Party Identification and Social Relationships: Exploring the Causal Mechanisms

April 17, 2022

Due to the rise of affective polarization, Americans today not only feel psychologically distant from out-partisans but also prefer to build political and non-political social relationships with co-partisans. However, it is not clear why we see such patterns. Is it because people consider co-partisans to share similar demographic and socioeconomic backgrounds and thus feel more comfortable interacting with them? Or is it because they believe that co-partisans share their policy positions? To answer this research question, this paper conducted original survey experiments that were suitably designed to study causal mechanisms. The analysis of the experimental data revealed that both group traits and policy issues play important roles in explaining the effect of partisanship on both political and non-political relations. We also compared the explanatory power of group characteristics and issue positions to demonstrate the latter more strongly drive the effect of partisanship.

Party polarization is a serious problem for the politics in the United States.[1] Although political scientists agree that Democratic and Republican political elites hold systematically distinct policy preferences, there is a lack of consensus about whether the mass public is similarly ideologically polarized along the party line (Abramowitz and Saunders 2008; Fiorina, Abrams and Pope 2010; McCarty, Poole and Rosenthal 2016). However, an increasing number of studies suggest that rank-and-file Democrats and Republicans are now affectively polarized; that is, ordinary Democrats and Republicans today hold positive feelings toward co-partisans and dislike members of the other parties (e.g., Abramowitz and Webster 2016; Iyengar, Sood and Lelkes 2012; Iyengar and Krupenkin 2018; Iyengar et al. 2019).

One consequence of affective polarization among the mass public is that U.S. citizens today increasingly prefer to build social relationships with co-partisans. Political scientists have long pointed out that Democrats and Republicans tend to vote for co-partisan candidates and discuss politics with members of their own parties (e.g., Berelson, Lazarsfeld and McPhee 1954; Campbell et al. 1980). Studies show that this tendency has become stronger in recent years due to the rise of affective polarization. For instance, Abramowitz and Webster (2016) argue that individuals who hold negative feelings toward out-parties are more likely to vote for candidates representing their parties in national and state-level elections. As another example, Lee and Bearman (2020) show that the U.S. people's communication network has grown smaller and more homogeneous over time, suggesting that Americans today tend to discuss politics only with like-minded people, such as co-partisans. Some studies also show that partisanship affects a wide range of non-political social relations, such as marriage (Iyengar, Sood and Lelkes 2012; Iyengar, Konitzer and Tedin 2018), friendship (Huber and Malhotra 2017), and those between next-door neighbors (Brown and Enos 2021; Gimpel and Hui 2015), roommates (Shafranek 2021), and colleagues (Gift and Gift 2015; McConnell et al. 2018). Lelkes and Westwood (2017) experimentally show that affectively polarized individuals tend to favor co-partisans and avoid out-partisans even in choosing

[1]The design of the survey experiments reported in this paper was pre-registered at AsPredicted (#76125 and #80232). See Online Appendix C for details of the pre-registration.

teammates for simple tasks unrelated to politics, such as solving crossword puzzles. Iyengar and Westwood (2015) demonstrate that U.S. voters today even discriminate against out-partisans, and their willingness to act on their negative views of out-partisans is greater than that for racial out-groups. Considering that party identification was originally developed as a concept that was related to but distinct from voting and social relationships, it is worthwhile to investigate why partisanship affects both political and non-political relationships.

In this paper, we aim to investigate the factors that give partisanship its causal power. Research in social psychology has shown that individuals feel closer to in-group members than their out-group counterparts even when no actual inter-group conflicts exist and the group categorization is arbitrary (e.g., Tajfel et al. 1971), suggesting that it is natural that Democrats and Republicans prefer their co-partisans to out-partisans when building social relationships. However, partisan identity alone cannot explain why affective polarization has grown in recent years (West and Iyengar n.d.).

This paper specifically focuses on group traits and policy issues as potential explanations. Literature on the nature and origins of mass party identification in the U.S. can be broadly divided in two camps. According to one perspective, which we call the *group-based view*, citizens identify with political parties because they belong to social groups that are stereotypically associated with party labels: for example, an African American man may consider himself to be a Democrat because he—like many others—holds a mental image that the Democratic Party is comprised of racial minorities like him (e.g., Achen and Bartels 2016; Campbell et al. 1980; Green, Palmquist and Schickler 2002; Miller, Wlezien and Hildreth 1991). The other view, hereafter the *issue-based view*, argues that voters identify with political parties whose policy platforms are closest to their issue positions (Chen and Goren 2016; Franklin and Jackson 1983; Franklin 1984; Sniderman and Stiglitz 2012). Although these studies examine why individuals identify with specific political parties, they also provide insights into why people prefer to build social relations with co-partisans. The group-based view suggests that American people today increasingly favor members of their political parties when building social relationships because they believe that co-partisans share similar demographic and socioeconomic backgrounds and thus feel more comfortable interacting

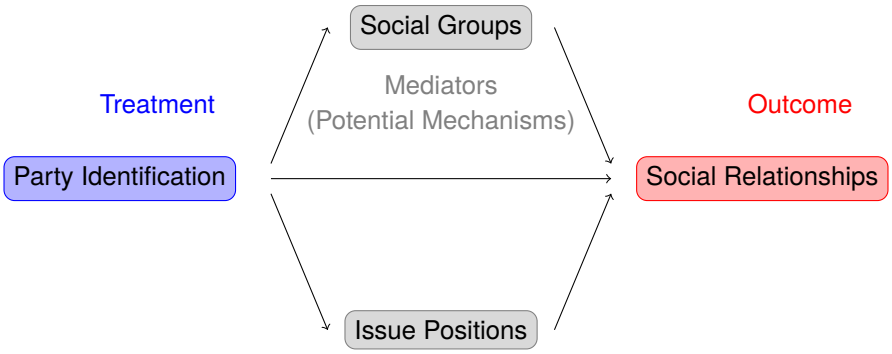

Figure 1: Graphical Summary of the Research Question

with them. In contrast, according to the issue-based view, Democrats and Republicans prefer interacting with their co-partisans because they think members of their parties share their policy positions. This paper therefore aims to examine which aspects of party identification impact social relationships by empirically decomposing the mechanisms linking partisanship and social interactions (see Figure 1).

Previous studies have explored the conditions under which partisanship affects individuals' feelings toward co-/out-partisans and their decisions related to building political and non-political social relationships. Among the studies focusing on group traits, Abramowitz and Webster (2018) propose the racial divides between Democratic and Republican supporters as the most important driver of affective polarization. Similarly, Mason (2018) and Mason and Wronski (2018) argue that Democrats/Republicans with stereotypically Democratic/Republican group traits (whom they call "socially sorted" partisans) tend to feel psychologically distant from out-partisans even if they do not hold ideologically consistent issue positions, suggesting that party identification affects social interactions through an awareness of certain group identities. Moreover, Ahler and Sood (2018) demonstrate that individuals who hold stereotypical images about the group compositions of the Democratic and Republican parties are more likely to feel socially distant from out-parties. Among the studies focusing on policy issues, Mummolo, Erik and Westwood (2021) demonstrate that American voters tend to vote for co-partisan candidates in elections unless the candidates' issue positions deviate heavily from the parties' policy platforms. Webster and Abramowitz (2017) show that individuals with opinions on social welfare policy issues that are ideologically consistent with

those of their parties are more likely to hold negative feelings toward out-parties. Furthermore, Lelkes (2021) experimentally shows that people feel positively/negatively toward candidates who hold issue positions consistent/inconsistent with the policy platforms of the political parties they identify with even when they are not provided information on the candidates' party affiliations, suggesting that policy issues offer a major explanation of affective polarization. More closely related to this paper, Homola et al. (2022)'s survey experiment reveals that voters disfavor an out-partisan especially when the person holds ideologically consistent issue positions with his/her partisanship. Similarly, Dias and Lelkes (N.d.) demonstrate that the effect of partisanship on interpersonal affect is mediated by preferences on party-branded policy issues.[2]

Although these works have merits, they cannot answer why and how partisanship affects social interactions because they are not properly designed to empirically study causal mechanisms at work. Methodological research has consistently shown that the assignment of the potential mechanism variables (hereafter mediators) as well as the treatment variable must be conditionally ignorable to identify causal mechanisms (e.g., Acharya, Blackwell and Sen 2016, 2018). However, prior studies have not experimentally manipulated the mediators and instead have used observed values (e.g., Ahler and Sood 2018; Mason 2018) or randomly assigned values only for policy issues but not for demographic and socioeconomic characteristics (e.g., Homola et al. 2022; Lelkes 2021). Thus, these studies cannot compare the roles of group characteristics and policy issues in explaining the effect of partisanship on political and non-political social interactions.[3]

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[2]Relatedly, studies such as Druckman et al. (N.d.) and Rogowski and Sutherland (2016) show that people feel negatively toward individuals who identify with ideological labels different from their own, suggesting that ideology is the potential driving force of affective polarization.

[3]As other examples of studies examining the driving force of affective polarization among the U.S. voters, Busby et al. (2021) demonstrate that, through survey experiments and analyses of open-ended survey responses, people who hold stereotypes about personality traits of Democrats/Republicans are more affectively polarized than those who understand party labels in terms of social groups and policy issues. However, their work does not randomly assign the values

The exception is Orr and Huber (2020), who demonstrate that, using a series of survey experiments that manipulate both the values of policy issues and social identity cues such as race and religion, the effect of party identification on interpersonal feeling and social interaction is moderated more strongly by policy issues than by group characteristics. Their work offers considerable insight into the research question of this paper, though we will revise two aspects of their study design for our purpose. First, the moderation effect of group traits found in their research may be weaker than that of policy issues because the social identity cues were not sufficiently informative, as they focused only on a subset of group characteristics in each experiment and independently randomized their values. Second, because their study's research question differ slightly from ours, their experiment is not designed to examine how much the causal effect of partisanship is mediated by group traits and policy issues.[4]

Therefore, building on Orr and Huber (2020), this paper conducted original online survey experiments that asked respondents whether they wanted to build various social relationships with hypothetical voters. By randomly manipulating the fictitious persons' demographic/socioeconomic backgrounds and issue positions as well as their partisanship, the experiment design enables us to identify the causal mechanisms behind party identification and social interactions.

From the analysis of the experimental data, we find that both group traits and policy issues play a role in explaining the effect of partisanship on social interactions, whether they are political or not. This implies that U.S. citizens today favor co-partisans over out-partisans when building social relations because they believe that members of their parties have "desirable" social-demographic backgrounds and issue attitudes. We further compare the explanatory power of group characteristics and issue positions to find that the latter drives the effect of partisanship more strongly than the

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of either the treatment or the mediators, thus suffering the same methodological issues as the other prior studies.

[4]One of the experiments reported by Dias and Lelkes (N.d.) also manipulates the values of social cues as well as policy issues. However, they treat the variables of the group traits only as controls and do not consider them as key mediators.

Table 1: Summary of Data Collection

	Study 1	Study 2
Date	October 19–20, 2021	November 17–19, 2021
Number of Respondents	1,811	1,203
Sample Recruitment Platform	Lucid	Prolific
Quota	Age, Sex, Race/Ethnicity, Education, Household Income, Census Region	Age, Sex, Race/Ethnicity

former. According to our experimental data, the respondents slightly preferred co-partisans over out-partisans on average even when the person held group traits inconsistent with their party's stereotypes. In contrast, in terms of policy issues, participants preferred out-partisans whose policy positions were ideologically close to their party's position over members of their party who did not support their party's platform. We interpret this result as evidence of issue basis of the affective polarization among today's U.S. mass public.

The rest of the paper proceeds as follows. The next section describes the design of the survey experiments. The following two sections discuss the statistical framework for analyzing the data and the expected results of the experiments. We then present the findings obtained from the survey experiments. The final section concludes the paper.

Study Design

To empirically examine whether and how much group traits and policy issues explain the causal effect of partisanship on preferences in social interactions, we conducted two online survey experiments with U.S. voters in October and November 2021. Table 1 summarizes the data collection for these surveys. We recruited approximately 1,800 participants via Lucid for Study 1 and 1,200 respondents from Prolific's participant pool for Study 2. To make the sample as representative of the U.S. adult population as possible, we set demographic quotas so that the sample margins were close to the corresponding population proportions. Table B1 in Online Appendix summarizes the characteristics of the survey participants. The table shows that the Study 2 participants were

somewhat younger, more educated, and more Democratic than those of Study 1. The Study 1 participants were also less attentive to the survey items, reflecting the recent deteriorating data quality of Lucid samples (Aronow et al. 2020).

In both studies, before the experimental components, the respondents answered items about their demographic information, party identification, attitudes toward recent policy issues, and political knowledge and completed an instructional manipulation check (IMC). Study 2 participants were also asked about their degree of objective social sorting (Mason and Wronski 2018). These items were placed before the experimental task to avoid concerns of post-treatment biases (Montgomery, Nyhan and Torres 2018).[5]

In the experimental component, respondents first read the description of a hypothetical individual's partisanship, social group traits, and issue attitudes. They then shared their feelings toward the fictitious individual and their willingness to build various social relationships with the person. They performed the task twice, once for a hypothetical man and the other for a woman.

To create the vignette read by the respondents, we employed the experimental design proposed by Acharya, Blackwell and Sen (2018), which is suitable for empirically examining causal mechanisms. Specifically, we used the 2 (fictitious person's partisanship: Democrat or Republican) $\times$ 3 (information on the mediator: no information, information on group traits, or information on issue attitudes) $\times$ 2 (order of evaluation tasks: hypothetical man or fictitious woman first) factorial design. By providing random subsets of the respondents with information on the demographic/socioeconomic backgrounds or policy positions of the hypothetical individuals and having the rest of the participants guess the values of the mediators, this experimental design enables us to examine the causal mechanisms behind partisanship and social relationships through each mediator. Acharya, Blackwell and Sen (2018) call the former experimental conditions the *manipulated-mediator arm* and the latter condition the *natural-mediator arm*.

We created the experimental vignettes of the manipulated-mediator arm so that the fictitious

[5]To detect survey satisficers, we adopted the second IMC used by Clifford and Jerit (2015). The wordings of the survey questions are presented in Online Appendix A.

person held group traits or issue attitudes inconsistent with their partisanship. If people prefer interacting with co-partisans because of their assumed group traits or policy issues, they should feel less willing to build social relations with an individual whose group characteristics and issue attitudes are incongruent with their party image even if the person shares the same partisanship. Thus, our aim in these experiments is to examine how much respondents became less fond of co-partisans when they were offered information on the mediators.

As discussed in the previous section, we made the experimental vignettes informative enough that respondents could easily associate the hypothetical individuals' group traits and policy positions with the Democratic/Republican parties. Specifically, we described the fictitious persons as having stereotypically Democratic or Republican demographic and socioeconomic backgrounds by manipulating information on race/ethnicity, religious orientation, family structure, household income, and occupation. We selected these attributes based on previous studies of Americans' mental images of members of political parties (e.g., Ahler and Sood 2018; Goggin, Henderson and Theodoridis 2020; Mason and Wronski 2018).[6] For issue attitudes, we devised the vignettes so that the hypothetical individuals held either consistently liberal or conservative positions on four policy issues that are considered to be salient in explaining U.S. voter behavior today: abortion, gun control, immigration, and healthcare (e.g., Mummolo, Erik and Westwood 2021).[7]

[6]Unlike the partisanship and mediator variables, the name, gender, age, and state of residence of fictitious voters were not randomized but fixed at certain values. We did not experimentally manipulate the gender and age of the hypothetical individuals as these are considered to be only weakly associated with understandings of party labels (e.g., Goggin, Henderson and Theodoridis 2020). We chose fictitious names without racial or political connotations (Mike for male and Elizabeth for female hypothetical voters). Finally, we programmed the experiment so that the hypothetical men and women lived in Pennsylvania and Virginia, respectively—states that are neither particularly "blue" nor "red."

[7]We created the vignettes so that fictitious individuals' profiles reflect stereotypical images of Democrats and Republicans, but they are not representative of "typical" or "average" partisans in

Natural-Mediator Arm Elizabeth is a 35-year-old woman who lives in Virginia. In terms of politics, she considers herself a Republican.

Manipulated-Mediator Arm (Group Traits) Elizabeth is a single 35-year-old Black woman who lives in Virginia. She works for a restaurant chain to support her two children. Her annual household income last year was about $25,000. She is a Protestant but only goes to church every once in a while. In terms of politics, she considers herself a Republican.

Manipulated-Mediator Arm (Issue Positions) Elizabeth is a 35-year-old woman who lives in Virginia. In terms of politics, she considers herself a Republican. She supports laws that provide access to legal abortion, agrees with laws that restrict gun ownership, does not support the repeal of the Affordable Care Act, and does not think that the number of immigrants allowed to enter the United States should be decreased.

Figure 2: Example of Experimental Vignettes (Republican Woman)

Figure 2 lists the experimental vignettes that we used to describe a fictitious Republican woman. Participants in the natural-mediator arm were only told the person's name, age, gender, and state of residence (Elizabeth, 35 years old, woman, and Virginia, respectively). The vignettes for the manipulated-mediator arm also described Elizabeth's group traits or issue positions; she was described as a self-identified Republican, but respondents assigned to this arm were either told that Elizabeth was low-income and Black (group traits condition) or held consistently liberal positions on salient policy issues (policy issues condition).

After showing the respondents the experimental vignette, we asked them 5 questions to measure the extent of their interest in building both political and non-political social relations with the hypothetical voters presented, which is the outcome of interest. To capture the psychological distance between an experimental participant and the hypothetical voter, we asked respondents to evaluate the fictitious person using a feeling thermometer scale of 0 to 100. The respondents were

the contemporary U.S. As Ahler and Sood (2018) demonstrate, American voters' perceptions of the group compositions of the Democratic and Republican parties are not accurate. Furthermore, U.S. voters do not necessarily hold ideologically consistent opinions across issues (e.g., Baldassarri and Gelman 2008; Broockman 2016). However, we consider this as justifiable in light of our goal for creating the vignettes, which was to allow respondents to easily associate the descriptions of group traits/issue positions with partisanship.

then asked their willingness to (i) vote for the hypothetical individual if the person were to run for political office in their district, (ii) discuss politics with the person, (iii) become friends with the person, and (iv) become the person's neighbor, with 4-point Likert scales. The first two items are examples of political social relationships, and the latter two represent non-political interactions (or are related to politics only implicitly).

Statistical Methods

Let D_i be a binary variable that equals 1 if the respondent i is classified into the natural-mediator arm. The treatment variable of this research project, T_i, is an indicator variable that equals 1 if the respondent and the hypothetical voter profile shown to the respondent are co-partisans.[8] Because the partisanship of the fictitious voters is experimentally manipulated, we can assume that the values of T_i are also randomly assigned. We use a binary variable M_i for each mediator (group traits or issue positions), which takes a value of 1 when the fictitious voter holds a feature consistent with the stereotypical image of the party they identify with. For instance, for a respondent shown a hypothetical Republican voter profile opposing abortion and supporting stricter gun control, the Affordable Care Act, and an increase in immigration, the M_i for issue position is 0. As discussed in the previous section, we experimentally fix the value of this variable to 0 for respondents in the manipulated-mediator arm. The value of M_i is not observed for participants classified into the natural-mediator arm, so they guessed its value when answering the experimental items. Finally, Y_i is the outcome variable, where larger values represent "warmer" feelings toward the fictitious individual or greater willingness to interact with them. Using the potential outcome framework, the value of the outcome when $T_i = t$ and $M_i = m$ can be written as $Y_i(t, m)$ and the value of the mediator under the experimental arm d and $T_i = t$ is denoted as $M_i(t, d)$.

[8] We classify Democratic- and Republican-leaning independents as partisans. Those who identify as pure independents, who account for about 17% (Study 1) and 12.4% (Study 2) of the respondents, are removed from the analysis.

There are two quantities of interest for this research project. First, the average treatment effect (ATE) is the effect of shared partisanship on social interactions:

$$\text{ATE} = \mathbb{E}[Y_i(1) - Y_i(0)] = \mathbb{E}[Y_i(1, M_i(1,1)) - Y_i(0, M_i(0,1))].$$

This is the average effect of partisanship when respondents inferred the values of the mediators. The other quantity of interest, the average controlled direct effect (ACDE), is the effect of partisanship when the mediator of interest is fixed at a certain value m (in our case at 0):

$$\text{ACDE}(M = 0) = \mathbb{E}[Y_i(1,0) - Y_i(0,0)].$$

Thus, the ACDE represents the average degree to which respondents preferred a fictitious co-partisan with a mediator value inconsistent with the party stereotypes over an out-partisan with group traits or policy positions congruent with the respondents' (but incongruent with the person's) partisanship.

The ACDE is a quantity closely associated with the causal mechanisms of partisanship on social interactions. To examine the reason for this, we also define the eliminated effect, which is the simple difference between the ATE and ACDE:

$$\Delta(M = 0) = \mathbb{E}[Y_i(1) - Y_i(0)] - \mathbb{E}[Y_i(1,0) - Y_i(0,0)].$$

The eliminated effect represents the degree to which the mediator M of interest explains the effect of partisanship because it is, as shown in Acharya, Blackwell and Sen (2018), a combination of two aspects of the causal mechanism. Specifically, the eliminated effect is the sum of two quantities. The first is the average natural indirect effect (ANIE), which is the effect of treatment only through the mediator:

$$\text{ANIE} = \mathbb{E}[Y_i(1, M_i(1,1)) - Y_i(1, M_i(0,1))].$$

The other is the average reference interaction effect (ARIE), which summarizes how the direct

effect of partisanship varies due to natural variations in the mediator (i.e., respondents' guesses of the group traits and issue positions of the fictitious voters):

$$\text{ARIE}(M = 0) = \mathbb{E}\{[Y_i(1, M_i(0,1)) - Y_i(0, M_i(0,1))] - [Y_i(1,0) - Y_i(0,0)]\}.$$

The ANIE represents the degree to which the effect of partisanship on social relationships depends on the particular causal mechanism (i.e., the specific M). On the other hand, the ARIE represents the degree to which changes in a particular mediator alter the magnitude and direction of the effect of partisanship. Therefore, if the mediator of interest explains the effect of shared partisanship on building social relationships—i.e., if respondents favor members of their parties because of the irinferred group traits or policy positions, the corresponding ACDE will be smaller than the ATE.

According to Acharya, Blackwell and Sen (2016), the ACDE (and therefore the eliminated effect) can be nonparametrically identified based on the assumption that the assignment processes of both the treatment and the mediators are conditionally ignorable. Because we experimentally manipulate the values of T_i and M_i as explained above, we can estimate the ACDE of partisanship for each potential mediating variable. Although we cannot distinguish the indirect and interaction effects without making unrealistic assumptions, the ACDE and eliminated effect still provide useful information about the relative importance of each mediator in explaining the effect of partisanship on building social relationships.

We estimate the ATE and the ACDE using simple linear regression models. Specifically, we estimate the ATE by regressing Y_i on T_i using data from the natural-mediator arm. To estimate the ACDE, we regress Y_i on D_i, T_i, and D_iT_i using observations from the natural-mediator arm and those from the manipulated-mediator arm where information on the mediator of interest is present. Then, the coefficient on T_i corresponds to the estimate of the ACDE. As the experiment participants performed the tasks twice, we used clustered standard errors to evaluate the estimation uncertainty.

Expectations

Before presenting the results of the analysis of experimental data, we briefly summarize what we expect to find.

First, according to the literature on affective polarization, we expect that participants in our studies, on average, preferred co-partisans over out-partisans. Thus, the first hypothesis to be tested in this paper is:

Hypothesis 1 People feel warmer toward and prefer interacting with those who share partisanship over out-partisans.

If this hypothesis is empirically valid, we should observe a positive ATE of shared partisanship.

Previous studies on Americans' images of political parties (i.e., research focusing on the left-hand side of Figure 1) have shown that U.S. voters associate both group traits and policy issues with party labels. For instance, using survey experiments, Goggin, Henderson and Theodoridis (2020) demonstrate that American voters understand words "Democrat" and "Republican" both in terms of social groups (e.g., religion and occupation) and issue priorities. As another example, Busby et al. (2021) use open-ended survey items to reveal that a substantial portion of respondents use terms related to policy issues and social groups to describe supporters of the Democratic/Republican parties. The studies outlined in the introductory section offer further suggestive evidence of both the group-based and issue-based views. Therefore, we expect that both group traits and policy issues offer at least some explanation of the effect of partisanship on social interactions, and our aim in this paper is to determine which drives the impact of partisanship more strongly.

Is the underlying mechanism different between political and non-political relationships? Although it is tempting to assume that group characteristics explain non-political interactions more than policy issues and that the latter are the main reason for partisanship's effect on political relations, we expect that both explain the effect of party identification similarly for political and non-political relationships. Literature taking the group-based view of party identification (e.g., Green, Palmquist and Schickler 2002) and studies on the impact of social sorting on affective

polarization (Mason 2018; Mason and Wronski 2018) offer ample evidence that both group traits and policy issues explain the effect of partisanship on political interactions. Moreover, Chen and Rohla (2018) show that, people limited their 2016 Thanksgiving dinners with out-partisan family members to avoid talking about contentious topics, indicating that policy issues may serve as an important explanation of even non-political social interactions.

Thus, our second hypothesis is:

Hypothesis 2 Both group traits and policy issues explain the effect of partisanship on political and non-political social relationships.

Hypothesis 2a Group traits explain the effect of shared partisanship on social interactions more strongly than policy issues.

Hypothesis 2b Policy issues explain the effect of shared partisanship on social interactions more strongly than group traits.

As explained in the previous section, Hypothesis 2 suggests that the ACDEs for group traits and issue positions will be smaller than the ATE. To determine which of Hypotheses 2a and 2b is more empirically valid, we compare the magnitudes of the ACDEs for group traits and policy issues.

We also examine the potential heterogeneity of the ATE and ACDEs among the respondents. Specifically, we focus on two factors that can cause heterogeneity. First, we examine whether the ACDEs are different for self-identified Democrats and Republicans. Grossman and Hopkins (2015) contend that Democrats tend to understand politics in terms of social groups whereas Republicans are more likely to talk about politics in terms of ideology. From this argument, we expect the ACDE for group traits to be smaller than that for policy issues among self-identified Democrats and vice versa among their Republican counterparts.

Hypothesis 3 Group traits explain the effect of shared partisanship on social interactions more strongly for self-identified Democrats; in contrast, policy issues have stronger explanatory power among self-identified Republicans.

Second, we focus on the degree to which respondents are socially and ideologically sorted (Levendusky 2009; Mason 2018). Previous studies show that people with stereotypical images of the social and ideological characteristics of the Democratic and Republican parties as well as those who hold such stereotypic group traits or policy positions are more likely to feel distant from out-partisans (e.g., Ahler and Sood 2018; Mason and Wronski 2018; Lelkes 2021). It is natural to assume that socially sorted individuals tend to prefer members of their parties because of their demographic and socioeconomic characteristics, whereas ideologically sorted individuals weigh issue positions more heavily when deciding who to build social relations with. Therefore,

Hypothesis 4 The effect of shared partisanship is stronger among individuals who are socially or ideologically sorted.

Hypothesis 4a Group traits explain the effect of shared partisanship on social interactions more strongly than policy issues among socially sorted individuals.

Hypothesis 4b Policy issues explain the effect of shared partisanship on social interactions more strongly than group traits among ideologically sorted individuals.

Results

We first show experiment results for the first and second hypotheses. We then examine the heterogeneity among respondents (related to Hypotheses 3 and 4), followed by the presentation of robustness checks.[9]

Main Results

Figure 3 and Table B3 in Online Appendix summarize the results of the analysis of the experimental data. The left-hand plot of the figure illustrates the ATE and ACDEs of shared partisanship on

[9]As we only pre-registered the first and second hypotheses before fielding the survey experiments, analyses related to Hypotheses 3 and 4 should be considered secondary.

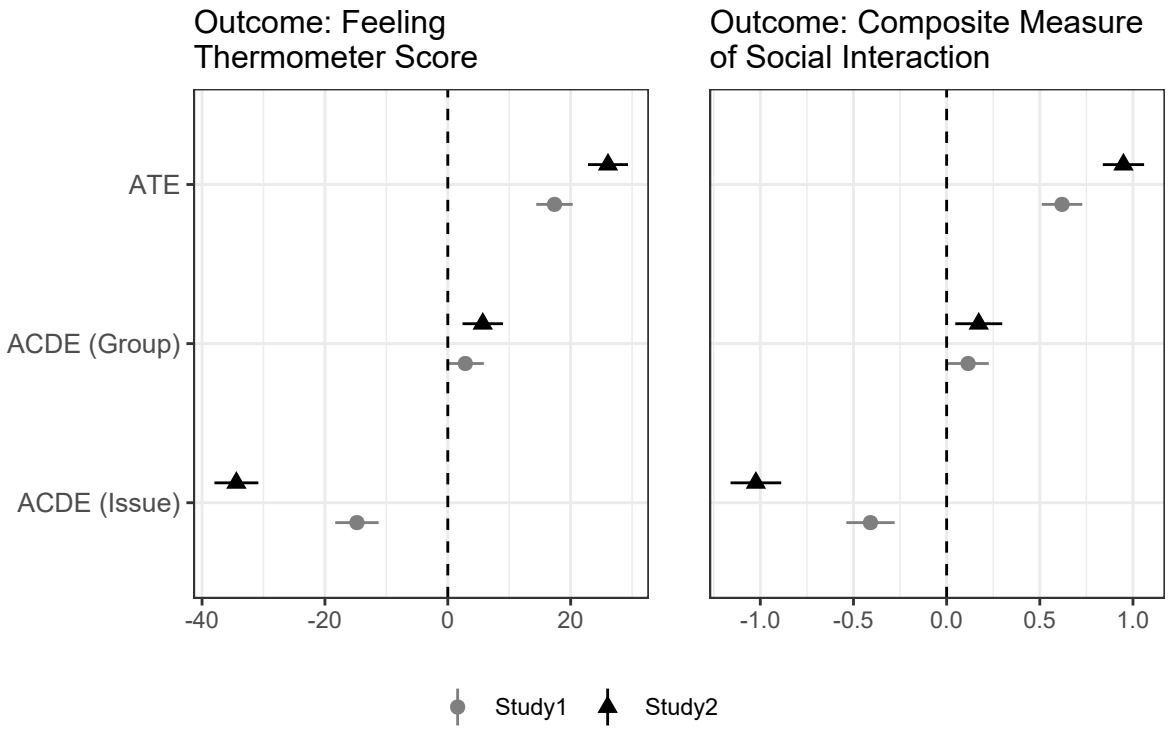

Figure 3: Effect of Partisanship on Feeling Thermometer Score and Composite Measure on Social Interaction

feeling thermometer scores and the right plot depicts those on the respondents' willingness to interact with the fictitious individuals. As shown in Appendix Table B2, the answers to social interaction items correlate well with one another; the polychoric correlation coefficients are higher than 0.55 for all outcome pairs in both studies, and Cronbach's α, a measure of internal consistency, is 0.87 for Study 1 and 0.86 for Study 2. Thus, we apply a graded response model (GRM) to the data and compute a composite measure of social interaction, which is the outcome of the analysis summarized in the right-hand plot of Figure 3. The solid symbols (circles for Study 1 and triangles for Study 2) represent the point estimates of the ATE/ACDEs and the horizontal segments are the corresponding 95% confidence intervals.

The top row of the figure illustrates the ATE of shared partisanship. As expected, the respondents felt significantly warmer toward members of their parties than toward their out-party counterparts, on average ($p < 0.01$). Similarly, the participants siginificantly preferred to build social relationships with co-partisans over out-partisans ($p < 0.01$). This result corroborates our

first hypothesis.

The second and third rows of the figure summarize the estimated ACDEs for group traits and issue positions. As suggested in Hypothesis 2, the ACDE is significantly smaller than the ATE for both mediators across studies. Comparing the ACDEs reveals that policy positions seem to explain the effect of partisanship more strongly than group characteristics. According to the figure, participants had a weak preference for a fictitious co-partisan who held group traits incongruent with their partisanship over an out-partisan who had a demographic and socioeconomic background consistent with their partisanship. In contrast, respondents significantly preferred an out-partisan who supported their parties' platform over a member of their party who had ideologically incongruent positions with their partisanship.

These findings indicate that U.S. voters today feel positively toward and prefer building social relations with co-partisans because they believe that members of their parties hold more "desirable" group traits and policy positions; thus, they feel more comfortable interacting with co-partisans. This is especially true for issue positions—because policy issues strongly explain the effect of shared partisanship, people will no longer favor a co-partisan if the person does not support their party's positions.

Effect Heterogeneity

To determine whether the effect of partisanship and the underlying causal mechanisms differ by respondents' party self-identification, Online Table B4 summarizes the ATE and ACDEs estimated using data of self-identified Democrats and Republicans separately. Contrary to Hypothesis 3, among both self-identified Democrats and Republicans, the ACDE for issue positions is significantly smaller than that for group characteristics; i.e., policy issues explain the effect of shared partisanship more strongly than group traits not only among self-identified Republicans but also among their Democratic counterparts. The results listed in Table B4 in fact imply that group traits exerted a somewhat stronger impact among self-identified Republicans and issue positions explained the effect of partisanship more strongly among the self-identified Democrats. Though on average the

self-identified Democrats still preferred a hypothetical Democrat even if the person held group traits incongruent with the party's image, self-identified Republicans no longer favored a co-partisan if the person held a stereotypically Democratic demographic and socioeconomic background. The reason for such a pattern should be the agenda for future research.

Next, to examine the impact of social and issue sorting on the effect of partisanship on social interactions, we reestimate the regression models using data from Study 2 by adding the interaction terms between the treatment variable, T_i, and each of the sorting measures. The results are summarized in Appendix Table B5. To operationalize the degree of social sorting, we adopt the question item by Mason and Wronski (2018) on objective social sorting. The variable for social sorting ranges from 0 to 1 and captures the extent to which each self-identified Democratic/Republican respondents felt close to the social groups typically associated with the Democratic/Republican Parties (Black, Hispanic, Atheist/Not Religious, and Liberal for Democrats; White, Christian, and Conservative for Republicans). For issue sorting, we first apply a GRM to the items that asked respondents their positions on salient policy issues (abortion, gun control, same-sex marriage, health care, and immigration) with a 5-point ordinal scale to compute an ideal point for each respondent, where larger values represent more conservative positions. We then negate the ideal points for self-identified Democrats to obtain the measure of issue sorting.

To facilitate the interpretation of the results, we calculate the ATE/ACDEs when each of the sorting measures is fixed at high (mean plus 1 standard deviation) and low (mean minus 1 standard deviation) values, which are illustrated in Figure 4. Because the results are quite similar for the feeling thermometer scores and the composite measure of social interaction, we only depict the ATE/ACDEs for the latter in the figure. The left pane of the figure summarizes the ATE and ACDEs interacted with the social sorting measure, and the right plot illustrates those by the degree of issue sorting. The first row of the figure shows that, as expected in Hypothesis 4, the effect of shared partisanship is significantly larger among respondents who are highly sorted in terms of social groups or policy issues than among those who are less sorted ($p < 0.01$). However, contrary to Hypothesis 4a, policy issues explain the causal effect of shared partisanship more strongly even

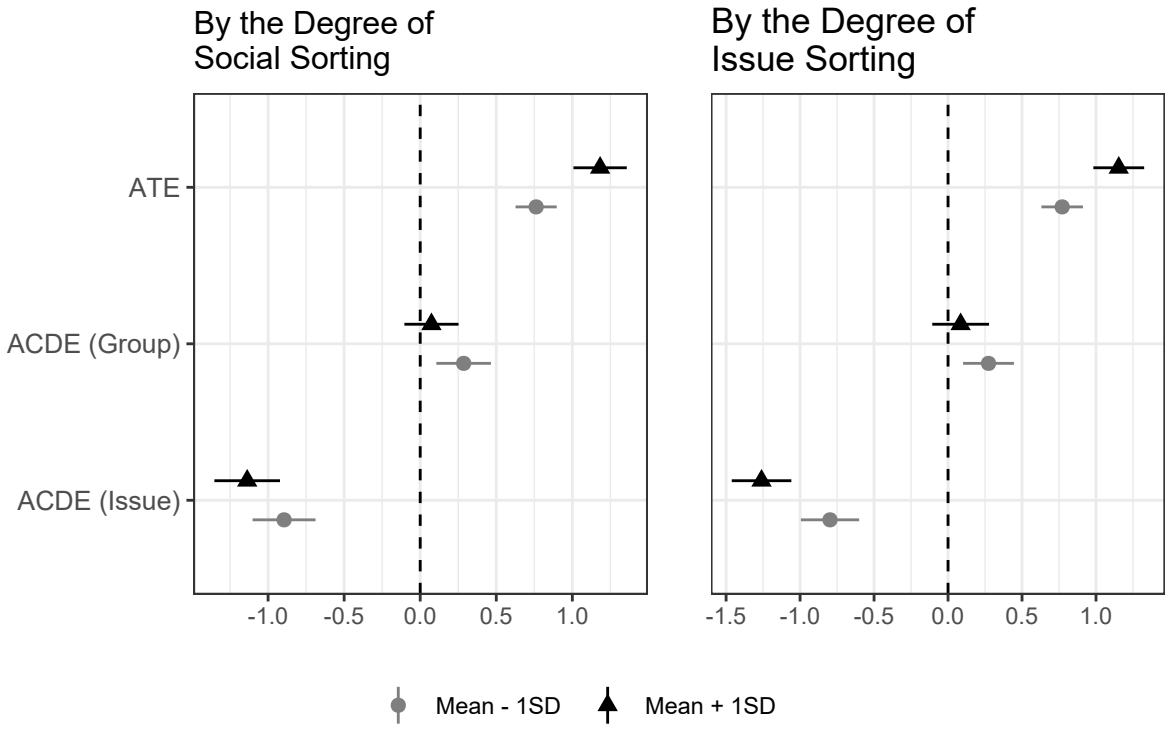

Figure 4: Effect of Partisanship on the Composite Measure of Social Interaction by the Degree of Social and Ideological Sorting

among respondents who are socially sorted. Upon closer examinination of the results, as suggested by the studies supporting the issue-based view, the ACDE for policy issues is smaller among more ideologically sorted individuals than among those who are less so ($p < 0.01$). In contrast, the ACDE for group traits is statistically indistinguishable beween socially sorted and unsorted respondents ($p > 0.1$).

We consider this result to reinforce the findings described above, namely that policy positions explain the effect of shared partisanship more strongly even among socially sorted respondents—i.e., individuals who, theoretically, weigh people's demographic and socioeconomic backgrounds in deciding who to build social relations with. However, the question wording on social sorting may not have been able to adequately capture the concept that the corresponding items intended to measure, influencing the observed pattern. Future research should improve the measurement of social sorting to investigate whether policy issues still matter more than group traits among socially sorted individuals.

Robustness Checks

We examine the robustness of the above findings in several ways.

First, because of differences in our descriptions of the fictitious voters' demographic and socioeconomic backgrounds in the experimental vignettes, the patterns in the ACDEs for group traits can differ substantially based on the hypothetical persons' gender. In contrast, because we used the same wording to describe fictitious individuals' issue attitudes regardless of their gender, the ACDE for policy issues should be equivalent. Table B6 in Online Appendix summarizes the ATE/ACDEs estimated using observations for the fictitious man and woman separately. The table shows that, as expected, the ACDEs for policy issues are statistically indistinguishable between hypothetical man and woman for both outcomes. In contrast, group traits seem to explain the effect of shared partisanship more strongly for the hypothetical man than for the woman: the respondents favored a hypothetical male co-partisan with group traits incongruent with the party stereotypes over an out-partisan, but they no longer held this preference when the fictitious person was a woman. However, we observe the same pattern as above for both fictitious man and woman; the effects of partisanship on social interactions are more strongly explained by policy issues than group characteristics.

Second, participants may have adjusted their responses for the second fictitious person based on their experiences in the first task, which may have impacted our findings. To guard against this possibility, we reestimate the regression models in Appendix Table B3 using observations only from the first task and summarize the results in Table B7. The results are reassuring: the effect of shared partisanship declines when information on the mediators is presented, and the ACDE for policy issues is significantly smaller than that for group traits. Although we find some differences in statistical significance between Tables B3 and B7, it is likely due to the smaller sample sizes used for the regression analyses summarized in Table B7 from subsetting.

Third, the ATE and ACDEs of shared partisanship on social relationships can differ between respondents who read the survey instructions carefully and those who were inattentive to the question items. This is potentially concerning especially for Study 1, in which less than half of

the participants passed the IMC. To determine whether and how much survey satisficing influences the patterns obtained above, we reanalyze the data only using the observations of respondents who correctly answered the IMC. The results of this analysis are summarized in Appendix Table B8, which demonstrates that restricting the sample to attentive respondents achieves the same patterns as those presented in Table B3.

Finally, although the respondents' answers to the social interaction items were relatively well correlated with one another, the ATE and ACDEs may differ across different types of social relationships. Thus, we reestimate the regression models of social interaction using respondents' willingness to build each type of social relationship as the outcome variable instead of the composite measure. Table B9 in Online Appendix shows that group traits explain the effect of shared partisanship more strongly for non-political social relations, such as becoming friends or next-door neighbors, than explicitly political interactions, such as voting and political discussion. The respondents preferred the hypothetical co-partisan for political relations even if the person had demographic and socioeconomic characteristics incongruent with the party stereotypes, but they no longer favored such an individual for non-political interactions. However, the overall pattern is similar across outcomes: both group traits and policy issues explain the causal effect of shared partisanship on social interactions, though the latter exert a stronger impact than the former.

Conclusion

This paper aimed to examine why contemporary U.S. voters prefer co-partisans to out-partisans in building both political and non-political social relationships. For this purpose, we conducted original survey experiments suitably designed to empirically study the causal mechanism linking partisanship and social interactions. Analysis of the experimental data revealed that U.S. citizens today favor co-partisans because they believe that members of their parties hold "desirable" group traits and issue attitudes that match the stereotypical images of their parties. We also compared the two mechanisms, which demonstrated that policy positions explain the effect of partisanship on

social relationships more strongly than group traits. We believe that this paper can contribute to the literature on American mass political behavior by revealing the individual-level mechanisms of affective polarization.

This research can be improved and extended in several ways. First, as discussed in the previous section, future research should examine why policy issues explained the effect of partisanship more strongly than group traits, even among respondents who were expected to weigh group traits in deciding who to build social relations with, such as self-identified Democrats and socially sorted individuals. Our understanding of the nature of affective polarization in the contemporary U.S. may be furthered by examining the extent to which this effect is due to methodological issues (e.g., information included in the experimental vignettes, measurement of social sorting) and investigating the characteristics of individuals who weigh demographic and socioeconomic backgrounds more heavily in building social relations.

Second, design of our experiment can be revised and extended in several ways. For example, it would be worthwhile to examine the ACDEs when offering respondents information on the fictitious individual's group traits and issue positions consistent with the person's partisanship to see whether the results are consistent with those of our current studies. Our study design can also be extended to examine whether the same causal mechanisms apply to other types of outcomes. Recent studies point out that affective polarization can lead to extreme outcomes such as political violence (Graham and Svolik 2020; McCoy and Somer 2019; but see Broockman, Kalla and Westwood 2021), partisan dehumanization (e.g., Cassese 2021; Martherus et al. 2021), and willingness to harm out-partisans (*partisan schadenfreude*; Webster, Glynn and Motta 2021). Revealing why affective polarization leads to such extreme outcomes is an important topic that future research should engage with.

Third, the findings of this paper imply that we could alleviate the affective polarization by correcting the stereotypical images that people hold about the Democratic and Republican parties' group compositions and policy platforms. While some recent studies have addressed methods for decreasing affective polarization among rank-and-file partisans (e.g., Druckman et al. N.d.; Huddy

and Yair 2021; Wojcieszak and Warner 2020), they have not examined the impact of correcting partisan stereotypes. Future research should extend the logic and design of our paper to explore whether and by how much we can decrease animosity toward out-partisans and facilitate social interactions between Democrats and Republicans.

Finally, our study can provide certain insights into research on affective polarization outside the U.S. Some studies focus on where affective polarization is observed among the mass public and why in countries other than the U.S. (e.g., Boxell, Gentzkow and Shapiro 2021; Gidron, Adams and Horne 2020; Harteveld 2021; Kekkonen and Ylä-Anttila 2021; Wagner 2021). We suggest that social and ideological sorting can serve as a potential explanation for the rise in affective polarization in other countries as well as in the U.S. The experimental design in this paper will also be useful for empirical research outside the contect of the U.S.

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Online Appendix for "Party Identification and Social Relationships: Exploring the Causal Mechanisms"

April 17, 2022

A. Survey Question Wording

Items and alternatives with a dagger mark (†) were shown in randomized orders.

Demographic Information

We first want to know a bit about you.

Sex

What is your sex?

- Male
- Female

Age

What is your age?

- 18–29
- 30–39
- 40–49
- 50–59
- 60–69
- 70 and over

State of residence

In which state do you currently live?
[Drop-down list of 50 states are shown.]

Race/ethnicity

What is your race/ethnicity?

- White
- Black or African American
- Hispanic
- Asian
- American Indian or Alaska Native
- Other

Education

What is the highest level of education that you have completed?

- Less than high school
- High school or GED
- Some college or trade school
- Four-year college degree
- Graduate degree (towards masters or doctoral degree)

Household income

What was your annual household income last year, before taxes?

- Less than $30,000
- $30,000–$39,999
- $40,000–$49,999
- $50,000–$59,999
- $60,000–$69,999
- $70,000–$79,999
- $80,000–$89,999
- $90,000–$99,999
- More than $100,000

Religion

What is your religion. if any?

- Mainline Protestant
- Evangelical Protestant
- Catholic
- Mormon
- Orthodox (Eastern, Greek, etc.)
- Other Christian
- Jewish
- Muslim
- Buddhist
- Hindu
- Sikh
- Other
- Atheist
- Agnostic
- Nothing in particular

Church attendance

How often do you attend religious services, apart from occasional weddings, baptisms or funerals?

- Every week
- Almost every week
- Once or twice a week
- A few times a year
- Never

Party Identification

Generally speaking, do you think of yourself as a Republican, a Democrat, an Independent, or what?

- Democrat†
- Republican†
- Independent
- Other

(To those who answered "Democrat") Would you call yourself a strong Democrat or a not very strong Democrat?

- Strong Democrat
- Not very strong Democrat

(To those who answered "Republican") Would you call yourself a strong Republican or a not very strong Republican?

- Strong Republican
- Not very strong Republican

(To those who answered "Independent" or "Other") Do you think of yourself as closer to the Republican or Democratic Party?

- Democratic Party†
- Republican Party†
- Neither

Issue Positions

We would like to know your opinions on recent political issues.
Do you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with these statements? Please mark one answer on each statement.

- The federal government should make it more difficult for people to buy a gun.†
- Abortion should be legal in all circumstances.†
- The Affordable Care Act should be abolished.†
- Same-sex marriages should have the same rights as traditional marriages.†

- The number of immigrants allowed into the United States should be decreased.†
  - Strongly agree
  - Somewhat agree
  - Neither agree nor disagree
  - Somewhat disagree
  - Strongly disagree

Objective Social Sorting (Study 2 Only)

We want to know a bit more about you.
Of the following groups how close do you feel towards them? By 'close' we mean people who are most like you in their ideas, interests, and feelings.

- White
- Black or African American
- Hispanic
- Christian
- Atheist/No Religion
- Liberal
- Conservative
  - Very closely
  - Fairly closely
  - Not too closely
  - Not at all closely

Political Knowledge

In the next part of this study, you will be asked several questions about politics. Many people don't know the answers to these questions, but it is helpful for us if you attempt to answer them, even if you're not sure what the correct answer is. Please do not look up any answers. If you do not know the answer to a question, we encourage you to guess.

Do you happen to know which party has the most members in the United States House of Representatives as of today?

- Democrats†
- Republicans†

Do you happen to know what job or political office Nancy Pelosi currently holds?
[open-ended response]

Do you happen to know what job or political office Amy Coney Barrett currently holds?
[open-ended response]

Do you happen to know what job or political office Boris Johnson currently holds?
[open-ended response]

Do you happen to know what job or political office António Guterres currently holds?
[open-ended response]

Do you happen to know how many times an individual can be elected President of the United States under current law?

- 1
- 2
- 3
- 4
- No limit

For how many years is a United States Senator elected; that is, how many years are there in one full term of office for a United States Senator?
[Number entry]

How much of a majority is required for the United States Senate and House to override a presidential veto?

- 1/2
- 2/3
- 3/4
- 4/5

Can you explain what Medicare is?

- A program run by the U.S. federal government that pays for older people's health care†
- A program run by state governments to provide health care to lower income people†
- A private health insurance plan sold to individuals in all 50 states†
- A private, non-profit organization that runs free health clinics†

What was the unemployment rate as of October 2021? (Study 2 only)

- 3%
- 5%
- 7%
- 9%

On which of the following does the U.S. federal government currently spend the least?

- Foreign aid†
- Medicare†
- National defense†
- Social Security†

Instructional Manipuation Check

We are also interested in what sections of the newspaper people like to read because what people read in the paper might affect their opinions on current events. We additionally want to see if people are reading the survey questions carefully.

To show that you've read this question, please mark both the "Business" and "None of the above" boxes below. That's right—just select these two options only, regardless of your true preferences.

Regardless of how frequently you read the newspaper, what would you say are your favorite newspaper sections to read? Please check all that apply.

- National
- Local
- Classified
- Sports
- Business
- Science and Technology
- Opinion
- None of the above

Experimental Vignette and Question Item

Introduction

In the next section, we will show you descriptions of two respondents from our previous survey. Please read the descriptions carefully and answer the questions that follow.

Experimental Vignette

Description of a Fictitious Male **Display one of the following six.*

PID only (Democrat) Mike is a 40-year-old man who lives in Pennsylvania. In terms of politics, he considers himself a Democrat.

PID only (Republican) Mike is a 40-year-old man who lives in Pennsylvania. In terms of politics, he considers himself a Republican.

PID + Group Traits (Democrat) Mike is a 40-year-old white man who lives in Pennsylvania. He is the owner of a small family business that he took over from his father after finishing high school. His annual household income last year was about $65,000. He considers himself a "born-again" Christian and goes to church every Sunday. In terms of politics, he considers himself a Democrat.

PID + Group Traits (Republican) Mike is a 40-year-old Asian American man who lives in Pennsylvania. He works as an attorney. His annual household income last year was about $100,000. He is a vegan and considers himself an atheist. In terms of politics, he considers himself a Republican.

PID + Issue Position (Democrat) Mike is a 40-year-old man who lives in Pennsylvania. In terms of politics, he considers himself a Democrat. He supports laws that restrict access to abortion, disagrees with laws that restrict gun ownership, supports the repeal of the Affordable Care Act, and thinks that the number of immigrants allowed to enter the United States should be decreased.

PID + Issue Position (Republican) Mike is a 40-year-old man who lives in Pennsylvania. In terms of politics, he considers himself a Republican. He supports laws that provide access to legal abortion, agrees with laws that restrict gun ownership, does not support the repeal of the Affordable Care Act, and does not think that the number of immigrants allowed to enter the United States should be decreased.

Description of a Fictitious Female **Display one of the following six.*

PID only (Democrat) Elizabeth is a 35-year-old woman who lives in Virginia. In terms of politics, she considers herself a Democrat.

PID only (Republican) Elizabeth is a 35-year-old woman who lives in Virginia. In terms of politics, she considers herself a Republican.

PID + Group Traits (Democrat) Elizabeth is a married 35-year-old white woman who lives in Virginia. Her husband is an office manager and she is a homemaker. She homeschools their three children to provide them with a faith-based education. Her family's annual household income last year was about $65,000. She considers herself a "born-again" Christian and goes to church every Sunday. In terms of politics, she considers herself a Democrat.

PID + Group Traits (Republican) Elizabeth is a single 35-year-old Black woman who lives in Virginia. She works for a restaurant chain to support her two children. Her annual household income last year was about $25,000. She is a Protestant but only goes to church every once in a while. In terms of politics, she considers herself a Republican.

PID + Issue Position (Democrat) Elizabeth is a 35-year-old woman who lives in Virginia. In terms of politics, she considers herself a Democrat. She supports laws that restrict access to abortion, disagrees with laws that restrict gun ownership, supports the repeal of the Affordable Care Act, and thinks that the number of immigrants allowed to enter the United States should be decreased.

PID + Issue Position (Republican) Elizabeth is a 35-year-old woman who lives in Virginia. In terms of politics, she considers herself a Republican. She supports laws that provide access to legal abortion, agrees with laws that restrict gun ownership, does not support the repeal of the Affordable Care Act, and does not think that the number of immigrants allowed to enter the United States should be decreased.

Question Items

Feeling Thermometer We'd like to get a sense of your initial feelings towards this person based on the information we shared with you about them. We'll use something called a "feeling thermometer." You can choose any number from 0 to 100. 100 means that you have extremely warm or favorable feelings towards this person. 0 means that you have extremely cool or unfavorable feelings towards this person. 50 means that you don't feel particularly warm or cool towards this person.

- (Slide bar ranging from 0 to 100 is desplayed.)

Preferences for Social Interactions Based on the information that we provided about this person, to what extent do you agree or disagree with the following statements?

- If this person ran for political office to represent my district, I would vote for them.[†]
- I would want to have conversations about politics with this person.[†]
- I would want to become friends with this person.[†]
- I would feel pleased if this person moved into my neighborhood.[†]
  - Strongly agree
  - Somewhat agree
  - Neither agree nor disagree
  - Somewhat disagree
  - Strongly disagree

Debriefing

This is the end of the survey.

This survey was meant to capture whether and how much Americans today take politics into consideration in building relationships with others.
Although we explained that we showed you "descriptions of respondents from our previous survey," these descriptions were, in fact, descriptions of fictitious individuals.
This was done only for research purposes and not with the intent to deceive you.

Thank you for your time and cooperation.

B. Additional Tables

Table B1: Sample Characteristics for Study 1 and 2

	Study 1 (Lucid)	Study 2 (Prolific)
Sex		
Man	875 (48.3%)	587 (48.8%)
Woman	936 (51.7%)	616 (51.2%)
Age		
18–29	338 (18.7%)	282 (23.4%)
30–39	383 (21.1%)	218 (18.1%)
40–49	336 (18.6%)	194 (16.1%)
50–59	262 (14.7%)	213 (17.7%)
60–69	307 (17.0%)	231 (19.2%)
70 and over	185 (10.2%)	65 (5.4%)
Race & Ethnicity		
White	1,334 (73.7%)	905 (75.2%)
Black or African American	217 (12.0%)	163 (13.5%)
Hispanic	129 (7.1%)	37 (3.1%)
Asian	79 (4.4%)	77 (6.4%)
Others	52 (2.9%)	21 (1.7%)
Education		
Less than High School	54 (3.0%)	5 (0.4%)
High School or GED	471 (26.0%)	127 (10.6%)
Some college	620 (34.2%)	362 (30.1%)
Bachelor's degree	463 (25.6%)	458 (38.1%)
Graduate degree	203 (11.2%)	251 (20.9%)
Party Identification		
Strong Democrat	487 (27.2%)	349 (29.3%)
Not strong Democrat	222 (12.4%)	208 (17.4%)
Leaning Democrat	133 (7.4%)	183 (15.4%)
Independent	304 (17.0%)	148 (12.4%)
Leaning Republican	122 (6.8%)	80 (6.7%)
Not strong Republican	196 (10.9%)	118 (9.9%)
Strong Republican	327 (18.3%)	106 (9.0%)
Attention Check		
% Passed Instructional Manipulation Check	742 (41.2%)	1,063 (88.4%)

Table B2: Polychoric Correlation between Outcome Variables on Social Interactions

(a) Study 1

	Voting	Discuss Politics	Friendship	Neighborhood
Voting	1.000	-	-	-
Discuss Politics	0.639	1.000	-	-
Friendship	0.704	0.665	1.000	-
Neighborhood	0.674	0.625	0.791	1.000

(b) Study 2

	Voting	Discuss Politics	Friendship	Neighborhood
Voting	1.000	-	-	-
Discuss Politics	0.556	1.000	-	-
Friendship	0.705	0.664	1.000	-
Neighborhood	0.679	0.585	0.799	1.000

Table B3: Results Summary of Mediation Experiment

(a) Outcome: Composite Measure of Social Interaction						
	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
(Intercept)	−0.233***	0.055	0.135**	−0.522***	−0.091*	0.333***
	(0.044)	(0.042)	(0.042)	(0.045)	(0.045)	(0.046)
Treatment	0.619***	0.115*	−0.409***	0.949***	0.172**	−1.024***
	(0.055)	(0.057)	(0.066)	(0.056)	(0.064)	(0.069)
D		−0.287***	−0.367***		−0.431***	−0.855***
		(0.058)	(0.058)		(0.061)	(0.063)
D × Treatment		0.504***	1.028***		0.777***	1.973***
		(0.077)	(0.087)		(0.082)	(0.090)
Adj. R^2	0.117	0.062	0.076	0.320	0.158	0.281
N	1000	2003	2003	667	1378	1397
(b) Outcome: Feeling Thermometer Score						
	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
(Intercept)	50.716***	59.489***	63.480***	38.363***	51.356***	66.058***
	(1.107)	(1.171)	(1.099)	(1.269)	(1.183)	(1.148)
Treatment	17.367***	2.848+	−14.784***	26.077***	5.693***	−34.411***
	(1.511)	(1.539)	(1.799)	(1.655)	(1.680)	(1.818)
D		−8.773***	−12.765***		−12.993***	−27.695***
		(1.538)	(1.503)		(1.659)	(1.683)
D × Treatment		14.519***	32.151***		20.384***	60.488***
		(2.125)	(2.366)		(2.296)	(2.488)
Adj. R^2	0.133	0.071	0.100	0.308	0.169	0.343
N	946	1881	1895	652	1357	1376

Clustered standard errors are in parentheses. $+p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001$.

Table B4: Results Summary of Mediation Experiment (by Respondents' Party Self-Identification)

(a) Outcome: Composite Measure of Social Interaction (self-identified Democrats)

	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
Treatment	0.596***	0.198*	−0.505***	1.013***	0.178*	−1.245***
	(0.079)	(0.077)	(0.091)	(0.062)	(0.074)	(0.076)
D		−0.172*	−0.343***		−0.409***	−0.961***
		(0.082)	(0.083)		(0.069)	(0.071)
D × Treatment		0.398***	1.101***		0.836***	2.259***
		(0.107)	(0.120)		(0.093)	(0.099)
Adj. R^2	0.101	0.055	0.081	0.373	0.195	0.366
N	559	1130	1137	487	972	1009

(b) Outcome: Composite Measure of Social Interaction (self-identified Republicans)

	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
Treatment	0.633***	0.014	−0.283**	0.777***	0.160	−0.437**
	(0.076)	(0.081)	(0.094)	(0.124)	(0.120)	(0.138)
D		−0.430***	−0.391***		−0.448***	−0.589***
		(0.080)	(0.079)		(0.121)	(0.130)
D × Treatment		0.620***	0.916***		0.617***	1.214***
		(0.110)	(0.125)		(0.167)	(0.185)
Adj. R^2	0.139	0.075	0.073	0.199	0.091	0.115
N	441	873	866	180	406	388

(c) Outcome: Feeling Thermometer Score (self-identified Democrats)

	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
Treatment	17.476***	5.724**	−14.528***	27.583***	6.119**	−40.927***
	(2.138)	(2.179)	(2.462)	(1.902)	(1.950)	(1.927)
D		−5.140*	−11.270***		−11.862***	−30.628***
		(2.193)	(2.169)		(1.925)	(1.847)
D × Treatment		11.752***	32.005***		21.465***	68.510***
		(3.024)	(3.255)		(2.655)	(2.758)
Adj. R^2	0.122	0.067	0.094	0.344	0.200	0.435
N	529	1055	1081	477	958	993

(d) Outcome: Feeling Thermometer Score (self-identified Republicans)

	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
Treatment	16.845***	−1.054	−15.339***	21.998***	4.847	−17.610***
	(2.108)	(2.075)	(2.612)	(3.326)	(3.152)	(3.772)
D		−13.677***	−14.494***		−14.740***	−20.527***
		(2.042)	(2.033)		(3.186)	(3.600)
D × Treatment		17.899***	32.184***		17.151***	39.608***
		(2.909)	(3.419)		(4.393)	(5.017)
Adj. R^2	0.146	0.090	0.112	0.217	0.113	0.153
N	417	826	814	175	399	383

Clustered standard errors are in parentheses. $+p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001$.

Table B5: Results Summary of Mediation Experiment (Interaction w/ Sorting Measures)

(a) Outcome: Composite Measure of Social Interaction						
	w/ Social Sorting			w/ Issue Sorting		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
Treatment	−0.204	0.771*	−0.338	0.803***	0.258**	−0.836***
	(0.308)	(0.372)	(0.459)	(0.066)	(0.080)	(0.092)
Treatment × Social Sorting	1.565***	−0.787	−0.902			
	(0.422)	(0.486)	(0.607)			
Treatment × Issue Sorting				0.289**	−0.142	−0.349**
				(0.086)	(0.102)	(0.114)
Adj. R^2	0.346	0.183	0.289	0.335	0.167	0.307
N	656	1355	1365	660	1365	1383
(b) Outcome: Feeling Thermometer Score						
	w/ Social Sorting			w/ Issue Sorting		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
Treatment	−13.755	0.771*	−0.338	22.634***	0.258**	−0.836***
	(8.940)	(0.372)	(0.459)	(2.113)	(0.080)	(0.092)
Treatment × Social Sorting	53.741***	−0.787	−0.902			
	(12.175)	(0.486)	(0.607)			
Treatment × Issue Sorting				6.783*	−0.142	−0.349**
				(2.629)	(0.102)	(0.114)
Adj. R^2	0.335	0.183	0.289	0.320	0.167	0.307
N	642	1355	1365	645	1365	1383

Clustered standard errors are in parentheses. $+p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001$.

Table B6: Results Summary of Mediation Experiment (by Fictitious Person's Gender)

(a) Outcome: Composite Measure of Social Interaction (Fictitious Male)

	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
Treatment	0.703***	0.165*	−0.345***	0.893***	0.296***	−1.075***
	(0.076)	(0.080)	(0.092)	(0.078)	(0.088)	(0.093)
D		−0.329***	−0.433***		−0.374***	−0.812***
		(0.082)	(0.082)		(0.088)	(0.087)
D × Treatment		0.538***	1.048***		0.597***	1.968***
		(0.111)	(0.120)		(0.118)	(0.121)
Adj. R^2	0.142	0.076	0.080	0.280	0.150	0.277
N	506	1020	989	334	691	697

(b) Outcome: Composite Measure of Social Interaction (Fictitious Female)

	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
Treatment	0.529***	0.065	−0.467***	1.005***	0.049	−0.975***
	(0.074)	(0.077)	(0.091)	(0.073)	(0.090)	(0.090)
D		−0.241**	−0.289***		−0.490***	−0.898***
		(0.081)	(0.080)		(0.083)	(0.084)
D × Treatment		0.463***	0.995***		0.956***	1.981***
		(0.107)	(0.118)		(0.116)	(0.116)
Adj. R^2	0.092	0.046	0.074	0.360	0.169	0.286
N	494	983	1014	333	687	700

(c) Outcome: Feeling Thermometer Score (Fictitious Male)

	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
Treatment	19.263***	4.104+	−15.752***	23.545***	10.148***	−34.163***
	(2.032)	(2.154)	(2.411)	(2.161)	(2.288)	(2.416)
D		−9.954***	−16.745***		−8.987***	−25.909***
		(2.264)	(2.187)		(2.328)	(2.262)
D × Treatment		15.159***	35.015***		13.397***	57.708***
		(2.962)	(3.153)		(3.147)	(3.241)
Adj. R^2	0.156	0.086	0.116	0.263	0.157	0.322
N	479	960	934	327	681	686

(d) Outcome: Feeling Thermometer Score (Fictitious Female)

	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
Treatment	15.217***	1.667	−13.945***	28.633***	1.126	−34.712***
	(2.006)	(2.085)	(2.486)	(2.130)	(2.331)	(2.352)
D		−7.363***	−8.683***		−17.135***	−29.495***
		(2.068)	(2.052)		(2.218)	(2.232)
D × Treatment		13.551***	29.162***		27.508***	63.345***
		(2.893)	(3.194)		(3.157)	(3.173)
Adj. R^2	0.108	0.055	0.089	0.354	0.191	0.363
N	467	921	961	325	676	690

Clustered standard errors are in parentheses. $+p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001$.

Table B7: Results Summary of Mediation Experiment (Using Data Only from the First Round)

(a) Outcome: Composite Measure of Social Interaction						
	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
(Intercept)	−0.171**	0.075	0.154**	−0.541***	−0.043	0.384***
	(0.059)	(0.058)	(0.054)	(0.061)	(0.063)	(0.058)
Treatment	0.516***	0.126	−0.439***	1.018***	0.148+	−1.109***
	(0.075)	(0.079)	(0.090)	(0.081)	(0.089)	(0.084)
D		−0.247**	−0.326***		−0.497***	−0.925***
		(0.083)	(0.080)		(0.088)	(0.084)
D × Treatment		0.390***	0.955***		0.869***	2.127***
		(0.109)	(0.117)		(0.120)	(0.117)
Adj. R^2	0.084	0.046	0.062	0.326	0.175	0.311
N	493	968	1028	314	651	717
(b) Outcome: Feeling Thermometer Score						
	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
(Intercept)	52.903***	60.848***	64.498***	37.800***	53.019***	67.628***
	(1.531)	(1.605)	(1.444)	(1.613)	(1.736)	(1.419)
Treatment	17.097***	2.293	−15.305***	29.512***	6.832**	−37.311***
	(2.039)	(2.130)	(2.438)	(2.137)	(2.378)	(2.207)
D		−7.945***	−11.595***		−15.219***	−29.828***
		(2.218)	(2.105)		(2.370)	(2.149)
D × Treatment		14.804***	32.402***		22.680***	66.823***
		(2.948)	(3.178)		(3.198)	(3.072)
Adj. R^2	0.131	0.070	0.100	0.375	0.215	0.398
N	456	894	956	306	641	709

Clustered standard errors are in parentheses. $+p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001$.

Table B8: Results Summary of Mediation Experiment (Using Data of Respondents Passed IMC)

(a) Outcome: Composite Measure of Social Interaction						
	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
(Intercept)	−0.438***	−0.118+	0.088	−0.536***	−0.117*	0.334***
	(0.061)	(0.061)	(0.065)	(0.047)	(0.048)	(0.051)
Treatment	0.827***	0.203*	−0.563***	0.957***	0.164*	−1.034***
	(0.080)	(0.090)	(0.105)	(0.060)	(0.069)	(0.075)
D		−0.321***	−0.526***		−0.419***	−0.870***
		(0.085)	(0.085)		(0.064)	(0.068)
D × Treatment		0.624***	1.390***		0.792***	1.991***
		(0.118)	(0.135)		(0.087)	(0.097)
Adj. R^2	0.214	0.118	0.136	0.320	0.158	0.280
N	434	837	851	597	1226	1243
(b) Outcome: Feeling Thermometer Score						
	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
(Intercept)	47.732***	57.404***	63.056***	38.065***	50.741***	66.199***
	(1.627)	(1.624)	(1.718)	(1.333)	(1.268)	(1.217)
Treatment	21.268***	3.854	−18.485***	25.753***	5.578**	−34.850***
	(2.267)	(2.345)	(2.793)	(1.768)	(1.804)	(1.941)
D		−9.672***	−15.324***		−12.676***	−28.134***
		(2.251)	(2.310)		(1.757)	(1.776)
D × Treatment		17.414***	39.753***		20.175***	60.603***
		(3.242)	(3.694)		(2.469)	(2.662)
Adj. R^2	0.201	0.111	0.150	0.298	0.165	0.341
N	411	798	820	584	1208	1224

Clustered standard errors are in parentheses. $+p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001$.

Table B9: Results Summary of Mediation Experiment (Different Types of Social Interactions)

(a) Outcome: Vote for the Fictitious Individual

	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
Treatment	1.113***	0.407***	−0.432***	1.569***	0.619***	−1.254***
	(0.074)	(0.075)	(0.085)	(0.072)	(0.083)	(0.088)
D		−0.327***	−0.667***		−0.430***	−1.189***
		(0.078)	(0.077)		(0.079)	(0.083)
D × Treatment		0.706***	1.545***		0.951***	2.823***
		(0.102)	(0.113)		(0.105)	(0.113)
Adj. R^2	0.201	0.120	0.107	0.446	0.258	0.335
N	997	1998	1997	666	1377	1396

(b) Outcome: Discuss Politics

	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
Treatment	0.606***	0.181*	−0.242**	0.964***	0.307**	−0.984***
	(0.073)	(0.075)	(0.078)	(0.088)	(0.096)	(0.091)
D		−0.095	−0.380***		−0.350***	−1.065***
		(0.079)	(0.076)		(0.097)	(0.096)
D × Treatment		0.425***	0.848***		0.657***	1.948***
		(0.102)	(0.106)		(0.128)	(0.129)
Adj. R^2	0.069	0.038	0.036	0.155	0.081	0.147
N	998	1998	1997	666	1377	1395

(c) Outcome: Become Friends

	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
Treatment	0.504***	0.078	−0.450***	0.786***	−0.007	−1.064***
	(0.063)	(0.068)	(0.076)	(0.071)	(0.079)	(0.081)
D		−0.276***	−0.265***		−0.403***	−0.762***
		(0.069)	(0.067)		(0.076)	(0.077)
D × Treatment		0.425***	0.954***		0.792***	1.849***
		(0.091)	(0.101)		(0.104)	(0.109)
Adj. R^2	0.061	0.031	0.053	0.168	0.073	0.195
N	996	1994	1994	667	1377	1397

(d) Outcome: Become Next-Door Neighbors

	Study 1			Study 2		
	ATE	ACDE (Group)	ACDE (Issue)	ATE	ACDE (Group)	ACDE (Issue)
Treatment	0.565***	−0.019	−0.526***	0.923***	0.061	−1.059***
	(0.064)	(0.065)	(0.076)	(0.070)	(0.077)	(0.078)
D		−0.411***	−0.356***		−0.572***	−0.801***
		(0.066)	(0.066)		(0.075)	(0.073)
D × Treatment		0.584***	1.091***		0.862***	1.982***
		(0.089)	(0.100)		(0.103)	(0.105)
Adj. R^2	0.076	0.041	0.065	0.228	0.109	0.227
N	998	1999	1996	666	1377	1395

Clustered standard errors are in parentheses. $+p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001$.

C. Details of the Pre-Registration

Below is the anonymized version of the pre-registration, which can also be found at https://aspredicted.org/blind.php?x=2MM_43J (for Study 1) and https://aspredicted.org/blind.php?x=VK9_STK (for Study 2).

1) Have any data been collected for this study already?

No, no data have been collected for this study yet.

2) What's the main question being asked or hypothesis being tested in this study?

Hypothesis 1 (affective polarization) On average, partisans feel colder toward/less willing to interact with out-partisans than their copartisan counterparts.

Hypothesis 2 (Explanatory power of group traits and issue positions)

Hypothesis 2a Group traits better explain the effect of partisanship on the feeling thermometer and social relationships.

Hypothesis 2b Policy issues better explain the effect of partisanship on the feeling thermometer and social relationships.

3) Describe the key dependent variable(s) specifying how they will be measured.

1. Feeling thermometer score toward the fictitious individuals (0–100)
2. Respondent willingness to interact with hypothetical individuals (vote, discuss politics, become friends, become next-door neighbors; 5-point scale from "Strongly agree" to "Strongly disagree")

4) How many and which conditions will participants be assigned to?

The experiment employs the 2 (fictitious person's partisanship [Democrat or Republican]) $\times$ 3 (presence of the information of mediators [no information on the mediators (natural-mediator arm), group traits are presented, or issue positions are presented (manipulated-mediator arms)]) design. Respondents will perform the evaluation task twice (one for a hypothetical man, the other for a fictitious woman).

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

The purpose of the research project is to examine why U.S. voters prefer copartisans over out-partisans in building social relationships. For this purpose, this study asks survey respondents their feelings toward and willingness to build social relations with fictitious individuals. By randomly changing the partisanship of the hypothetical individuals, we can examine whether and how much respondents prefer copartisans to out-partisans (Hypothesis 1). In addition, by offering additional information on the fictitious persons' group traits and issue positions to a random subset

of respondents, the experimental design enables us to examine how much the causal effect of shared partisanship is explained by these potential mediators (Hypothesis 2). In analyzing the experimental data, we will follow Acharya, Sen, and Blackwell (2018). The quantity of interest for Hypothesis 1 is the average treatment effect (ATE) of shared partisanship. We can estimate the ATE from the linear regression model of the outcome (see Question 2) on the binary variable on shared partisanship, using data from the natural-mediator arm. To test Hypothesis 2, we will compare the average controlled direct effects (ACDEs) of group traits and issue positions. We can estimate the ACDE with the linear regression model using observations from the natural-mediator arm and the manipulated mediator arm in which the information on the mediator under focus is presented.

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

Pure Independents (i.e., respondents who consider themselves as Independent and feel close to neither the Democrat nor Republican party) will be excluded from the main analysis.

7) How many observations will be collected or what will determine sample size?
No need to justify decision, but be precise about <u>exactly</u> how the number will be determined.

(Study 1) 1,800 (= 300 for each experimental group)

(Study 2)1,200 (= 200 for each experimental group)

8) Anything else you would like to pre-register?
(e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

(Study 1)
We will examine whether the ACDEs of group traits and policy issues will vary by respondents' partisanship, political knowledge, racial attitudes, and issue positions. However, this analysis is meant to be exploratory.

(Study 2)
We will examine whether the ACDEs of group traits and policy issues will vary by respondents' partisanship, political knowledge, degree of objective social sorting (Mason and Wronski 2018), issue positions, and degree of conflict avoidance. However, this analysis is meant to be exploratory.