338)
N	597	597

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Control variables omitted. Affective polarization measured with presidential candidate ratings. Source: 1992-1996 ANES Panel.

Appendix 7—Robustness Check: Reweighting 2016-2020 ANES to 1992-1996 ANES

Table 7A—Cross-Lagged Panel Model Results (Ideological Group Ratings) by Weighting

Lagged Variables (2016)	Value Extremity (2020)	Affective Polarization (Ideology Ratings) (2020)
<i>2016 ANES Weight</i>		
Value Extremity	0.362 (0.033)	0.021 (0.029)
Affective Polarization	0.095 (0.032)	0.407 (0.029)
Constant	0.152 (0.112)	-0.157 (0.130)
N	2,670	2,670
<i>1992 ANES Weight (Entropy Balanced)</i>		
Value Extremity	0.324 (0.040)	0.036 (0.034)
Affective Polarization	0.128 (0.037)	0.404 (0.038)
Constant	0.192 (0.147)	0.049 (0.134)
N	2,522	2,522

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Control variables omitted. Affective polarization measured with ideological group ratings. Sample is weighted to 1992 by entropy balancing third moments of sorting, issue extremity, political interest, education, age, income, religiosity, gender, race/ethnicity, and southern residency to the 1992 wave of the 1992-1996 ANES Panel. Source: 2016-2020 ANES Panel.

Table 7B—Cross-Lagged Panel Model Results (Party Ratings) by Weighting

Lagged Variables (2016)	Value Extremity (2020)	Affective Polarization (Party Ratings) (2020)
<i>2016 ANES Weight</i>		
Value Extremity	0.353 (0.032)	0.094 (0.029)
Affective Polarization	0.115 (0.028)	0.369 (0.031)
Constant	0.130 (0.115)	0.214 (0.169)
N	2,670	2,670
<i>1992 ANES Weight (Entropy Balanced)</i>		
Value Extremity	0.317 (0.041)	0.023 (0.044)
Affective Polarization	0.146 (0.032)	0.403 (0.034)
Constant	0.128 (0.151)	0.369 (0.186)
N	2,522	2,522

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Control variables omitted. Affective polarization measured with party ratings. Sample is weighted to 1992 by entropy balancing third moments of sorting, issue extremity, political interest, education, age, income, religiosity, gender, race/ethnicity, and southern residency to the 1992 wave of the 1992-1996 ANES Panel. Source: 2016-2020 ANES Panel.

Table 7C—Cross-Lagged Panel Model Results (Candidate Ratings) by Weighting

Lagged Variables (2016)	Value Extremity (2020)	Affective Polarization (Candidate Ratings) (2020)
<i>2016 ANES Weight</i>		
Value Extremity	0.341 (0.033)	0.046 (0.027)
Affective Polarization	0.156 (0.024)	0.391 (0.029)
Constant	0.101 (0.111)	0.811 (0.170)
N	2,670	2,670
<i>1992 ANES Weight (Entropy Balanced)</i>		
Value Extremity	0.314 (0.038)	-0.021 (0.032)
Affective Polarization	0.186 (0.027)	0.446 (0.030)
Constant	0.106 (0.0139)	0.913 (0.196)
N	2,522	2,522

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Control variables omitted. Affective polarization measured with presidential candidate ratings. Sample is weighted to 1992 by entropy balancing third moments of sorting, issue extremity, political interest, education, age, income, religiosity, gender, race/ethnicity, and southern residency to the 1992 wave of the 1992-1996 ANES Panel. Source: 2016-2020 ANES Panel.

Appendix 8—Robustness Check: Dropping Issue Extremity and Sorting Controls

As noted by Enders and Lupton (2021), issue extremity and partisan-ideological sorting may be partly downstream from value extremity. If this was the case, controlling for these variables could introduce attenuation bias when estimating the associations between value extremity and affective polarization. However, if these variables primarily *confound* the associations between value extremity and affective polarization, their exclusion risks biasing the estimates in favor of Enders and Lupton’s (2021) hypotheses. To the extent that issue extremity and sorting are upstream *and* downstream of value extremity, we are left without an easy decision about whether to include these variables in the models. Enders and Lupton (2021) only report panel analyses that control for issue extremity and partisan-ideological sorting (i.e., the more conservative model). Thus, I conduct my replication with these controls in the main text. In this section, I reproduce their analysis of the 1992-1996 ANES and my analysis of the 2016-2020 ANES without controls for issue extremity or sorting (i.e., a less conservative model) to determine whether our findings are robust to the exclusion of these controls.

In the 1992-1996 ANES panel, dropping controls for issue extremity and sorting increases the strength of the associations between both lagged value extremity and affective polarization and lagged affective polarization and value extremity, respectively. The effects of lagged value extremity are significant in all three cases, while the effects of lagged affective polarization are significant in two of three cases. The relationship between value extremity and affective polarization still generally seems to run from the former to latter between 1992 and 1996 since the coefficients for lagged value extremity are larger in two of three cases. (See Tables 8A-8C for full results).

In the 2016-2020 ANES panel, dropping controls for issue extremity and sorting similarly increases the strength of the associations between lagged value extremity and affective polarization and lagged affective polarization and value extremity, respectively. All three estimates of lagged value extremity and all three estimates of lagged affective polarization are significant, though the estimates for lagged affective polarization on value extremity remain larger than vice versa in all three cases (in line with the original findings). The relationship between value extremity and affective polarization still generally seems to run from the latter to former between 2016 and 2020 since the coefficients for lagged value extremity are larger in two of three cases. (See Tables 8D-8F for full results).

Overall, while additional significant results emerge in terms of associations between lagged affective polarization and value extremity between 1992 and 1996, and associations between lagged value extremity and affective polarization between 2016 and 2020, the relative magnitudes of these coefficients are consistent when dropping issue extremity and partisan-ideological sorting as controls in the CLPMs: value extremity has the larger association with changes in affective polarization in the 1990s, while affective polarization has the larger association with changes in value extremity between 2016 and 2020. There is evidence of bidirectional associations in both periods using a less conservative model, though this could merely reflect confounding due to omitted variable bias when dropping issue extremity and sorting as controls.

Table 8A—Cross-Lagged Panel Model Results (Ideological Group Ratings) by Controls

Lagged Variables (1992)	Value Extremity (1996)	Affective Polarization (Ideology Ratings) (1996)
<i>FULL MODEL</i>		
Value Extremity	0.197 (0.047)	0.086 (0.043)
Affective Polarization	0.078 (0.048)	0.472 (0.040)
Constant	0.360 (0.348)	0.368 (0.325)
<i>NO ISSUE/SORTING CONTROLS</i>		
Value Extremity	0.243 (0.040)	0.116 (0.038)
Affective Polarization	0.121 (0.043)	0.498 (0.035)
Constant	0.371 (0.340)	0.393 (0.317)
N	597	597

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Control variables omitted. Affective polarization measured with ideological group ratings. Source: 1992-1996 ANES Panel.

Table 8B—Cross-Lagged Panel Model Results (Party Ratings) by Controls

Lagged Variables (1992)	Value Extremity (1996)	Affective Polarization (Party Ratings) (1996)
<i>FULL MODEL</i>		
Value Extremity	0.184 (0.048)	0.118 (0.044)
Affective Polarization	0.063 (0.044)	0.332 (0.038)
Constant	0.370 (0.348)	0.040 (0.327)
<i>NO ISSUE/SORTING CONTROLS</i>		
Value Extremity	0.245 (0.041)	0.182 (0.039)
Affective Polarization	0.089 (0.043)	0.370 (0.037)
Constant	0.377 (0.341)	0.195 (0.324)
N	597	597

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Control variables omitted. Affective polarization measured with party ratings. Source: 1992-1996 ANES Panel.

Table 8C—Cross-Lagged Panel Model Results (Candidate Ratings) by Controls

Lagged Variables (1992)	Value Extremity (1996)	Affective Polarization (Candidate Ratings) (1996)
<i>FULL MODEL</i>		
Value Extremity	0.193 (0.047)	0.050 (0.046)
Affective Polarization	0.030 (0.043)	0.289 (0.040)
Constant	0.388 (0.348)	0.561 (0.338)
<i>NO ISSUE/SORTING CONTROLS</i>		
Value Extremity	0.260 (0.040)	0.114 (0.040)
Affective Polarization	0.053 (0.042)	0.321 (0.039)
Constant	0.428 (0.341)	0.739 (0.334)
N	597	597

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Control variables omitted. Affective polarization measured with presidential candidate ratings. Source: 1992-1996 ANES Panel.

Table 8D—Cross-Lagged Panel Model Results (Ideological Group Ratings) by Controls

Lagged Variables (2016)	Value Extremity (2020)	Affective Polarization (Ideology Ratings) (2020)
<i>FULL MODEL</i>		
Value Extremity	0.362 (0.033)	0.021 (0.029)
Affective Polarization	0.095 (0.032)	0.407 (0.029)
Constant	0.152 (0.112)	-0.157 (0.130)
<i>NO ISSUE/SORTING CONTROLS</i>		
Value Extremity	0.439 (0.028)	0.098 (0.025)
Affective Polarization	0.154 (0.029)	0.479 (0.027)
Constant	0.091 (0.109)	-0.005 (0.131)
N	2,670	2,670

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Control variables omitted. Affective polarization measured with ideological group ratings. Source: 2016-2020 ANES Panel.

Table 8E—Cross-Lagged Panel Model Results (Party Ratings) by Controls

Lagged Variables (2016)	Value Extremity (2020)	Affective Polarization (Party Ratings) (2020)
<i>FULL MODEL</i>		
Value Extremity	0.353 (0.032)	0.094 (0.029)
Affective Polarization	0.115 (0.028)	0.369 (0.031)
Constant	0.130 (0.115)	0.214 (0.169)
<i>NO ISSUE/SORTING CONTROLS</i>		
Value Extremity	0.437 (0.025)	0.142 (0.024)
Affective Polarization	0.162 (0.025)	0.402 (0.028)
Constant	0.044 (0.113)	0.261 (0.151)
N	2,670	2,670

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Control variables omitted. Affective polarization measured with party ratings. Source: 2016-2020 ANES Panel.

Table 8F—Cross-Lagged Panel Model Results (Candidate Ratings) by Controls

Lagged Variables (2016)	Value Extremity (2020)	Affective Polarization (Candidate Ratings) (2020)
<i>FULL MODEL</i>		
Value Extremity	0.341 (0.033)	0.046 (0.027)
Affective Polarization	0.156 (0.024)	0.391 (0.029)
Constant	0.101 (0.111)	0.811 (0.170)
<i>NO ISSUE/SORTING CONTROLS</i>		
Value Extremity	0.436 (0.025)	0.092 (0.022)
Affective Polarization	0.184 (0.025)	0.406 (0.029)
Constant	-0.004 (0.105)	0.790 (0.153)
N	2,670	2,670

Note: Table entries are cross-lagged panel model coefficients with standard errors in parentheses. Control variables omitted. Affective polarization measured with presidential candidate ratings. Source: 2016-2020 ANES Panel.