Intraindividual Changes in Political Identity Strength are Associated with Political Animosity in the United States and the Netherlands

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Author note: Data and code can be found here,
https://osf.io/sefg9/?view_only=d5896293b9904a408981855300663a90

Abstract

We test if changes in political identities are associated with changes in political animosity in two longitudinal studies (USA N = 552, Waves = 26; Netherlands N = 1670, Waves = 12). Past work has typically looked at cross-sectional associations without assessing change. Our work provides a stronger test of the relationship. We find that changes in the strength of people's ideological and partisan identities are associated with increased political animosity. We found no such associations with changes in identity direction (e.g., liberal vs conservative). These patterns were robust to covariates and emerged in both studies. In addition to these average effects, we found substantial heterogeneity across participants in the associations between identity strength, identity direction, and political animosity. We did not find robust and replicable moderators for this heterogeneity. These findings suggest that identity strength is a key, if heterogenous, factor in changes in political animosity.

Keywords: identity, partisanship, ideology, multilevel, longitudinal

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People tend to dislike and distrust people from different political parties and ideological groups (Brandt & Crawford, 2020; Gidron, Adams, & Horne, 2020; Iyengar & Westwood, 2015; Mason, 2018), a phenomenon known as affective polarization (Iyengar, Lelkes, Levendusky, Malhotra, & Westwood, 2019). Scholars have found, for example, that people with fewer cross-cutting identities (Mason, 2015; Levendusky, 2009), easier access to partisan media on the internet (Lelkes, Sood, & Iyengar, 2017; Lu & Lee, 2019; Settle, 2018), and greater exposure to political campaigns and negative advertising (Iyengar, Sood, Lelkes, 2012) express more dislike of the outparty compared to the inparty.

We use longitudinal panel data from the United States and the Netherlands to provide a stronger and more nuanced tests of the relationship between political identity and political animosity. We know that people with strong partisan and ideological identities express more animosity towards political outgroups (compared to ingroups; for review see Iyengar et al., 2019) and that conservatives express a bit more political animosity than do liberals (Ganzach & Schul, 2021). This body of work is a valuable description of how these constructs are correlated in the population. The theories (e.g., Brandt & Crawford, 2020; Ganzach & Schul, 2021; Iyengar et al., 2019), however, invoke *change*. That is, they imply that *changes* in political identity strength (weak to strong political identity) and identity direction (liberal to conservative) would be associated with *changes* in political animosity, a possibility that cannot be tested in the cross-sectional studies typically used in this literature. In this project, we first test if, on average, changes in political identity strength and direction are associated with changes in political animosity. This is a substantially stronger test of the associations between these constructs than

those provided in cross-sectional studies. Then, we assess if this association is different across people (i.e. heterogeneous effect sizes) and explore possible explanations for the variation across people.

Political Identity and Affective Polarization

Political identity is a key factor in affective polarization. People with stronger political identities express more political animosity than people with weaker political identities (e.g., Brown & Hohman, 2022). Indeed, affective polarization is seen as an “outgrowth” of political identities (Iyengar et al., 2019). This is the case for both partisan identities and ideological identities (Iyengar & Westwood, 2015; Mason, 2018). The strength of people’s political identities in predicting political animosity remains even after controlling for a variety of other constructs, including people’s liberal and conservative policy positions (Mason, 2018), suggesting that identity strength is uniquely associated with political animosity. This perspective is consistent with the social identity tradition, which predicts that people bolster their social identities by differentiating their ingroup from relevant outgroups, a process that can include denigrating outgroups (Brown, 2000; Tajfel, 1978; Tajfel & Turner, 1979).

In addition to the strength of political identities, some scholars have focused on the *type* of political identity. That is, these scholars compare whether liberals and conservatives express more political animosity. One idea is that because people with both liberal and conservative identities are motivated to defend their identities and worldviews, there should not be consistent differences in the expression of political animosity between people with different ideological identities. This is the conclusion of a recent review of the literature (Brandt & Crawford, 2020). A more recent study using large samples of Americans, however, found that conservatives expressed more political animosity than did liberals (Ganzach & Schul, 2021), although the

associations were small ($r = .127$ & $r = .085$). The reasoning in this study is that conservatives express more animosity because a conservative identity is associated with epistemic motivations and values that increase hostility towards outgroups (for reviews see e.g., Jost, 2017; Kivikangas et al, 2021). These sets of studies (i.e. Brandt & Crawford, 2020; Ganzach & Schul, 2021) suggest that the association between political identity direction and political animosity range from near zero to small positive effects (i.e. conservatives express more animosity than do liberals).¹

Political Identity Change and Political Animosity

The prototypical study that demonstrates the association between political identity and political animosity relies on cross-sectional associations. In such a study, researchers assess people's partisan or ideological identities along with their affective polarization at the same time (Iyengar & Westwood, 2015; Ganzach & Schul, 2021; Martherus et al., 2021; Mason, 2015, 2018; Strickler, 2018; Westwood et al., 2018).² Although this approach often produces replicable results and uses high quality samples with valid measures, this approach only provides a snapshot of the association between identities and affective polarization for that particular sample.

However, many of the theories scholars use to understand political identity's relationship with political animosity predict that *changes* in political identity strength (e.g., Iyengar & Westwood, 2015) or direction (e.g., Ganzach & Schul, 2021) will be associated with changes in political animosity. For example, dominant perspectives on affective polarization predict that

¹ Some scholarship finds that there is more right-wing political violence than left-wing political violence (Jasko et al., 2022), a conclusion that we do not dispute. The focus of the affective polarization literature and our research project here is on more mundane forms of political animosity. For additional information on the underpinnings of political violence see Kalmoe and Mason (2022).

² Although some of the cited studies use (survey) experiments, these manipulate party or ideological identification of a target. The association between identity and ratings of the target(s) are still cross-sectional associations.

when people's identities become more salient or more strongly held, people will express more political animosity (Iyengar et al., 2019). Similarly, Ganzach and Schul (2021) give causal force to the type of ideology people hold, which leads to the expectation that when people become more conservative, they will express more political animosity. These possibilities cannot be tested using cross-sectional studies.

Cross-sectional studies face two kinds of problems due to measuring variables at a single time point. First, they cannot test how or if constructs change. Second, estimates from cross-sectional studies often only loosely correspond with estimates of psychological change. The challenge here is that people's responses in a cross-sectional study are a combination of their typical response on the measure (sometimes called a trait) and any ongoing changes on the measure (Hamaker, 2012). This makes the estimates from cross-sectional studies a mix of both types of responses, without a clear estimate of either (Epskamp, Waldorp, Möttus, & Borsboom, 2018; Hamaker, 2012). Some work has explicitly compared estimates from cross-sectional studies to studies that can estimate correlated changes using multiple waves of data. There is almost no correspondence (Brandt & Morgan, 2022; Fisher et al., 2018; see also Masselink et al., 2018; Nelemans et al., 2020). For political variables, the cross-sectional associations between variables tend to be most similar to the associations between the variables as traits, rather than an indication that changes in one variable will be associated with change in the other.

This non-correspondence means that despite the large numbers of studies on political identity and affective polarization, a core tenant of theories of affective polarization has not been tested. That is, we don't know if changes in political identities are associated with changes in political animosity. One recent study used a two-wave panel design and found that people reported stronger political identities and more political animosity near an election (West &

Iyengar, 2022). However, the authors did not test if the changes were associated with one another. There is in fact some reason to believe that changes in political identities, including identity strength, will not be associated with changes in political animosity. For example, in the same study, a self-affirmation intervention reduced the salience of people's political identities, but it did not affect political animosity (West & Iyengar, 2022; see also Levendusky, 2018; Lyons et al., 2022). But importantly, this prior work demonstrates that there is contextual variation in both political identities (Brandt & Morgan, 2022; West & Iyengar, 2022) and political animosity (West & Iyengar, 2022), which leaves open the possibility for changes in identities to be associated with changes in animosity.

Consistent with this possibility, we reanalyzed the data from West and Iyengar's (2022) two-wave panel study. First, we calculated the extent people changed between waves on partisan strength, ideological strength, and ideological direction using difference scores. Then, we correlated those changes (i.e. the difference scores) with people's changes (i.e. difference scores) on feeling thermometer and trait-perception measures of political animosity between waves.³ We found that changes in both partisan and ideology strength were associated with increases in political animosity when measured with the feeling thermometer, but not when using trait-perception ratings. Changes in ideological direction were not correlated with changes in political animosity. This suggests that changes in political identities, and in particular the strength of those identities, are associated with changes in some measures of political animosity. However, this study only used two waves which limits our ability to study change (Ployhart & MacKenzie, 2015). In this case, the correlated differences assess *interindividual*, or between-person,

³ We did not analyse partisan direction because the relevant variable was a discrete measure that would only identify quite large changes (e.g., from Democrat to Independent). In general, we focus on these measures and not other measures in the dataset because it was clear from paper, code, and the data file what these variables represented.

differences in change (Allemand & Martin, 2016). This is an improvement on cross-sectional studies, but tests if people with more change for one variable also have more change for another. It does not accurately test if change in one variable is associated with a change in another variable within-persons, the typical target of psychological theorizing (Allemand & Martin, 2016).

Table 1. Correlations between changes in political identities and measures of animosity from West and Iyengar (2022)

Predictor	Animosity	<i>r</i>	95% CI low	95% CI high	<i>p</i> -value
Partisan Strength	Feeling Thermometer	0.08	0.02	0.13	0.005
Partisan Strength	Trait-Perception Ratings	0.04	-0.02	0.09	0.208
Ideology Strength	Feeling Thermometer	0.08	0.03	0.14	0.003
Ideology Strength	Trait-Perception Ratings	0.05	0.00	0.11	0.051
Ideology Direction	Feeling Thermometer	0.01	-0.04	0.07	0.611
Ideology Direction	Trait-Perception Ratings	-0.01	-0.07	0.04	0.654

Note: N = 1266 from two-wave survey administered with Dynata's national online panel. Description of full study in West and Iyengar (2022). Data available from West (2020).

We analyze two longitudinal panel studies with 12 and 26 waves respectively. The large number of waves lets us directly test how *intraindividual* changes in political identities are associated with changes in political animosity using longitudinal panel data.⁴ Intraindividual changes directly correspond with the theoretical quantities that the theories in this domain care about. That is, it assesses whether a persons' change in identity is associated with their change in political animosity. We predict that when people express stronger political identities, they will also express stronger political animosity (Iyengar & Westwood, 2015; Mason, 2018). We also test how political identity direction is associated with political animosity, but we are less confident in the possible outcome. Although some perspectives predict no clear association

⁴ We test how changes in these constructs correlate with each other. Another analytic approach is to test a model from the family of cross-lagged panel models to test which constructs have temporal precedence. We choose not to use these models because they assume that the identity to animosity pathways occur at the same rate as the lags between waves in our data (~2 weeks). We do not think we have good reason to make this assumption.

between the two constructs (Brandt & Crawford, 2020), other recent evidence suggests that as people become more conservative, they should express higher levels of political animosity (Ganzach & Schul, 2021). We test both of these possibilities.

Heterogeneity and Affective Polarization

The identity strength and identity direction predictions are for main effects. These effects describe the average association between two variables in a particular population. However, the average effect may not be a good representation for everyone in the sample (Bryan et al., 2021). Typical approaches for identifying if an effect differs across people in the sample requires that participants measure the necessary moderating variables (e.g., demographic baseline variables; Carvalho et al., 2019; Ding et al., 2019). One benefit of our panel studies is that they can also be used to test for the *mere* presence of heterogeneity in the associations between political identity and animosity without making assumptions about whether we identified the correct set of baseline measures (Bolger et al., 2019; see also Clifford et al., 2021). This can be done by testing if there is significant heterogeneity in the association between political identity and animosity across participants. In multilevel modeling terms, we test if the random slopes are significant. This allows us to identify if there is variation in the average effects without accurately guessing what might cause the variation.

To foreshadow, we do find significant variation in the association between changes in both political identity strength and direction and changes in political animosity. We then set out to explore possible explanations for this variation. We purposefully selected a large array of possible moderators available in the panel studies to explore this space as fully as possible. In particular, we explore demographic variables (e.g., age, gender, race/ethnicity, education) as potential moderators given the role that some demographic variables have shown to play in prior

work on political animosity (e.g., on education see Henry & Napier, 2017; on gender see Ondercin & Lizotte, 2020). We also explore politically relevant variables, including people's stances on political issues and political interest, both of which may affect political animosity (e.g., Dias & Leikes, 2022; Federico, 2021; Banda & Kluverius, 2018). Finally, we explore several psychological variables, including perceptions that the country's values are off track (e.g., Brandt & Crawford, 2020), perceptions of economic problems (e.g., Gidron, Adams, & Horne, 2020), feeling tense, and feeling fearful of death (Burke et al., 2010; but see Klein et al. 2022) that have been implicated in polarization processes. This provides us with a wide range of testable explanations for the heterogeneity that we observe. Just as we cannot be sure if correlations from cross-sectional studies are good representations of intraindividual changes (see above), we also cannot be sure that these potential moderators that are important in cross-sectional studies will emerge as important in our study of change.

The Current Project

The first goal of the current project is to investigate if intraindividual changes in political identity strength and direction are associated with political animosity. This provides a stronger test of theories of political animosity, the evidence for which is typically from cross-sectional designs where changes in political identities is not observed. Consistent with our reanalysis of West and Iyengar (2022), we expect that when people report stronger political identities they will report more political animosity (Iyengar & Westwood, 2015; Mason, 2018). We are less certain about the effect of changes in ideological direction. This is because some work, including our reanalysis of West and Iyengar (2022), suggests no association (Brandt & Crawford, 2020) whereas other work suggests that changes in a conservative direction should be associated with more political animosity (Ganzach & Schul, 2021). After estimating these average associations,

our next goal is to test if there is heterogeneity in the association between political identities and animosity and then explore possible explanations/predictors for this heterogeneity. We test these predictions and conduct these exploratory analyses using a 26-wave panel study from the United States and a 12-wave panel study from the Netherlands. Using two countries helps us generalize our findings beyond a single context. This comparison, in particular, is useful because both countries share some cultural characteristics (individualistic, wealthy), but have different political systems that either focus on competition and result in few parties (currently two parties in the US House of Representatives) or focus on developing consensus and result in many different parties (currently 16 parties in The Netherlands' Tweede Kamer). We use multiple measures of political identities, including both partisan identities and ideological identities. We present both studies simultaneously.

Methods

Data

United States. The data is from the 26-wave Yearlong Longitudinal Study (2019–2020; for full study details see Brandt, Turner-Zwinkels, & Kubin, 2021). This longitudinal study of Americans' political attitudes surveyed the same participants every two weeks between May 2019 and April 2020, resulting in 26 waves of data. We report all manipulations, measures, and exclusions in these studies. Data, methods used in the analysis, and materials used to conduct the research are available to any researcher at this link:

https://osf.io/sefg9/?view_only=d5896293b9904a408981855300663a90. The original study design was preregistered (see details in Brandt et al, 2021), however, the analyses presented in this manuscript were not.

Participants were 552 US American participants recruited on Prolific, an online service that facilitates the crowdsourcing of research participants (Peer et al., 2022). Participants were quota-sampled using Prolific's pre-screening tools based on their 2016 vote choice. For our analyses, we removed participants ($n = 34$) who had moderate/independent identities on both our measures of ideological and partisan identification (see below) because we could not calculate political animosity for such participants. Our final sample included 518 participants (M age = 35.0, $SD = 12.5$, Range [18, 73]; 262 women, 253 men, 2 with gender not listed) out of which 166 were Trump voters, 175 were Clinton voters, and 177 people who either didn't vote or preferred to not say who they voted for in the 2016 US Presidential Elections. Ethnicity was 77.6% Caucasian, 4.3% African American, 5.8% Asian, 4.3% Hispanic, and 7.9% other races/ethnicities or multiple races/ethnicities. Modal education level was a bachelor's degree (36.9%). The average response rate across the waves was 75%, $SD = 8\%$, Range [63%, 93%].

Netherlands. The data is from a 12-wave, 6-month Longitudinal Study (2019–2020; for previous use see, Brandt & Morgan, 2022). This longitudinal study of Dutch political attitudes surveyed the same participants two times per month between September 2019 and February 2020, resulting in 12 waves of data. We report all manipulations, measures, and exclusions in these studies.

The study was administered by CenterData (Tilburg University, The Netherlands) using their Longitudinal Internet Studies for the Social Sciences (LISS) panel (Scherpenzeel & Das, 2010). The LISS panel is a representative sample of Dutch people that is based on a true probability sample of households drawn from the population register. Households without the necessary equipment are provided a computer and internet connection. A random sample of 1670 LISS panel members were selected for the study (M age = 51.6, $SD = 18.5$, Range [16,

102]; 867 women, 803 men). Modal education level was higher vocational education (roughly equivalent to US college, 24.7%). Over the course of the study, participants completed two surveys each month and were able to complete the surveys any time during the two-week period each was open (response rate range [69.6%, 82.4%]).

Measures

United States. Participants completed measures on a number of politically-relevant items (Brandt et al, 2021). All items were assessed at all waves unless otherwise noted. All of the items we use in this analysis are in Table 2.

Table 2. *Wording and response items for each measure in the United States sample*

Measure	Wording	Response
Ideology	When it comes to politics, do you think of yourself as a liberal, conservative, moderate, or haven't you thought much about this?	1. Strongly liberal ,7 = Strongly conservative, 8 = Don't know, 9 = I haven't thought much about it
Partisan Identification	Do you think of yourself as a Republican, a Democrat, an Independent, or haven't you thought much about this?	1. Strongly Democrat ,7 = Strongly Republican, 8 = Don't know, 9 = I haven't thought much about it
Social Distance Items	How willing would you be to be friends with people from the following groups? ...Liberals ...Conservatives ...Republicans ...Democrats	1 = I absolutely would not, 7 = I absolutely would, 8 = Don't know, 9 = I haven't thought much about it
Defense	Should federal spending on defense be increased, decreased, or kept the same?	1= Greatly decrease spending, 7 = Greatly increase spending, 8 = Don't Know, 9 = I haven't thought much about it
Crime	Should federal spending for dealing with crime be increased, decreased, or kept the same?	1= Greatly decrease spending, 7 = Greatly increase spending, 8 = Don't Know, 9 = I haven't thought much about it
Terrorism	Should federal spending for dealing with terrorism be increased, decreased, or kept the same?	1= Greatly decrease spending, 7 = Greatly increase spending, 8 = Don't Know, 9 = I haven't thought much about it
Poverty	Should federal spending on aid to the poor be increased, decreased, or kept the same?	1= Greatly decrease spending, 7 = Greatly increase spending, 8 = Don't Know, 9 = I haven't thought much about it
Healthcare	Should federal spending on healthcare be increased, decreased, or kept the same?	1= Greatly decrease spending, 7 = Greatly increase spending, 8 = Don't Know, 9 = I haven't thought much about it
Economy	Should federal spending to stimulate the economy be increased, decreased, or kept the same?	1= Greatly decrease spending, 7 = Greatly increase spending, 8 = Don't Know, 9 = I haven't thought much about it
Abortion	Which one of the opinions below best agrees with your view of abortion?	1=By law, abortion should never be permitted, 4 = By law, a woman should always be able to obtain an abortion as a matter of personal choice, 5 = Don't Know, 6 = I haven't thought much about it
Unemployment	Should federal spending to improve the social and economic position of blacks be increased, decreased, or kept the same?	1 = Greatly decrease spending, 7 = Greatly increase spending, 8 = Don't Know, 9 = I haven't thought much about it

Aid to Blacks	Should federal spending to improve the social and economic position of blacks be increased, decreased, or kept the same?	1 = Greatly decrease spending, 7 = Greatly increase spending, 8 = Don't Know, 9 = I haven't thought much about it
Same-sex Adoption	Do you favor or oppose laws that prevent gay or lesbian couples from adopting children, or haven't you thought much about it?	1= Favor strongly, 7 Oppose strongly, 8 = Don't Know, 9 = I haven't thought much about it
Immigration	Should federal spending to control immigration be increased, decreased, or kept the same?	1= Greatly decrease spending, 7 = Greatly increase spending, 8 = Don't Know, 9 = I haven't thought much about it
Vaccination	Do you favor or oppose laws that require parents to vaccinate their children using common vaccines (e.g., polio, tetanus, measles, flu)?	1= Favor strongly, 7 = Oppose strongly, 8 = Don't Know, 9 = I haven't thought much about it
Guns	Should the federal government make it more difficult for people to buy a gun than it is now, make it easier for people to buy a gun, or keep these rules about the same as they are now?	1= Greatly decrease spending, 7 = Greatly increase spending, 8 = Don't Know, 9 = I haven't thought much about it
Climate	Do you think the federal government should be doing more about climate change, should be doing less, or is it currently doing the right amount?	1= Doing more, 7 = Doing less, 8 = Don't Know, 9 = I haven't thought much about it
Political Interest	How interested are you in politics?	1 = Very uninterested, 7 = Very interested
Tense	At this moment, I feel tense	1=Fully disagree, 7= Fully agree
Death	I have an intense fear of death	1=Fully disagree, 7= Fully agree
Economic threat	I worry that I myself or someone from my family will be worse off financially in the near future	1=Fully disagree, 7= Fully agree
Values threat	The values in our country have gone seriously off track	1=Fully disagree, 7= Fully agree
Demographics	Gender, Ethnicity, Education, Income, Age, Religion	

Note: Some of the items have been shortened for the purpose of the table. Full wording can be found at Brandt, Zwinkels-Turner & Kubin, 2021

The primary outcome variables were social distance from ideological and partisan outgroups (e.g., Iyengar et al., 2012; Mason, 2018). This was assessed as people's self-reported willingness to be friends with people from ideological outgroups (i.e., liberals or conservatives) and partisan outgroups (i.e., Democrats or Republicans), with higher scores indicating more social closeness. Responses of "Don't know" or "I haven't thought much about it" were coded as missing data. We subtracted social distance from the outgroup from social distance from the ingroup, such that higher scores indicate more animosity and a preference for the ingroup over the outgroup. We rescaled the measure to range from 0 to 1. Although some scholars only focus on social distance towards the outgroup, we use the difference score (see also, Mason, 2018;

West & Iyengar, 2022) because it is the most similar to the multi-party measure we need to use for the Dutch context. Social distance is a common measure of prejudice (Correll, Park, Judd, & Wittenbrink, 2010) and political animosity (Iyengar et al., 2012). It shares predictors with other measures of political animosity (e.g., feeling thermometers; Druckman & Levendusky 2019; Garrett & Bankert, 2020; Mason 2018), and correlates well with other measures of political animosity (Crawford et al., 2017). Some work suggests that social distance measures capture a different aspect of political animosity compared to feeling thermometers (Druckman & Levendusky 2019), although both measures are capturing politically-rooted animosity.

Ideological and partisan identification were each measured with one item measures ranging from strongly liberal/strong Democrat to strongly conservative/strong Republican. Responses of “Don’t know” or “I haven’t thought much about it” were coded at the midpoint (see Kinder & Kalmoe, 2017 for a similar strategy). These two measures were used to assess the direction of people’s political identities (Democrat vs. Republican and Liberal vs. Conservative). To measure the extremity of people’s political identities, we took these same measures and “folded them over” so that higher scores indicate stronger identities and lower scores indicate weaker identities.

Demographic variables were measured at Wave 1. We included measures for age, gender (female = -.5, male = .5), race/ethnicity (People of Color = -.5, White people = .5), income, education (contrast code 1: high school or less = -.5, some college = 0, bachelor or higher = .5, contrast code 2: high school or less = -.25, some college = .5, bachelor or higher = -.25), and religious identity (contrast code 1: Christian = .5, others = -.25, contrast code 2: non-religious = -.5, Christian = 0, other religions = .5).

We included additional variables for two purposes. First, we included time-variant variables (i.e. measured each wave) as within-person covariates when testing if changes in identity strength and direction are associated with changes in political animosity. Second, we included both time-invariant and time-varying variables as between-person exploratory moderators to try and explain variation in the associations between identity and animosity. When this was the case, we aggregated time-variant measures to provide a person-level estimate of the construct (e.g., a person's average political interest etc). These additional variables included perceptions that the country's values are off track, perceptions of economic problems, feeling tense, feeling fearful of death, political interest, people's stances on 14 political issues, and demographic measures. For the political issues, we factor analyzed all of the issues (see supplemental materials for details), from which three factors emerged representing people's stances on economic (highest loading item: aid to poor), social (highest loading item: do more about climate change), and security issues (highest loading item: spending on war on terrorism).⁵ Items for each factor were averaged to form scales. We also "folded over" these measures to assess issue extremity.

Netherlands. Participants completed measures on a number of politically-relevant items. All items were assessed at all waves unless otherwise noted. All of the items we use in this analysis are in Table 3.

Table 3. *Wording and response items for each measure in the Netherlands sample*

Measure	Wording	Response
Ideology	In politics, a distinction is often made between "the left" and "the right". Where would you place yourself on the scale below, where 0 means left and 10 means right?	0 = Left, 10 = Right, 99 = Don't know

⁵ Climate change issue was not measured at Time 1, but was otherwise measured every wave.

Traditionalism	When it comes to politics, do you think of yourself as more traditional, more progressive, or haven't you thought much about this?	1 = strongly progressive, 7 = strongly traditional, 99 = Don't know
Social Distance items	How likely would you be to be friends with people from the following groups? ...VVD voters ...PVV voters ...GroenLinks voters ...DENK voters	1 = I absolutely would not, 7 = I absolutely would, 99 = Don't know
Party sympathy items	How sympathetic do you think the following political parties are? ...the CDA? (<i>Christian democrats</i>) ...the ChristenUnie? (<i>Christian union party</i>) ...DENK? ...D66? (<i>social-liberal party</i>) ...50Plus? (<i>50+ party</i>) ...Forum voor Democratie? ...the Partij voor de Dieren? (<i>animal welfare party</i>) ...GroenLinks? (<i>green party</i>) ...the PvdA? (<i>labor party</i>) ...the PVV? (<i>Wilders freedom party</i>) ...the SGP? (<i>Christian reformed party</i>) ...the SP? (<i>socialist party</i>) ...the VVD? (<i>liberal party</i>)	0 = Very unsympathetic, 10 = Very sympathetic, 99 = Don't know
Immigration	In the Netherlands, some people believe that immigrants are entitled to live here while retaining their own culture. Others feel that they should adapt entirely to Dutch culture. Where would you place yourself on a scale of 1 to 5, where 1 means that immigrants can retain their own culture and 5 means that they should adapt entirely?	1 = immigrants can retain their own cultures, 5 = immigrants should adapt entirely to Dutch culture, 99 = Don't know
Euthanasia	Some people believe that euthanasia should always be forbidden. Others feel that euthanasia should be permitted if the patient expresses that wish. Still others hold an opinion that lies somewhere in between. Where would you place yourself on a scale from 1 to 5, where 1 means that euthanasia should be forbidden and 5 means that euthanasia should be permitted?	1 = euthanasia should be forbidden, 5 = euthanasia should be permitted, 99 = Don't know
European Union	Some people and political parties feel that European unification should go a step further. Others think that European unification has already gone too far. Where would you place yourself on a scale from 1 to 5, where 1 means that European unification should go further and 0 means that it has already gone too far?	1 = European unification should go further, 5 = European unification has already gone too far, 99 = Don't know
Inequality	Some people believe that differences in income should increase in our country.	1 = differences in income should increase, 5 =

	Others feel that they should decrease. Still others hold an opinion that lies somewhere in between. Where would you place yourself on a scale from 1 to 5, where 1 means that differences in income should increase and 5 means that these should decrease?	differences in income should decrease, 99 = Don't know
Police	It should be possible for police and investigation officers to search people, vehicles or objects if they simply suspect that a crime or terrorist act is being planned.	1 = Fully disagree, 4 = Neither agree nor disagree, 7 = Fully agree, 99 = Don't know
Political interest	How interested are you in politics?	1 = very uninterested, 7 = very interested
Tense	At this moment, I feel tense	1 = fully disagree, 7 = full agree, 99 = Don't Know
Death	I have an intense fear of death	1 = fully disagree, 7 = full agree, 99 = Don't Know
Economic threat	I worry that I myself or someone from my family will be worse off financially in the near future	1 = fully disagree, 7 = full agree, 99 = Don't Know
Values threat	The values in our country have gone seriously off track	1 = fully disagree, 7 = full agree, 99 = Don't Know
Demographics	Age, gender, income, education	

The primary outcome variables were social distance from partisan voters (e.g., Iyengar et al., 2012; Mason, 2018) and sympathy for the parties (Harteveld, 2021b). Social distance was assessed as people's self-reported willingness to be friends with people who vote for a center-right party (VVD, also the ruling-coalition leader at the time of the study), left-wing party (GroenLinks), a far-right populist party (PVV), and a left-wing minority rights party (DENK). These four parties were chosen to represent relatively mainstream (VVD, GroenLinks) and more extreme (PVV, DENK) parties on both the left and the right of the Dutch political system. Sympathy was measured by asking participants how sympathetic each party was. This measure has been used in prior work to assess affective polarization in the Netherlands (Harteveld, 2021b), but likely captures more of people's feelings towards the parties rather than *voters* for the parties (Harteveld, 2021a). For this measure, we included all 13 parties that were represented in the Dutch parliament at the time of the study. For both the social distance and sympathy

measures of political animosity, we followed the suggestions of Wagner (2021) for measuring affective polarization in multi-party systems, like the Netherlands. They suggest that this is best measured using the dispersion of the ratings towards all of the available parties.⁶ In our case, that means we calculate the standard deviation between the four social distance measures and the 13 sympathy measures for each participant. Higher scores indicate more differences in how the voters and parties were rated (similar to the two-party difference score used in the US sample).

This study included two measures of ideological identification. The first is a measure of left-right ideological identification, ranging from left to right. Responses of “Don’t know” were coded at the midpoint. The second is a measure of traditionalism-progressive identification, ranging from strongly progressive to strongly traditional. Responses of “Don’t know” were coded at the midpoint. These two measures were used to assess the direction of people’s political identities (Left vs. Right and Progressive vs. Traditional). To measure the extremity of people’s political identities, we took these same measures and “folded them over” so that higher scores indicate stronger identities and lower scores indicate weaker identities.

Demographic variables were measured prior to our study as part of the administrative processes of the LISS panel. We included measures for age, gender (female = -.5, male = .5), income, and education (contrast code 1: high school or less = -.5, vocational college = 0, bachelor or higher = .5, contrast code 2: high school or less = -.25, vocational college = .5, bachelor or higher = -.25).

We included additional variables for the same reasons as the United States sample. These variables included perceptions that the country’s values are off track, perceptions of economic

⁶ Wagner (2021) also suggests that the measure of dispersion can be weighted by the proportion of seats the party has in parliament. We chose not to do this because right-wing parties have more seats in the Dutch parliament. Granting them more weight would bias the measure towards finding that people with more left-wing ideologies express more political animosity.

problems, feeling tense, feeling fearful of death, political interest, people's stances on five political issues, and demographics. For the political issues, we factor analyzed all of the issues (see supplemental materials for details). Three items formed one factor representing opposition to outsiders (highest loading item: European unification). The additional two items were largely independent and so treated as single items in our analyses. Items for the factor were averaged to form a scale. We also "folded over" this scale and the additional two items to assess issue extremity.

Analytic Strategy

We adopt a multilevel modeling approach. In all cases, we nest responses within people and add or remove predictor variables depending on the question we aim to answer. All within-person (level 1) predictors are person-mean centered, and all between-person (level 2) predictors and moderators are sample-mean centered or contrast coded. The precise variables in each model depend on the question being answered. In all models, we included a variable indicating wave (rescaled to range from 0 to 1) and wave² to capture and remove time trends. Full model results are in tables in the supplemental materials. All variables were scaled to range from 0 to 1 which makes the unstandardized coefficients easily interpretable as the proportion difference in the outcome variable between the minimum and the maximum of the predictor variable.

United States. We include partisan social distance and ideological social distance in separate sets of models. We only include partisan identity in the models for partisan social distance and only include ideological identity in the models for ideological social distance.

Netherlands. We include social distance and sympathy in separate sets of models. We also include ideological identification in separate models from traditionalism. That is, we

estimate separate models for social distance and ideological identification, social distance and traditionalism, sympathy and ideological identification, and sympathy and traditionalism.

Software. We analyzed the data using R (R Core Team, 2020) and Rstudio (Rstudio Team, 2020). We used the package rio (Chan, Chan, Leeper, & Becker, 2018) to import and export data. We used tidyverse (Wickham et al., 2019), cowplot (Wilke, 2019), broom.mixed (Bolker & Robinson, 2021), patchwork (Pedersen, 2020), and scales (Wickham & Seidel, 2020) to clean, manipulate, and plot data. We used psych (Revelle, 2020) and lmerTest (Kuznetsova, Brockhoff & Chistensen, 2017) to calculate statistics. Complete model results for all of the models reported below are in tables in the supplemental materials.

Results

To investigate if intraindividual changes in political identity strength and direction are associated with political animosity, we used the same models. In Model 1, we regressed political animosity on identity direction, identity extremity, wave, and wave². In Model 2, we added additional within-person covariates, including perceptions that values are off track, economic worries, worries about death, feeling tense, political interest, political issues, and issue extremity. The precise issues were different depending on the study, but otherwise these covariates were the same. We did not include person-level covariates (e.g., education) because centering our predictors within-person eliminates time-invariant between-person differences. The full results of both models are in Figures 1-3 (see also Tables S3-S14 for precise coefficients and standardized effect sizes).

Are changes in political identity strength associated with political animosity?

This hypothesis predicts that when people express stronger political identities they will also express more political animosity. In the United States sample, we find that changes in both

ideological and partisan strength are associated with increases in political animosity. These effects are relatively small, but are clearly different from zero. They were also robust to a number of relevant control variables. In the Dutch sample, we find that changes in ideological strength are associated with increases in both social distance and sympathy measures of political animosity. As with the United State samples, these effects are relatively small and they are robust to the control variables. Changes in the strength of traditionalism/progressivism were not associated with changes in the social distance measure of political animosity. They were associated with changes in the sympathy measure of political animosity in Model 1 (no covariates, $p = .04$), but were not related to this measure of political animosity in Model 2 (with covariates, $p = .06$). In sum, across two countries and multiple measures of political animosity and political identities we find consistent evidence for the predictions. When people report stronger political identities, they report more political animosity. The one exception to this may be for a measure of traditional/progressive identification in the Netherlands.

Figure 1. *The United States sample: Unstandardized coefficients from multilevel model predicting ideological and partisan social distance both with and without covariates*

Figure 2. *The Netherlands sample: Unstandardized coefficients from multilevel model predicting social distance and sympathy using ideology both with and without covariates*

Figure 3. *The Netherlands sample: Unstandardized coefficients from multilevel model predicting social distance and sympathy using traditionalism both with and without covariates*

Are changes in political identity direction associated with political animosity?

This hypothesis is tested with the measures of the direction of political identities, whether ideological, partisan, or traditionalism direction. In all samples, across all measures we find that changes in the direction of people political identities were not associated with partisan animosity. This was true in both the United States and the Netherlands and for models both with and without covariates (Figures 1-3). Although some point estimates are in the predicted direction (e.g., partisan identity direction in the United States), other point estimates are in the opposite direction (e.g., ideological identity direction in the Netherlands), and still other point estimates are essentially zero (ideological identity direction in the United States). The confidence intervals for these estimates tend to be relatively wide, which means that we cannot rule out the possibility that small changes in a liberal/left-wing or a conservative/right-wing direction are associated with political animosity at the population level.

Is there heterogeneity in the association between political identities and animosity?

We next tested if there was heterogeneity in the association between changes in political identities (both strength and direction) and political animosity. If there is heterogeneity, it suggests changes in political identity are associated with animosity differently for different people and that it may be fruitful to search for moderators of these associations. We test for heterogeneity by seeing if there is significant variation in the random slopes of identity in Model 1 (see above). Results are in Table 4. In the United States sample, we find significant variation in all of the random slopes. In the Dutch sample when using the social distance measure of animosity, the variation was significant for all slopes with the exception of ideological direction ($p = .31$). When using the sympathy measure of animosity, the variation was significant for all slopes with the exception of traditionalism direction ($p = .054$).

Table 4. *Standard deviation in random slopes of identity in Model 1*

Social Distance Measure	United States	Netherlands
Ideological direction	.17***	.09
Ideological strength	.07*	.17***
Partisan direction	.25***	—
Partisan strength	.07**	—
Traditionalism direction	—	.12*
Traditionalism strength	—	.11***
Sympathy Measure		
Ideological direction	—	.14***
Ideological strength	—	.07***
Traditionalism direction	—	.06
Traditionalism strength	—	.05***

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Significant variation tells us that the slopes differ from person to person, but they do not tell us if the average slopes (i.e. in Figures 1-3) are poor representations of the people in the sample. One heuristic is to compare the relative size of the average slope to the standard

deviation of the random slope. Bolger and colleagues (Bolger et al., 2019) suggest that values greater than .25 are noteworthy. Across both studies and all measures, we find that the relative size of the average slope to the random slope is always greater than .25, regardless of the significance of the random slopes (ratio range [1.4, 111.9]). To help visualize this, we plot each participants' estimated slopes in Figures 4 and 5. Here we can see that the average slopes (from Figures 1-3 and represented in Figures 4 and 5 with a solid black vertical line) diverge from the estimates of many participants. The slopes predicted for the population (solid gray vertical lines) encompass a large range of possible values, including values opposite that of the average effect.

Figure 4. *The United States sample: Histograms of the estimated slopes for each participant. The black vertical line is the average slope estimate. The gray dashed vertical lines are the bounds of the interval containing 95% of the effects in the sample. The gray solid vertical lines are the bounds of the interval containing 95% of the effects in the population*

Figure 5. *The Netherlands sample: Histograms of the estimated slopes for each participant. The black vertical line is the average slope estimate. The gray dashed vertical lines are the bounds of*

the interval containing 95% of the effects in the sample. The gray solid vertical lines are the bounds of the interval containing 95% of the effects in the population

Exploring moderators

We found that the average slopes do not represent everyone in the data. This heterogeneity suggests that we may be able to identify moderators of the association between changes in political identities and political animosity. We took a maximally exploratory approach and tested a wide range of moderators available in our data. We estimated moderator models by building on Model 1 (from Figures 1-3). In particular, to test for moderators of identity direction, we estimated models where we added the main effects of all of the potential moderator variables at the between-person level and their interaction with identity direction. Then, to test for moderators of identity strength, we estimated models where we added the main effects of all of the potential moderator variables at the between-person level and their interaction with identity strength. To identify robust moderators in this exploratory exercise, we corrected the p -values for interaction estimates for each model using the Holm's correction (Holm, 1979). As an alternative cut-off, we also used $p < .005$ based on suggestions that

estimates with p 's $< .005$ are more likely to be robust (Benjamin et al., 2018). Results were identical regardless of the cut-off used. All estimates from these models are in Tables S19-S26.

There were no significant interaction effects in the American sample using either of the possible cut-offs. Although there was significant heterogeneity in the slopes of identity direction and strength on political animosity, we did not identify robust *explanations* for this heterogeneity. There were two significant interaction effects in the Dutch sample when traditionalism was used to predict the sympathy measure of political animosity. First, we find that changes in traditionalism are negatively associated with animosity when people see the country's values going off track (right side of Figure 6A), but that changes in traditionalism are positively associated with animosity when people see the country's values as relatively on track (left side of Figure 6A). Second, we found that changes in traditionalism are negatively associated with animosity when people have relatively less opposition to outsiders (left side of Figure 6B), but that changes in traditionalism are positively associated with animosity when people have relatively high opposition to outsiders (right side of Figure 6B).

One interpretation of these patterns is that in the Netherlands, perceptions of the countries values and attitudes about issues related to opposition to outsiders structure the links between traditionalism/progressive identities and views of political groups. The key open question is why we find this associations for just one measure of animosity and just in the Netherlands and not the United States. We recommend independent replication before taking these associations for granted.

Figure 6. *The Netherlands sample: Estimated traditionalism-sympathy slopes (y-axis) for each participant (small grey dots) and for the sample (dots-and-whiskers) by levels that values are off*

track (Panel A, x-axis) and opposition to outsiders (Panel B, x-axis). Sample estimates are at the mean and ± 1 SD of the moderator variable.

General Discussion

We tested if changes in the strength and direction of people's political identities were associated with changes in their levels of political animosity. Consistent with dominant perspectives, we find changes in identity strength were associated with increases in political animosity across two countries with different political systems and levels of party competition. This association held for all but one measure of identity and was robust to a variety of control variables. We also found that changes in the direction of identity (e.g., more or less conservative) were not associated with changes in political animosity. This was consistent with perspectives that predict few ideological differences in levels of group-based animosity (e.g., Brandt & Crawford, 2020), but inconsistent with other recent findings emphasizing such ideological differences (Ganzach & Schul, 2021). These are stronger and more direct tests of prior findings.

Our findings have theoretical implications. First, scholars have started to doubt the role of political identification in political animosity (West & Iyengar, 2022). This doubt comes from experiments that reduce the salience of people's political identities without affecting political

animosity, as well as panel data that find that the magnitude of changes in animosity are larger than the changes in identity. These findings suggest that there is more to political animosity than political identity.

Our data, however, qualify this doubt by showing that changes in identity strength are indeed associated with changes in animosity. Moreover, these associations are robust to a number of different controls, including issue positions which are one of the key alternative explanations for the identity-based account (see discussion in Dias & Lelkes, 2022). This suggests that identity strength is relevant for political animosity. They are connected, as predicted by perspectives that see political animosity as an outgrowth of political identities (Iyengar et al., 2019) and classic social identity processes (Brown, 2000; Tajfel, 1978; Tajfel & Turner, 1979). At the same time, identity strength is unlikely to be the only contributor to political animosity. Although substantially less consistent, there was also evidence that for some political animosity measures in some countries, people's issue positions and their political interest may play a role (Figures 1-3, Model 2). Identifying when factors beyond identity are important will be key.

Finding that changes in identity strength are associated with changes in animosity might seem obvious given the now substantial literature linking political identity strength to animosity (Iyengar et al., 2019). However, much of the prior literature relies on estimates from cross-sectional data, which may or may not correspond with change estimates (Brandt & Morgan, 2022; Epskamp et al., 2018; Fisher et al., 2018; Hamaker, 2012). Thus, we provide important converging evidence for the association between political identity and animosity. For identity direction however, some scholars (Ganzach & Schul, 2021) will be surprised by the lack of association between changes in identity direction and changes in animosity. Despite there being

cross-sectional evidence that conservatives express more political animosity than liberals (Ganzach & Schul, 2021), we do not find that people express more animosity as they become more conservative (vs. liberal) when we test this intraindividually using longitudinal data. This suggests that the processes by which people come to differ from one another (i.e. what is primarily captured by cross-sectional correlations, Brandt & Morgan, 2022) are different from the psychological processes within a person (for a discussion in the political domain, see Morgan & Wisneski, 2017). Different mechanisms and theoretical perspectives may be necessary for different levels of analysis.

In addition to these average level effects, we found consistent heterogeneity in the effects. In particular, almost all of the associations between identity (both strength and direction) and political animosity were characterized by substantial heterogeneity. This means that the average estimate for the sample is not a good characterization for each participant in the sample. Rather than there being *one* effect of political identity that is characterized well by a single estimate, there are actually many different effects that vary across the population. We attempted to explain this variation using a variety of different variables, including demographic information, people's issue positions, and their feelings of threats. However, despite the breadth of factors we tested, we did not find consistent explanations for the heterogeneity in the effects. This highlights the utility of testing for the mere presence of heterogeneity (Bolger et al., 2019). We now know that there is variability to be explained, but also that a variety of plausible explanations do not explain this variance. A clear direction for future research is to identify explanations for the heterogeneity in the effects.

Our studies have strengths. We used data from two different countries and examined multiple types of political identities. Results were largely consistent across both countries and

measures of identities. The samples were large (and in one case, representative), with many waves allowing us to more precisely estimate the associations between political identities and political animosity. There were some limitations. As these studies are costly to conduct and rely on participants completing many surveys many times, the measures are necessarily brief with many being one item measures. If resources allow, the measures of political identity strength, in particular, could be improved by adopting recently validated measures of identity for both the United States (Huddy et al., 2015) and multi-party systems (Bankert et al., 2017). Similarly, assessing additional measures of political animosity, including trait-based measures, feeling thermometers, and intentions to commit political violence would expand our knowledge of how identity is associated with political animosity. Our findings were similar across both social distance and sympathy measures of animosity, suggesting some degree of generalizability. Moreover, our reanalysis of West and Iyengar (2022), which included alternative measures of both identity strength and animosity, largely replicated our findings.

In conclusion, our findings suggest that changes in political identity strength are associated with increases in political animosity, but changes in political identity direction are not associated with political animosity. These findings confirm perspectives highlighting the importance of identity strength (Iyengar et al., 2019), as well as those downplaying the role of identity direction (Brandt & Crawford, 2020), using longitudinal data from two countries. At the same time, these findings are inconsistent with work suggesting that identity strength might not be a key component of political animosity (West & Iyengar, 2022), or that conservatives are especially likely to express political animosity. Notably, there was substantial variation across people suggesting that some people conform to some of these perspectives, but not others. A key task in future studies is to identify who best is described by each perspective. We suggest that

studying how political psychology constructs are associated within people and across time is an important step for reinforcing our understanding of political psychology.

References

- Allemand, M., & Martin, M. (2016). On correlated change in personality. *European Psychologist, 21*, 237–253.
- Banda, K. K., & Cluverius, J. (2018). Elite polarization, party extremity, and affective polarization. *Electoral Studies, 56*, 90-101.
- Bankert, A., Huddy, L., & Rosema, M. (2017). Measuring partisanship as a social identity in multi-party systems. *Political Behavior, 39*, 103-132.
- Benjamin, D. J., Berger, J. O., Johannesson, M., Nosek, B. A., Wagenmakers, E. J., Berk, R., ... & Johnson, V. E. (2018). Redefine statistical significance. *Nature Human Behaviour, 2*, 6-10.
- Bolger, N., Zee, K. S., Rossignac-Milon, M., & Hassin, R. R. (2019). Causal processes in psychology are heterogeneous. *Journal of Experimental Psychology: General, 148*, 601-618.
- Bolker, B., & Robinson, D. (2021). broom.mixed: Tidying Methods for Mixed Models. R package version 0.2.7. <https://CRAN.R-project.org/package=broom.mixed>
- Brandt, M. J. & Crawford, J. T. (2020). Worldview conflict and prejudice. In B. Gawronski (Ed.) *Advances in Experimental Social Psychology, 61*, 1-66.
- Brandt, M. J., & Morgan, G. S. (2022). Between-person methods provide limited insight about within-person belief systems. *Journal of Personality and Social Psychology, 123*, 621-635.
- Brandt, M. J., Turner-Zwinkels, F. M., & Kubin, E. (2021). Political Psychology Data from a 26-wave Yearlong Longitudinal Study (2019–2020). *Journal of Open Psychology Data, 9*, 2.
- Brown, J. K., & Hohman, Z. P. (2022). Extreme party animals: Effects of political identification and ideological extremity. *Journal of Applied Social Psychology, 52*, 351-362.

- Brown, R. (2000). Social identity theory: Past achievements, current problems and future challenges. *European Journal of Social Psychology*, 30, 745-778.
- Bryan, C. J., Tipton, E., & Yeager, D. S. (2021). Behavioural science is unlikely to change the world without a heterogeneity revolution. *Nature Human Behaviour*, 5, 980-989.
- Burke, B. L., Martens, A., & Faucher, E. H. (2010). Two decades of terror management theory: A meta-analysis of mortality salience research. *Personality and Social Psychology Review*, 14, 155-195.
- Carvalho, C., Feller, A., Murray, J., Woody, S., & Yeager, D. (2019). Assessing treatment effect variation in observational studies: Results from a data challenge. *Observational Studies*, 5, 21-35.
- Chan, C., Chan, G. CH., Leeper, T. J., Becker, J. (2018). rio: A Swiss-army knife for data file I/O. R package version 0.5.16.
- Clifford, S., Sheagley, G., & Piston, S. (2021). Increasing precision without altering treatment effects: Repeated measures designs in survey experiments. *American Political Science Review*, 115, 1048-1065.
- Correll, J., Judd, C. M., Park, B., & Wittenbrink, B. (2010). Measuring prejudice, stereotypes and discrimination. *The SAGE handbook of prejudice, stereotyping and discrimination*, 45-62.
- Crawford, J. T., Brandt, M. J., Inbar, Y., Chambers, J. R., & Motyl, M. (2017). Social and economic ideologies differentially predict prejudice across the political spectrum, but social issues are most divisive. *Journal of Personality and Social Psychology*, 112, 383-412.

- Dias, N., & Lelkes, Y. (2022). The nature of affective polarization: Disentangling policy disagreement from partisan identity. *American Journal of Political Science*, 66, 775-790.
- Ding, P., Feller, A., & Miratrix, L. (2019). Decomposing treatment effect variation. *Journal of the American Statistical Association*, 114, 304-317.
- Druckman, J. N., & Levendusky, M. S. (2019). What do we measure when we measure affective polarization?. *Public Opinion Quarterly*, 83, 114-122.
- Epskamp, S., Waldorp, L. J., Möttus, R., & Borsboom, D. (2018). The Gaussian graphical model in cross-sectional and time-series data. *Multivariate Behavioral Research*, 53, 453-480.
- Federico, C. M. (2021). When do psychological differences predict political differences?: Engagement and the psychological bases of political polarization. In J.W. van Prooijen (Ed.) *The Psychology of Political Polarization* (pp. 17-37). Routledge.
- Fisher, A. J., Medaglia, J. D., & Jeronimus, B. F. (2018). Lack of group-to-individual generalizability is a threat to human subjects research. *Proceedings of the National Academy of Sciences*, 115, E6106-E6115.
- Ganzach, Y., & Schul, Y. (2021). Partisan ideological attitudes: Liberals are tolerant; the intelligent are intolerant. *Journal of Personality and Social Psychology*, 120, 1551-1566.
- Garrett, K. N., & Bankert, A. (2020). The moral roots of partisan division: How moral conviction heightens affective polarization. *British Journal of Political Science*, 50(2), 621-640.
- Gidron, N., Adams, J., & Horne, W. (2020). *American affective polarization in comparative perspective*. Cambridge University Press.
- Hamaker, E. L. (2012). Why researchers should think “within-person”: A paradigmatic rationale. In M. R. Mehl, & T. S. Conner (Eds.), *Handbook of Research Methods for Studying Daily Life* (pp. 43– 61). New York, NY: Guilford Press.

- Harteveld, E. (2021a). Fragmented foes: Affective polarization in the multiparty context of the Netherlands. *Electoral Studies*, 71, 102332.
- Harteveld, E. (2021b). Ticking all the boxes? A comparative study of social sorting and affective polarization. *Electoral Studies*, 72, 102337.
- Henry, P. J., & Napier, J. L. (2017). Education is related to greater ideological prejudice. *Public Opinion Quarterly*, 81, 930-942.
- Huddy, L., Mason, L., & Aarøe, L. (2015). Expressive partisanship: Campaign involvement, political emotion, and partisan identity. *American Political Science Review*, 109, 1-17.
- Holm, S. (1979). A simple sequentially rejective multiple test procedure. *Scandinavian Journal of Statistics*, 6, 65–70.
- Iyengar, S., Lelkes, Y., Levendusky, M., Malhotra, N., & Westwood, S. J. (2019). The origins and consequences of affective polarization in the United States. *Annual Review of Political Science*, 22, 129-146.
- Iyengar, S., Sood, G., & Lelkes, Y. (2012). Affect, not ideology a social identity perspective on polarization. *Public Opinion Quarterly*, 76, 405-431.
- Iyengar, S., & Westwood, S. J. (2015). Fear and loathing across party lines: New evidence on group polarization. *American Journal of Political Science*, 59, 690-707.
- Jasko, K., LaFree, G., Piazza, J., & Becker, M. H. (2022). A comparison of political violence by left-wing, right-wing, and Islamist extremists in the United States and the world. *Proceedings of the National Academy of Sciences*, 119, e2122593119.
- Jost, J. T. (2017). Ideological asymmetries and the essence of political psychology. *Political Psychology*, 38, 167-208.

- Kalmoe, N. P., & Mason, L. (2022). *Radical American Partisanship: Mapping Violent Hostility, Its Causes, and the Consequences for Democracy*. University of Chicago Press.
- Kinder, D. R., & Kalmoe, N. P. (2017). *Neither liberal nor conservative: Ideological innocence in the American public*. University of Chicago Press.
- Kivikangas, J. M., Fernández-Castilla, B., Järvelä, S., Ravaja, N., & Lönnqvist, J. E. (2021). Moral foundations and political orientation: Systematic review and meta-analysis. *Psychological Bulletin*, 147, 55.
- Klein, R. A., Cook, C. L., Ebersole, C. R., Vitiello, C., Nosek, B. A., Hilgard, J., ... & Ratliff, K. A. (2022). Many Labs 4: Failure to replicate mortality salience effect with and without original author involvement. *Collabra: Psychology*, 8, 35271.
- Kuznetsova, A., Brockhoff, P.B., Christensen, R.H.B. (2017). lmerTest Package: Tests in linear mixed effects models. *Journal of Statistical Software*, 82, 1-26. doi: 10.18637/jss.v082.i13 (URL: <https://doi.org/10.18637/jss.v082.i13>).
- Lelkes, Y., Sood, G., & Iyengar, S. (2017). The hostile audience: The effect of access to broadband internet on partisan affect. *American Journal of Political Science*, 61, 5-20.
- Levendusky, M. (2009). *The partisan sort*. University of Chicago Press.
- Levendusky, M. S. (2018). When efforts to depolarize the electorate fail. *Public Opinion Quarterly*, 82, 583-592.
- Lu, Y., & Lee, J. K. (2019). Partisan information sources and affective polarization: Panel analysis of the mediating role of anger and fear. *Journalism & Mass Communication Quarterly*, 96, 767-783.

- Lyons, B. A., Farhart, C. E., Hall, M. P., Kotcher, J., Levendusky, M., Miller, J. M., ... & Zhao, X. (2022). Self-affirmation and identity-driven political behavior. *Journal of Experimental Political Science*, 9, 225-240.
- Martherus, J. L., Martinez, A. G., Piff, P. K., & Theodoridis, A. G. (2021). Party animals? Extreme partisan polarization and dehumanization. *Political Behavior*, 43, 517-540.
- Masselink, M., Van Roekel, E., Hankin, B. L., Keijsers, L., Lodder, G. M. A., Vanhalst, J., ... & Laceulle, O. (2018). The longitudinal association between self-esteem and depressive symptoms in adolescents: separating between-person effects from within-person effects. *European Journal of Personality*, 32, 653-671.
- Mason, L. (2015). "I disrespectfully agree": The differential effects of partisan sorting on social and issue polarization. *American Journal of Political Science*, 59, 128-145.
- Mason, L. (2018). Ideologues without issues: The polarizing consequences of ideological identities. *Public Opinion Quarterly*, 82, 866-887.
- Morgan, G. S., & Wisneski, D. C. (2017). The structure of political ideology varies between and within people: Implications for theories about ideology's causes. *Social Cognition*, 35, 395-414.
- Nelemans, S. A., Keijsers, L., Colpin, H., van Leeuwen, K., Bijttebier, P., Verschueren, K., & Goossens, L. (2020). Transactional links between social anxiety symptoms and parenting across adolescence: Between-and within-person associations. *Child Development*, 91, 814-828.
- Ondercin, H. L., & Lizotte, M. K. (2021). You've lost that loving feeling: How gender shapes affective polarization. *American Politics Research*, 49, 282-292

Pedersen, T. L. (2020). patchwork: The composer of plots. R package version 1.1.1.

<https://CRAN.R-project.org/package=patchwork>

Peer, E., Rothschild, D., Gordon, A., Evernden, Z., & Damer, E. (2022). Data quality of platforms and panels for online behavioral research. *Behavior Research Methods*, 54, 1643-1662.

Ployhart, R. E., & MacKenzie, W. I., Jr. (2015). Two waves of measurement do not a longitudinal study make. In C. E. Lance & R. J. Vandenberg (Eds.), *More statistical and methodological myths and urban legends* (pp. 85–99). Routledge/Taylor & Francis Group.

Revelle, W. (2020) psych: Procedures for personality and psychological research, Northwestern University, Evanston, Illinois, USA, <https://CRAN.R-project.org/package=psych> Version = 2.0.8,.

Rstudio, T. (2020). RStudio: Integrated development for R. In *Rstudio Team, PBC, Boston, MA*
URL <http://www.rstudio.com/>.

R Core Team (2020). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL <https://www.R-project.org/>

Scherpenzeel, A. C., & Das, M. (2010). “True” longitudinal and probability-based internet panels: Evidence from the Netherlands. In M. Das, P. Ester, & L. Kaczmirek (Eds.), *Social and behavioral research and the internet: Advances in applied methods and research strategies* (pp. 77-104). Taylor & Francis.

Settle, J. E. (2018). *Frenemies: How social media polarizes America*. Cambridge University Press.

Strickler, R. (2018). Deliberate with the enemy? Polarization, social identity, and attitudes toward disagreement. *Political Research Quarterly*, 71, 3-18.

- Tajfel H. (ed.) (1978) *Differentiation between Social Groups: Studies in the Social Psychology of Intergroup Relations*. Academic Press.
- Tajfel, H. & Turner, J. C. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The Social Psychology of Intergroup Relations* (pp. 33-47). Brooks-Cole.
- Wagner, M. (2021). Affective polarization in multiparty systems. *Electoral Studies*, 69, 102199.
- West, E. A. (2020). Replication data for: Partisanship as a social identity: Implications for polarization (Version V1) [Data set]. Dataverse. <https://doi.org/10.7910/DVN/OF2PIH>
- West, E. A., & Iyengar, S. (2022). Partisanship as a social identity: Implications for polarization. *Political Behavior*, 44, 807-838.
- Westwood, S. J., Iyengar, S., Walgrave, S., Leonisio, R., Miller, L., & Strijbis, O. (2018). The tie that divides: Cross-national evidence of the primacy of partyism. *European Journal of Political Research*, 57, 333–354.
- Wickham et al., (2019). Welcome to the tidyverse. *Journal of Open Source Software*, 4, 1686, <https://doi.org/10.21105/joss.01686>
- Wickham, H., & Seidel, D. (2020). scales: Scale functions for visualization. R package version 1.1.1. <https://CRAN.R-project.org/package=scales>
- Wilke, C. O. (2019). cowplot: Streamlined plot theme and plot annotations for 'ggplot2'. R package version 1.0.0. <https://CRAN.R-project.org/package=cowplot>