

The Social Consequences of Political Anger*

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Abstract

A functioning democracy relies on social interactions between people who disagree—including listening to others’ viewpoints, having political discussions, and finding political compromise. Yet, social life in the contemporary United States is characterized by a relative lack of interaction between Democrats and Republicans (or, social polarization). We argue that political anger contributes to social polarization by leading partisans to cut off ties with opposing partisans. We first draw on data from the American National Election Studies and the Wesleyan Media Project to show that the mass public is increasingly angry and that politicians increasingly seek to elicit anger. We then present results from a survey experiment on nearly 3,500 Americans, finding that the exogenous introduction of anger causes citizens to socially polarize across a range of settings. Our findings suggest that the increasing levels of political anger paralyze politics and harm democracy by influencing Americans’ social interactions and relationships.

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1 Introduction

Debate and disagreement are central to the political enterprise. Indeed, a functioning democracy relies on social interactions between people who disagree—including listening to others’ viewpoints, having political discussions, and finding political compromise. However, despite their importance to the proper working of the political process, debate between those who disagree politically is rare. In fact, those on opposite political sides are unlikely to even have friendly social interactions, let alone fruitful political discussions, with each other. Today, Democrats and Republicans dislike each other to unprecedented degrees: partisans discriminate against opposing partisans in terms of where they want to live, with whom they want to be friends, and whom they want their children to marry. This partisan-based discrimination exceeds discrimination based on race (Iyengar and Westwood, 2015), and exists even when Democrats and Republicans *agree* on issues (Mason, 2015). The hatred for the opposing party has surpassed just ingroup bias—people today do not necessarily vote *for* their own party’s candidate but vote *against* the opposing party’s candidate (Abramowitz and Webster, 2016).

Though much of this antipathy is attributable to partisanship’s increasing importance as a social identity (e.g., Iyengar, Sood and Lelkes, 2012; Iyengar and Westwood, 2015; Mason, 2015, 2018), we argue that anger among the mass public—which is often stoked by politicians—is an important and overlooked cause of Americans’ tendency to engage in patterns of behavior that increase social polarization and exacerbate partisan divides. Drawing on a survey experiment of nearly 3,500 Americans that exogenously varies levels of anger, we show that when people are politically angry, they are less likely to create new social ties and are more likely to cut off current social ties with out-partisans. These results suggest that political anger causes people to base their social relationships (or lack thereof) on partisan politics, producing an America where Democrats and Republicans neither interact socially nor work towards political compromise.

Importantly, we show that anger causes Democrats and Republicans to engage in social po-

larization across a wide range of areas. For example, our results indicate that angry partisans are more likely than non-angry partisans to become socially polarized in relatively trivial ways: refusing to help an out-partisan neighbor; avoiding a conversation with an out-partisan at a social event; rejecting an invitation to have coffee, a drink, or a meal with an out-partisan; not joining a club with out-partisan members; and not going on a date with an out-partisan. Further, though, our findings also show that anger causes individuals to become socially polarized in more costly ways: ending a close friendship with an out-partisan; attenuating ties with a close family member who is an out-partisan; and, finally, disapproving of one's son or daughter marrying an out-partisan. These results suggest that anger drives decisions about various aspects of one's social life—making these decisions increasingly based on partisanship and contributing to polarization.

This paper proceeds as follows: first, we outline recent work on partisan antipathy in the United States and build a theory as to why anger should cause individuals to engage in patterns of behavior that exacerbate social polarization. We then use the American National Election Studies (ANES) and the Wesleyan Media Project to show the increasing levels of anger among the public as well as the increasing solicitations of anger from politicians. Next we explicate our experimental design before showing a series of results consistent with the expectation that political anger causes social polarization. Lastly, we draw on a measure of “self-monitoring”—a trait that captures one's tendency to misrepresent oneself to appease others (Berinsky, 2004; Berinsky and Lavine, 2011; Gangestad and Snyder, 2000)—to demonstrate that our experimental findings are not the result of strategic answering on the part of survey respondents. Finally, we conclude with some thoughts about the implications of our results for the future of American politics.

2 Social Polarization in American Politics

Americans are politically divided. While previous political eras have seen bipartisan cooperation and higher amounts of split-ticket voting, the modern era is defined by heightened amounts of

partisan loyalty (Jacobson, 2015), increased ideological thinking typical of the “new partisan voter” (Bafumi and Shapiro, 2009), higher amounts of partisan sorting (Levendusky, 2009), and a growing dislike between Democrats and Republicans (Mason, 2018; Iyengar and Westwood, 2015). This schism between supporters of the two major political parties is so great that a recent study by the Pew Research Center found that Democrats and Republicans increasingly view supporters of the opposing party as “closed-minded,” “unpatriotic,” “immoral,” and “lazy” (Pew Research Center, 2019). Such attribution of negative stereotypes to out-partisans has led to social distancing from—and deliberate attempts to minimize interactions with—supporters of the opposing party (see, e.g., Keith Chen and Rohla, 2018).

What is perhaps most striking about the degree of social polarization in American politics is that its effects extend beyond the political arena. Indeed, Americans increasingly discriminate against each other based on partisan identities in domains that are inherently *apolitical*. Iyengar and Westwood (2015), for instance, find that individuals are more willing to award a scholarship to a hypothetical individual when the applicant and the awardee share the same partisan identification. These results persist even when the out-partisan applicant is noted as being more qualified than the in-partisan applicant. Remarkably, Iyengar and Westwood (2015) note that, “discrimination based on party affiliation exceeds discrimination based on race.”

Related work has found that these patterns of discriminatory behavior exist in more explicitly economic realms as well. Engelhardt and Utych (2018) use a survey experiment to show that Democrats and Republicans prefer to sell football tickets to co-partisans, and that they offer a lower selling price for co-partisans than they do for out-partisans. This finding corroborates earlier work, which finds that individuals prefer to work for co-partisans and consumers prefer to purchase goods and services from co-partisans (McConnell et al., 2018; Panagopoulos et al., 2019). These politically-rooted economic biases are also found in online marketplaces. Indeed, scholars have shown that people prefer to buy goods on eBay from individuals who they perceive as sharing their own political and cultural tastes (Elfenbein, Fisman and McManus, N.d.).

While these previous studies have all illustrated the ways in which partisanship affects how Americans interact with each other, their findings are all attributable to the effect of partisan *identity* on social polarization. Partisanship likely acts as a heuristic through which individuals infer characteristics about others and, accordingly, produces behavioral biases. Yet partisan identity cannot be the full story—social polarization is not perfectly predicted by partisan identity strength. Thus, to more fully understand *why* social polarization has reached the levels we see today, we argue that partisan anger contributes to social polarization. Indeed, in nationally-representative observational data, anger predicts the consequences of partisan-based social polarization—having a social network of politically similar friends, family, neighbors, and coworkers.¹ This is true even when controlling for partisan strength, partisanship, ideology, ideological extremity, age, gender, education, race, and income ($p=.053$). This suggestive evidence of the downstream effects of anger, along with our experimental findings on the immediate effects of political anger on social polarization *over and above* what already exists, gives us reason to believe that partisan anger is a threatening contributor to the behaviors that produce social polarization. Below, we explain why we expect this to be the case.

2.1 Why Should Political Anger Influence Social Polarization?

Social psychologists have long known the power of emotions and their ability to shape individual- and group-level behavior. Anger, in particular, has been shown to greatly affect behavior and judgment. When people are angry they are more likely to rely on simple heuristics and stereotypes

¹Data is from American National Election Studies (ANES) 2000. OLS model predicts continuous dependent variable of the political homogeneity of one's social network (0-1, from completely heterogenous to completely homogenous). Controls included: partisan dummy, partisan strength, ideological dummy, ideological extremity, age, gender, education, race, and income. Anger, measured by asking, "How often would you say you've felt angry – very often, fairly often, occasionally, or rarely?" and coded from 0 (rarely) to 3 (very often), predicts network homogeneity at a marginally significant level (coefficient=0.03, $p=.053$). The full model results can be found in Table A.2 in the Appendix.

when evaluating people, places, or objects (Bodenhausen, Sheppard and Kramer, 1994). Moreover, because it is an emotion with a negative valence (Moons, Eisenebrger and Taylor, 2010; Schwarz and Clore, 1983), individuals who are angry tend to evaluate items in a negative fashion (Bower, 1991).

In addition to altering individuals' judgments, behaviors, and perceptions, anger pushes those who are experiencing it toward some action or set of actions that are meant to alleviate their frustration. Averill's (1982) work in this area shows that anger is oftentimes directed at some specific target. Indeed, Averill (1982) notes, "the typical episode of anger involves an attribution of responsibility [or] an accusation . . . that the target [of one's anger] has done something wrong." Because anger involves an attribution of blame and a desire to alleviate one's irritation or frustration, individuals who are angry often take action against that which elicited their anger—be it a person, group of people, or some institution (Allred, 1999).

In terms of politics, then, anger at the opposing party should cause individuals to want to take an action or set of actions against the opposing party. The most natural expectation is that individuals who are angry with the opposing party should be most likely to vote for their own party or, perhaps more negatively, *against* the opposing party (see, e.g., Abramowitz and Webster, 2016). However, anger is an emotion that is not easily compartmentalized. In fact, experiencing anger in one setting can—and oftentimes does—spill over to other area's of one's life (Forgas and Moylan, 1987). Accordingly, it is possible for political anger to cause individuals to engage in some sort of *social* retaliatory action or set of actions beyond traditional *political* acts such as voting, canvassing, or donating money.

Drawing on these behavioral implications of anger, we expect that those who are made angry at the opposing political party will engage in social behavior that extends beyond actions normally undertaken in the political realm in an attempt to both alleviate their frustration and exact retribution on the source of their anger. Indeed, we expect anger to cause individuals to take some social action or set of actions against that which most readily and visibly represents the oppos-

ing party: its supporters. More specifically, we expect that anger will cause individuals to take a series of actions across a multitude of domains that, as whole, will serve to increase social polarization between Democrats and Republicans. These actions—among others—include refusing to assist out-partisan neighbors with various tasks, declining to speak with supporters of the opposing party, opting against having coffee or a meal with an out-partisan, avoiding social gatherings or clubs that are heavily attended by opposing partisans, refusing first date requests with out-partisans, being disappointed if one’s son or daughter decides to marry a supporter of the opposing party, and even severing close friendships with out-partisans and distancing oneself from close family members who support the opposing party.

Understanding whether and how political anger affects apolitical social behavior is not merely an intellectual curiosity. On the contrary, understanding the full effects of anger in the contemporary era could not be more important. Indeed, data from Gallup indicate that Americans are increasingly experiencing anger in their daily lives: as of 2018, 22% of Americans reported that they “experienced anger yesterday.” This figure represents an increase of nearly 30% from 2017.²

Though the anger measured by Gallup deals with issues that extend beyond politics, observational data suggests that Americans are also angry specifically about politics. Though not uniformly so, Americans’ anger with political figures has increased with each election year. Drawing on data from the American National Election Studies (ANES) cumulative data file, Figure 1 plots the proportion of Americans who reported ever feeling angry at the opposing party’s presidential candidate for the period from 1980 to 2016.³ In 1980, when the ANES first began to track anger toward the parties’ presidential candidates, just under 50% of respondents reported feeling angry

²The full Gallup report can be found at <https://news.gallup.com/poll/249098/americans-stress-worry-anger-intensified-2018.aspx>.

³For self-identifying Democrats, this measure captures whether or not the respondent ever felt angry toward the Republican Party’s presidential candidate. For self-identifying Republicans, this measure captures whether or not the respondent ever felt angry toward the Democratic Party’s presidential candidate. Those who self-identified as independents who lean toward one of the two parties are classified as partisans.

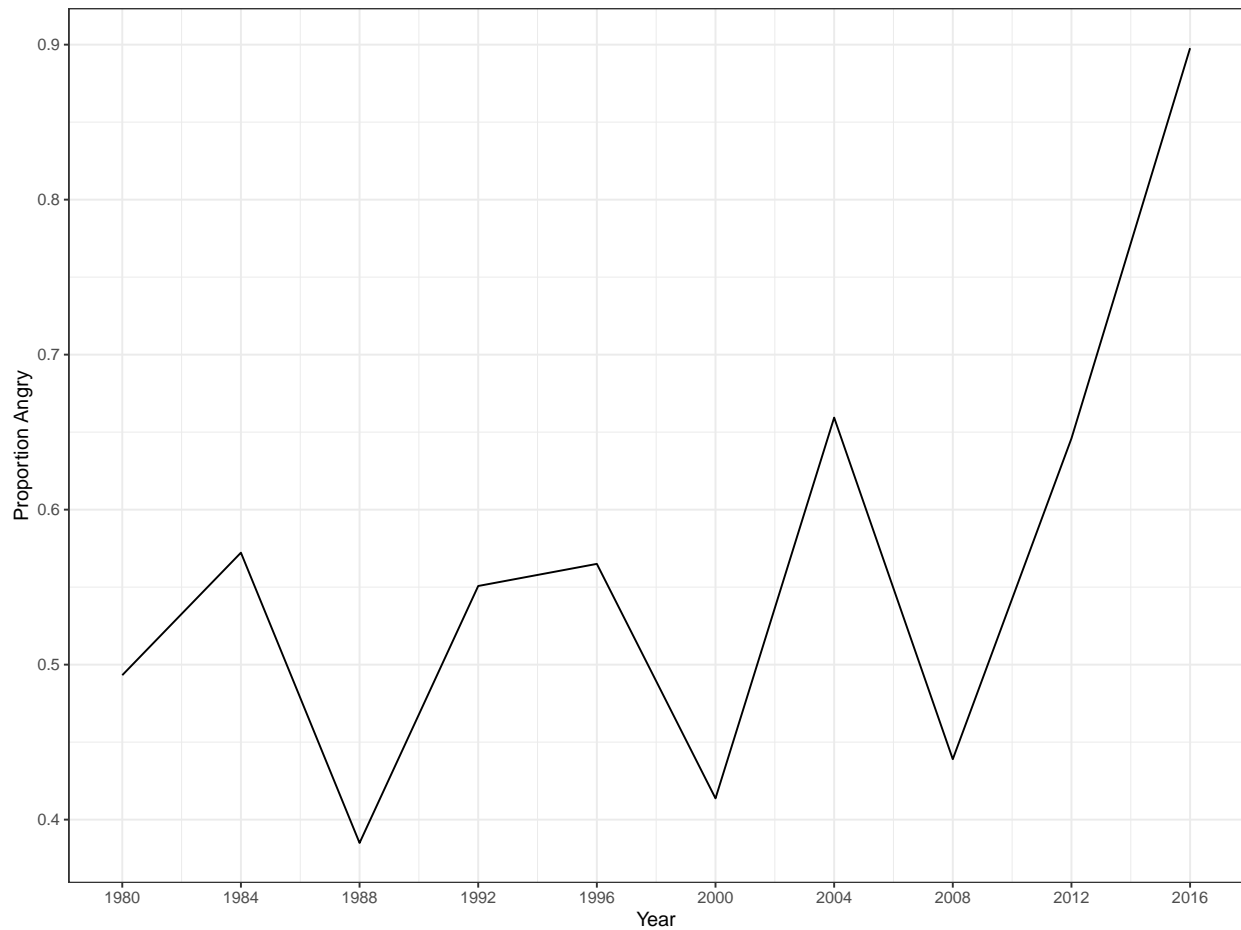


Figure 1: *Anger Toward the Out-Party Presidential Candidate.* This figure shows the proportion of Americans who reported that they felt angry with the opposing party's presidential candidate for the period from 1980 to 2016. Data come from the ANES cumulative data file.

toward the out-partisan presidential candidate. By 2004, 65.9% of respondents felt angry toward the opposing party's presidential candidate. This measure soared in 2016, with just under 90% of respondents indicating that they were angry with the opposing party's presidential candidate.

However, despite the overtime increase in anger among the mass public shown in Figure 1, it is clear that this increase has not been monotonic. On the contrary, in some electoral cycles—such as 1984, 2004, or 2016—anger appears to be a particularly salient feature of political competition. In other years—such as 1988 or 2000—mass-level anger is less pronounced. Though there are many reasons why anger may be more or less salient in a given electoral cycle, a significant proportion of mass-level anger is likely attributable to deliberate actions undertaken by political figures. Indeed, political elites may seek to arouse anger because it can be useful for a politician's electoral pursuits (Webster, 2020; Freeman, 2018). One such action is the production of anger-inducing campaign advertisements. An analysis of presidential, House, Senate, and gubernatorial campaign advertisement data from the Wesleyan Media Project—shown in Table 1—suggests that approximately 50% of all campaign advertisements that aired during each of the 2010, 2012, 2014, and 2016 election cycles sought to appeal to voter anger to varying degrees.⁴ Because citizens tend to mimic the anger that they see displayed by political elites (Gervais, 2017), and because around half of all campaign advertisements that have aired in the modern era have sought to elicit anger among the mass public, attentive citizens have plenty of opportunities to be exposed to anger-inducing political stimuli.

⁴We are limited to these years because the Wesleyan Media Project did not begin tracking appeals to anger in campaign advertisements until the 2010 election. Note that, due to contractual agreements, the 2016 data does not contain presidential advertisements (it does, however, include Senate, House, and gubernatorial elections). For more information on the Wesleyan Media Project, see <http://mediaproject.wesleyan.edu/>.

Year	Some Anger	Strong Anger	Total pct.
2010	27.59	21.09	48.68
2012	32.41	18.90	51.31
2014	35.85	14.30	50.15
2016	37.00	17.11	54.11

Table 1: *Anger in Political Campaign Advertisements*. This table shows the percentage of political campaign advertisements that made either “some appeals” to anger or “strong appeals” to anger from 2010 to 2016.

Anger, then, is an emotion increasingly expressed by both politicians and the mass public. However, the public is neither perpetually nor uniformly angry. On the contrary, the degree to which Americans express political anger varies across electoral cycles. This variation occurs—at least partially—due to differences in elites’ attempts to arouse their base and citizens’ attentiveness to such appeals.⁵ Understanding how these varying levels of mass-level anger spill over to affect social considerations is the task to which we now turn.

3 Experimental Design

To examine the ways in which anger affects social polarization, we fielded a survey experiment via the Lucid Fulcrum Academic platform in Winter 2020.⁶ Our experiment is comprised of 3,416 respondents who identified with either the Democratic or Republican Party.⁷ The demographic and partisan profiles of Lucid users compare favorably to those found in the ANES (for more on Lucid, see Coppock and McClellan, 2019). Summary statistics for our sample can be found in Table A.1 of the Appendix.

⁵Other sources of variation in mass-level anger include media exposure, the composition of peer discussion networks, world events, and the state of the economy.

⁶Our survey was fielded to 4,128 respondents; however, because we are interested in the ways in which partisan anger affects social polarization, we dropped those individuals who identified as “completely independent” prior to the randomization stage.

⁷Partisan affiliation is measured on the typical 7-point scale. Those who indicated that they are an independent but lean toward one of the two parties are classified as partisans.

Before the experimental manipulation, we asked survey respondents a series of demographic questions—such as their birth year, gender, racial affiliation, and educational attainment. Respondents were also asked about their partisanship and ideological leanings, both on the standard 7-point scale. Additionally, we asked a set of questions to measure self-monitoring, a trait that captures one’s tendency to misrepresent oneself to appease others (Berinsky, 2004; Berinsky and Lavine, 2011; Gangestad and Snyder, 2000). As one’s level of self-monitoring increases, their likelihood of changing their attitudes and behavior to present oneself well to others also increases (Berinsky, 2004).⁸

After these questions, respondents were randomly presented with an anger-inducing stimulus. To elicit anger among survey respondents, we relied on an experimental technique known as “emotional recall.” Popular in psychology and increasingly used to study topics of interest to political science, this technique asks individuals to write about a time they experienced a given emotion (here, anger). By doing this, respondents will temporarily re-experience—or “recall”—how they felt during the recounted episode. Accordingly, survey respondents will temporarily experience the emotion about which they were asked to write (see, for instance, Lerner and Keltner, 2001; Webster, 2018). The specific prompt used in our study asked individuals to write about a time they were very angry with the opposing political party. The control group asked individuals to write about what they ate for breakfast in the morning. Asking individuals to describe what they ate for breakfast in the morning is a useful control because it is orthogonal to any emotional state (see, for instance, Webster, 2018; Lerner and Keltner, 2001).

Because our experimental manipulation requires anger to be directed at the opposing political

⁸Three questions comprise our measure of self-monitoring. The first question asks respondents how often they “put on a show” in order to impress or entertain others; the second question asks survey respondents to indicate how often they are “the center of attention” when they are with a group of people; and, finally, the third question asks individuals to rate how good or poor of an actor they would be. We then combine responses to each of these questions into an additive scale ranging from 0 to 12, where higher scores indicate a greater likelihood of engaging in self-monitoring. See Berinsky and Lavine (2011).

party, randomization into either the treatment or the control group occurred after first blocking on an individual's self-identified partisanship. Thus, individuals who answered that they were either a "strong Democrat," a "weak Democrat," or an "independent who leans toward the Democratic Party" were asked to either write about a time they were very angry at the Republican Party or to describe what they ate for breakfast that morning. Analogously, survey respondents who identified as a "strong Republican," a "weak Republican," or an "independent who leans toward the Republican Party" were asked to write about a time they were very angry at the Democratic Party or to describe what they ate for breakfast that morning.

After being randomized into either the treatment or control, respondents were asked a series of questions designed to measure their behavior in various social settings with out-partisans. Specifically, respondents were asked to indicate how they would behave in a variety of situations involving a supporter of the opposing political party. In each case, this individual was described specifically as a Democrat (for those who indicated a Republican identification from our pre-treatment questionnaire) or a Republican (for those who indicated a Democratic identification from our pre-treatment questionnaire).

To begin, respondents were asked how often they would do each of the following activities for their out-partisan neighbor: do favors for him or her, watch over his or her property while they are not home or are on vacation, ask him or her about personal things, or talk to him or her about politics. Responses to each of these activities included "never," "sometimes," "about half the time," "most of the time," or "always." We then re-coded these variables to range from 0 to 4, where higher values indicate a greater frequency of doing each of the listed activities.

Additionally, we asked survey respondents what they would do if they were at a party or social gathering and found out that the person they were talking to was a supporter of the opposing party. Responses range from "continue talking to them, including about politics" to "attack their political views." Respondents could also indicate that they would "continue talking to them, but not about politics," "try to find a polite way out of the conversation," or "leave the conversation without

worrying about being polite.” As before, we re-coded this variable to a numeric scale ranging from 0 to 4, where higher values indicate a more aggressive approach (e.g., “attack their political views”).

Relatedly, we asked survey respondents what they would do if there was a social gathering or party that they would normally go to or join but new information suggested that it would be mostly members of the opposing party in attendance. We also asked what respondents would do if a member of the opposing party asked them to have coffee, a drink, or a meal with them. In a similar vein, we asked whether respondents would go on a first date with a member of the opposing party if asked. Each of these questions had responses ranging from “certainly go” to “say no and talk badly about” the other person. Each of these measures was coded to range from 0 to 4, where higher values indicate a more socially polarized response.

We also asked survey respondents a series of questions about their relationships with their close family members and close friends. One question asked how survey respondents would react if they found out that a close family member was a supporter of the opposing party, while another asked this same question but in regards to a close friend. Responses ranged from “I would treat them the exact same” (or “change nothing about the friendship”) on the least socially polarizing end of the scale to “I would cut them out of my life as much as possible, and I would attack their political beliefs” (or “I would end the friendship”) on the most socially polarizing end. Respondents were also asked how comfortable they are having close personal friends who are supporters of the opposing party and how comfortable they are having neighbors on their street who are supporters of the opposing party—both questions have possible responses ranging from “extremely uncomfortable” to “extremely comfortable” (see Iyengar and Westwood, 2015).

We also asked respondents to answer three questions pertaining to romantic relationships. In one question, respondents were asked whether they would approve of the relationship if they found out that a close friend or family member was dating a supporter of the opposing party. A related question asked respondents how happy they would be if their friend, an in-party supporter, got a di-

voiced from their spouse (an out-party supporter). The last question in this series asked respondents to indicate the extent to which they would be upset if their son or daughter was going to marry a supporter of the opposing party (see Iyengar and Westwood, 2015).

Finally, we asked one question about “fake news.” Respondents were asked to imagine that they had just read a news article that was critical of the opposing party. However, respondents were told that this article was “deemed to be questionable in terms of its accuracy.” Despite this warning about the veracity of the article’s contents, respondents were asked how likely they would be to share it with friends or family members. Potential answers range from “extremely unlikely” to “extremely likely.” The full text, and response set, to this and all of our social polarization measures can be found in the Appendix.

Because the assignment to the anger or control prompt was randomized conditional on an individual’s partisan identification, the conditional average treatment effect (CATE) is estimated as follows:

$$E[Y | T = 1, P] - E[Y | T = 0, P], \tag{1}$$

where Y denotes one of the measures of social polarization described above, T denotes treatment status ($T = 1$ for treatment, $T = 0$ for control), and P represents an individual’s partisan affiliation.

4 The Effect of Anger on Social Polarization

Before we present the results of our experiment we first show balance statistics for individuals who were randomized into the treatment and control conditions. These comparisons are shown in Figure 2. As shown in Figure 2, there are no statistically significant differences between the treated and control groups in terms of racial identity, ideological leanings, gender, educational attainment, or age. This balance between treated and control units exists for both Democrats and Republicans.

Because the randomization process worked as intended and our treated and control units are balanced on observable covariates, we estimate the effect of political anger on social polarization

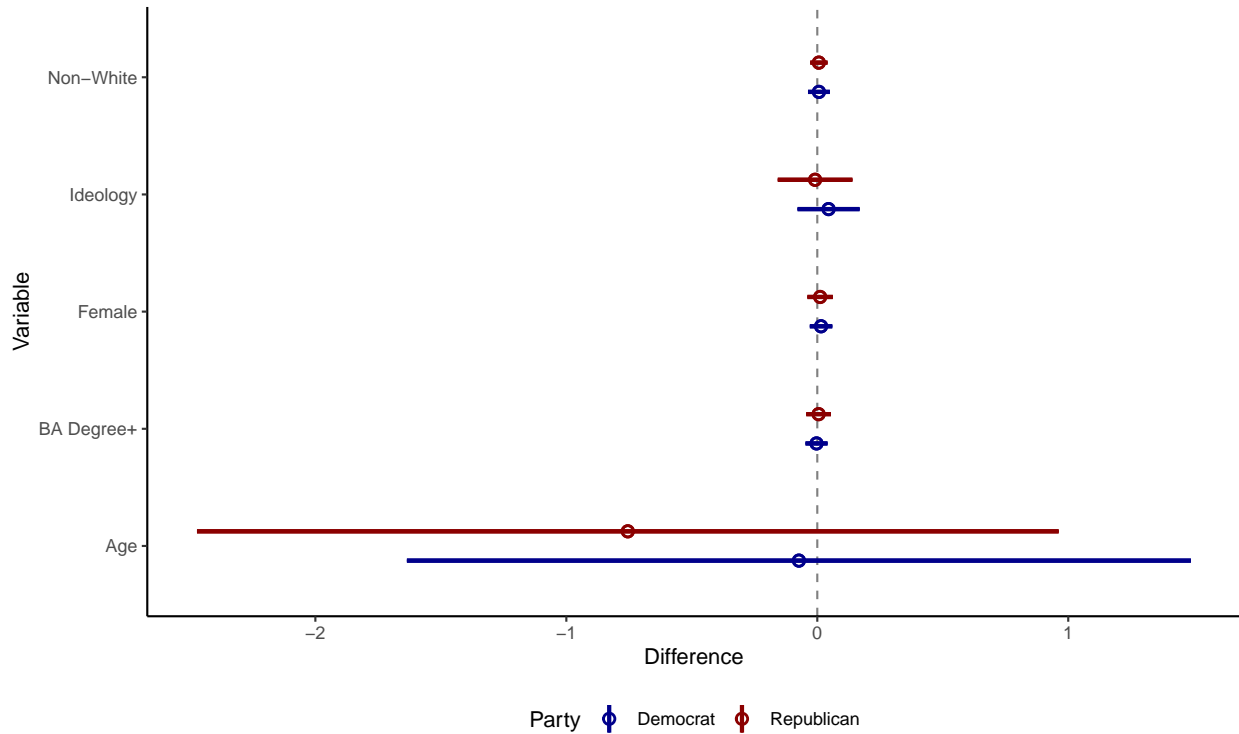


Figure 2: *Balance Between Treatment and Control Groups*. This figure shows the difference between the treated and control groups, by party, for various measures. In each case, there is no statistically significant difference between the treated and control groups.

as shown in Equation 1. The treatment effects for each of the measures of social polarization we examined are shown in Figures 3 & 4. To facilitate an easier comparison of the various treatment effects, each of our dependent variables have been re-scaled to range from 0 to 1. Regression tables containing the treatment effect of anger for each measure of social polarization can be found in Tables A.3 & A.4 in the Appendix. Regression tables containing the treatment effects of anger on social polarization without a re-scaling of the dependent variables can also be found in the Appendix in Tables A.5 & A.6. In no case does the relationship between anger and social polarization change due to our re-scaling of the dependent variables.

The first set of results displayed in Figure 3 show how anger affects the frequency with which

individuals are willing to engage in activities for their out-partisan neighbor. The first coefficient shows the treatment effect of anger on individuals' willingness to watch over their out-party neighbor's property when they are not home or are on vacation. The second coefficient shows the effect of anger on willingness to talk about politics with an out-partisan neighbor. The third coefficient shows the effect of anger on individuals' willingness to do favors for an out-partisan neighbor, while the fourth coefficient shows the effect of anger on individuals' willingness to ask their out-partisan neighbor about personal things. Each treatment effect is shown with 95% confidence intervals. In each case, higher values indicate a greater frequency of engaging in these activities with or for one's out-partisan neighbor (i.e., less social polarization).

As can be seen, anger causes individuals to be *less* likely to engage with their out-partisan neighbor in three out of the four scenarios that we measured. Indeed, anger causes individuals to be less willing to watch over their neighbor's property when they are not home or are on vacation. Anger also causes individuals to be less willing to talk about politics with their out-partisan neighbor and to do favors for him or her. There is no effect of anger on one's willingness to ask their out-partisan neighbor about personal things.⁹ Anger's ability to affect these sorts of reported behaviors with neighbors is rather surprising. Indeed, because they are likely to come into common contact with each other, neighbors have ample opportunities to form bonds of mutual trust and understanding (Allport, 1954). That anger causes individuals to report being less socially charitable with their neighbors, then, suggests that it has the ability to broadly and powerfully shape social polarization.

To better understand just how broad of a role anger plays in engendering social polarization, we next present a series of results that show the causal effect of anger on 12 additional measures of social behavior. As with the results shown in Figure 3, the results we present here are once again standardized such that each dependent variable ranges from 0 to 1. In each case, higher values

⁹This null finding might be due to floor effects. Empirically, 41% of respondents indicated that they would "never" ask an out-partisan neighbor about personal things and 31% said they would do so only "sometimes."

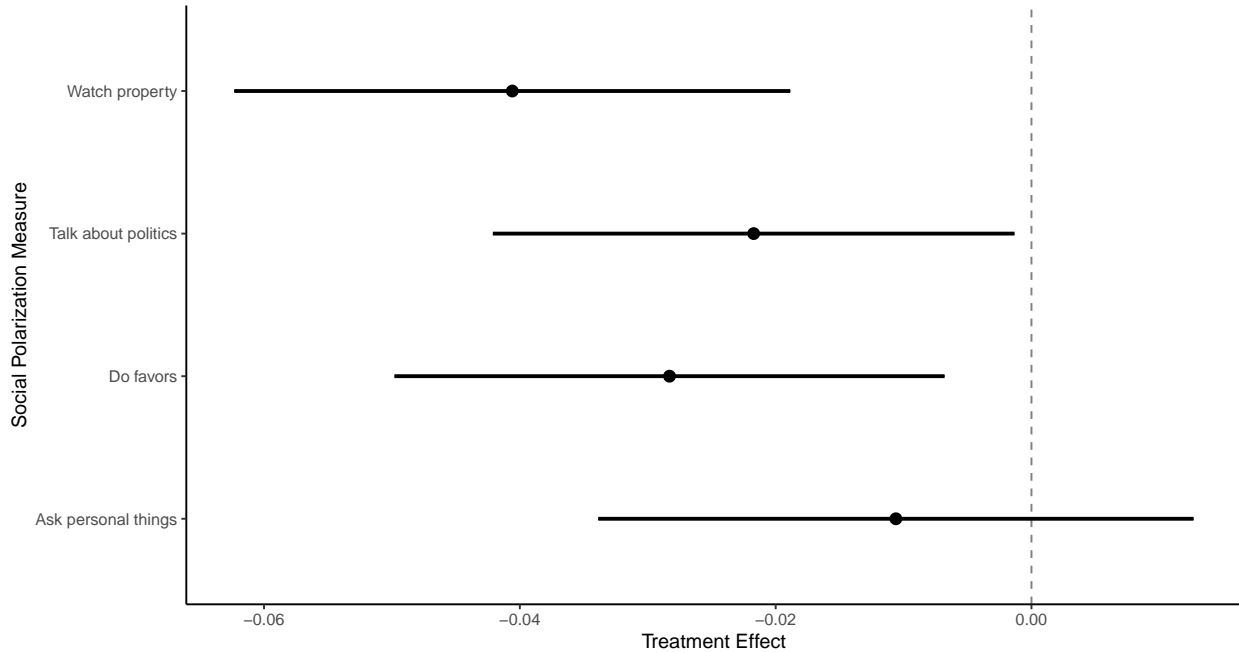


Figure 3: *Anger and Social Polarization, Neighbors*. This figure shows the treatment effect of anger on various social polarization measures pertaining to interacting with one's neighbor.

indicate a more socially polarized reaction to the behavior measured. The treatment effects of anger, with associated 95% confidence intervals, on these measures of social polarization are shown in Figure 4.

The treatment effects shown in Figure 4 illustrate how powerful anger is in shaping social polarization. As shown in Figure 4, anger at the opposing party causes individuals to adopt socially polarized responses across a myriad of dimensions. Among other things, anger causes individuals to engage in social polarization when talking with an out-partisan supporter; when considering whether to accept an offer to have coffee, a meal, or a drink with an out-partisan supporter; when deciding whether to accept an invitation to go on a date with an out-partisan supporter; when thinking about whether to attend a social gathering or club that is likely to be heavily populated by

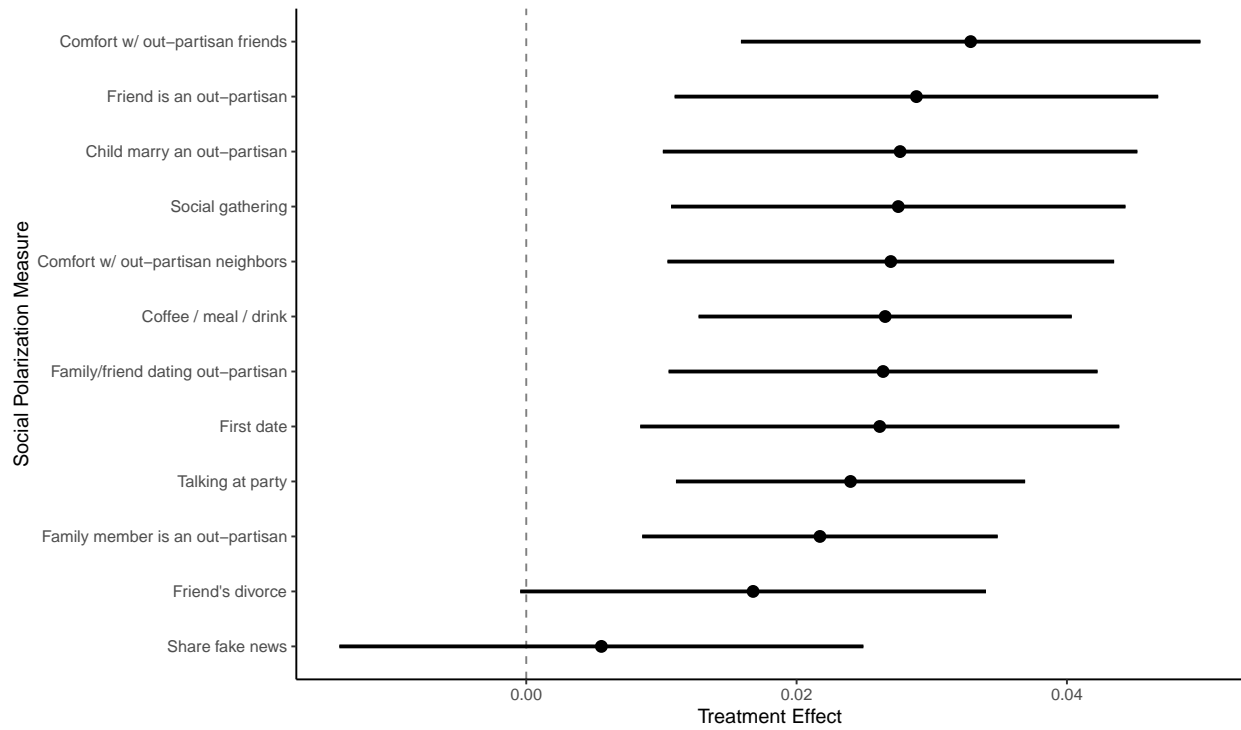


Figure 4: *The Effect of Anger on Social Polarization.* This figure shows the treatment effect of anger on various forms of social polarization. In nearly every instance, anger causes individuals to adopt a more socially polarized response.

supporters of the opposing party; and when pondering the ramifications of a child marrying a supporter of the opposing party. Indeed, in all but two measures—sharing news that is critical of the opposing party but that has been deemed to be “questionable” in terms of veracity and being happy about a friend’s divorce from a supporter of the opposing party—anger causes individuals to adopt more socially polarized responses.

What is perhaps most striking about these results is that they persist across various issues that range in their social costs. For instance, it is relatively easy to avoid going to a social gathering or club that is likely to be heavily attended by supporters of the opposing party. Similarly, it is not too difficult to end a conversation with someone at a party. On the other hand, it is significantly costly to distance oneself from a close friend or close family member for either being a supporter of the opposing political party or even *dating* a supporter of the opposing political party. It is also costly to express disapproval of a child’s decision to marry a supporter of the opposing party based *only* on this political consideration. That anger causes individuals to engage in socially polarizing actions across a range of scenarios—*beyond* what already exists in our current socially polarized country—suggests that it is uniquely powerful in shaping mass-level behavior.

4.1 Robustness Checks

To examine the reliability of our findings, we conduct a few theoretical robustness checks. First, one might wonder if the results from the anger treatment reflect distaste of politics and partisanship *in general* (i.e., partisan disdain—see Klar, Krupnikov and Ryan, 2018), rather than distaste of *the other party* specifically (i.e., social polarization). Our results suggest this is not the case—if it were, we would see differential effects based on social choices that involved actually speaking to an out-partisan (e.g., talking to an out-partisan neighbor about politics) versus social choices that did *not* involve speaking to an out-partisan (e.g., watching an out-partisan neighbor’s property). That is, we would see that people would be less likely to want to engage in politics but not more likely to do a favor for an out-partisan that did not involve speaking with them. Instead, though,

this is not what we see—in fact, anger has a *stronger* effect on watching an out-partisan neighbor’s property than it does on talking to an out-partisan neighbor about politics, although this is not statistically significant. Thus, it seems that social polarization, specifically, is influenced by anger *and* that the effect of anger on social polarization is not attenuated even when it is suggested that the participant won’t have to interact with the out-partisan.

A second question about the robustness of our results is if our results are survey artifacts or reflect more meaningful responses. It is possible, for example, that survey respondents are engaging in “cheap talk” by saying that they would engage in activities or behaviors that produce social polarization. Two findings suggest that this is not the case. First, if it were the case that people were simply engaging in cheap talk—saying they would engage in socially polarized behavior when they would not actually do so—we would not expect responses to differ based on the costliness of the activity. Instead, though, while we see our effects remain for many of the more costly behaviors (e.g., ending a close friendship with an out-partisan), we do see where people draw the line—anger does not make people, for example, more likely to say they would be happy about a friend’s divorce from an out-partisan ($p=0.056$), nor does it make people say they are more likely to share questionable fake news that hurts out-partisans ($p=.574$) or ask an out-partisan neighbor about personal things ($p=.372$). Instead, our results suggest that people are making distinctions between these actions, something that would be unlikely if it were simply cheap talk.

Further, we make use of self-monitoring—a trait that measures likelihood of adjusting oneself to impress others or to fit in (see Berinsky, 2004)—to examine whether our results are attributable to cheap talk. While research often focuses on high self-monitors—those who are most likely to adjust themselves to impress others—low self-monitors offer an interesting opportunity to validate survey responses. Those who are low in self-monitoring are motivated by “self-verification” and “authenticity” (Banaji and Prentice, 1994; Premeaux and Bedeian, 2003; Snyder, 1974; Gangestad and Snyder, 2000). Thus, in our context, low self-monitors should be reliable survey takers; they do not take surveys aiming to fit into what researchers or the world *wants* to hear—instead, they

want to tell the world their authentic truth. Thus, when we ask how they would behave socially, their responses should be a fair representation of what they would *actually* do—rather than just what they think they are expected to do.

To see if our results differ by low and high self-monitors—which might suggest that high self-monitors are driving the results by engaging in cheap talk—we test if there is an interaction between self-monitoring and the treatment. Whether self-monitoring is coded as continuous or as a median split (Berinsky, 2004), we find no interaction effect. Similarly, subsetting the data and examining the treatment effect on low self-monitors—the “authentic” survey takers—shows the same results. This suggests that our anger treatment did not simply lead people to engage in cheap talk: those who pride themselves in their authenticity were similarly more likely to report a greater likelihood of engaging in social polarization after being randomly assigned to the anger condition.

5 Conclusion & Implications

Anger oftentimes causes individuals to take an action or set of actions against that which made them angry (Allred, 1999). While the set of actions one takes while angry is often related to the domain of that which made them angry, the results of this study indicate that political anger has consequences that extend *beyond* the political realm. Indeed, our results show that the retaliatory measures that one seeks to take when experiencing politically-induced anger go beyond politically-related actions. As we have shown, political anger has the ability to affect social interactions between Democrats and Republicans, driving social polarization beyond what already exists.

An important aspect of these results is that they persist across a range of social settings. Political anger causes Democrats and Republicans to socially distance themselves from out-partisans in both “easy” and “hard” cases. Accordingly, we see that anger increases social polarization when it pertains to items like doing favors for a neighbor or talking about politics with a friend; we also see that anger exacerbates social polarization on issues such as ending a close friendship or distanc-

ing oneself from a close family member that supports the opposing political party. Anger, then, plays a broad role in shaping the amount of social polarization that we see between Democrats and Republicans in the contemporary American electorate.

As we have shown, these results are likely to be a true reflection of partisans' attitudes and intended behavior. Though our results are derived from stated behavioral *intentions* and not *observed* actions, we are confident that our results are not an artifact of strategic answering by survey respondents. Such confidence stems from, among other suggestive findings, a re-analysis of our experimental results according to an individual's level of self-monitoring. Because low self-monitors—that is, those who are most likely to be truthful when answering survey prompts—offer similar behavioral intentions as those who score high on self-monitoring, our treatment effects likely represent the true effect of anger on social polarization. It is also important to note that our findings demonstrate the effect of anger on social polarization *above and beyond* the extreme social polarization that already exists (see, e.g., Iyengar and Westwood, 2015), suggesting our test is a conservative one.

Future work should continue to probe the relationship between anger and social polarization. One area of research that promises to be fruitful is examining the ways in which the deleterious effects of anger can be mitigated. For instance, does the existence of cross-cutting identities (Mason, 2016) weaken the effect of anger on social polarization? On the other hand, future research should consider the factors that strengthen the relationship between anger and social polarization. Potential compounding factors include the consumption of biased media sources, political interest, and strongly identifying with one's political party. Additionally, future work should consider the duration of these effects. Does political anger lead to durable social polarization, or is such polarization more ephemeral in nature? With anger and partisan antipathy on the rise, understanding these questions could not be more pressing.

References

- Abramowitz, Alan I. and Steven W. Webster. 2016. "The Rise of Negative Partisanship and the Nationalization of U.S. Elections in the 21st Century." *Electoral Studies* 41:12–22.
- Allport, Gordon W. 1954. *The Nature of Prejudice*. Addison-Wesley.
- Allred, Keith G. 1999. Anger and Retaliation: Toward an Understanding of Impassioned Conflict in Organizations. In *Research on Negotiation in Organizations*, ed. Robert R. Bies, Roy J. Lewicki and Blair H. Sheppard. JAI Press pp. 27–58.
- Averill, James R. 1982. *Anger and Aggression: An Essay on Emotion*. Springer-Verlag.
- Bafumi, Joseph and Robert Y. Shapiro. 2009. "A New Partisan Voter." *The Journal of Politics* 71(1):1–24.
- Banaji, Mahzarin R. and Deborah A. Prentice. 1994. "The Self in Social Contexts." *Annual Review of Psychology* 45(1):297–332.
- Berinsky, Adam J. 2004. "Can We Talk? Self-Presentation and the Survey Response." *Political Psychology* 25(4):643–659.
- Berinsky, Adam J. and Howard Lavine. 2011. Self-Monitoring and Political Attitudes. In *Improving Public Opinion Surveys: Interdisciplinary Innovation and the American National Election Studies*, ed. John H. Aldrich and Kathleen G. McGraw. Princeton University Press pp. 27–45.
- Bodenhausen, Galen V., Lori A. Sheppard and Geoffrey P. Kramer. 1994. "Negative Affect and Social Judgment: The Differential Impact of Anger and Sadness." *European Journal of Social Psychology* 24(1):45–62.
- Bower, Gordon H. 1991. Mood Congruity of Social Judgments. In *Emotions and Social Judgments*, ed. Joseph P. Fargas. pp. 31–53.

- Coppock, Alexander and Oliver A. McClellan. 2019. "Validating the Demographic, Political, Psychological, and Experimental Results Obtained from a New Source of Online Survey Respondents." *Research & Politics* 6(1):1–14.
- Elfenbein, Daniel W., Raymond Fisman and Brian McManus. N.d. "The Impact of Socioeconomic and Cultural Differences on Online Trade." NBER Working Paper No. 26197. Available at <https://www.nber.org/papers/w26197>. Accessed: 2020-03-12.
- Engelhardt, Andrew M. and Stephen M. Utych. 2018. "Grand Old (Tailgate) Party? Partisan Discrimination in Apolitical Settings." *Political Behavior* .
- Forgas, Joseph P. and Stephanie Moylan. 1987. "After the Movies: Transient Mood and Social Judgments." *Personality and Social Psychology Bulletin* 13(4):467–477.
- Freeman, Joanne. 2018. "Trump and the Politics of Anger." The Atlantic. Available at <https://www.theatlantic.com/ideas/archive/2018/10/trump-and-politics-anger/573556/>. Accessed: 2020-04-07.
- Gangestad, Steven W. and Mark Snyder. 2000. "Self-Monitoring: Appraisal and Reappraisal." *Psychological Bulletin* 126(4):530–555.
- Gervais, Bryan T. 2017. "More than Mimicry? The Role of Anger in Uncivil Reactions to Elite Political Incivility." *International Journal of Public Opinion Research* 29(3):384–405.
- Iyengar, Shanto, Gaurav Sood and Yphtach Lelkes. 2012. "Affect, not Ideology: A Social Identity Perspective on Polarization." *Public Opinion Quarterly* 76(3):405–431.
- Iyengar, Shanto and Sean J. Westwood. 2015. "Fear and Loathing across Party Lines: New Evidence on Group Polarization." *American Journal of Political Science* 59(3):690–707.
- Jacobson, Gary C. 2015. "It's Nothing Personal: The Decline of the Incumbency Advantage in US House Elections." *The Journal of Politics* 77(3):861–873.

- Keith Chen, M. and Ryne Rohla. 2018. "The Effect of Partisanship and Political Advertising on Close Family Ties." *Science* 360(6392):1020–1024.
- Klar, Samara, Yanna Krupnikov and John Barry Ryan. 2018. "Affective Polarization or Partisan Disdain? Untangling a Dislike for the Opposing Party from a Dislike of Partisanship." *Public Opinion Quarterly* 82(2):379–390.
- Lerner, Jennifer S. and Dacher Keltner. 2001. "Fear, Anger, and Risk." *Journal of Personality and Social Psychology* 81(1):146–159.
- Levendusky, Matthew. 2009. *The Partisan Sort: How Liberals Became Democrats and Conservatives Became Republicans*. University of Chicago Press.
- Mason, Lilliana. 2015. "'I Disrespectfully Agree': The Differential Effects of Partisan Sorting on Social and Issue Polarization." *American Journal of Political Science* 59(1):128–145.
- Mason, Lilliana. 2016. "A Cross-Cutting Calm: How Social Sorting Drives Affective Polarization." *Public Opinion Quarterly* 80(S1):351–377.
- Mason, Lilliana. 2018. *Uncivil Agreement: How Politics Became Our Identity*. University of Chicago Press.
- McConnell, Christopher, Yotam Margalit, Neil Malhotra and Matthew Levendusky. 2018. "The Economic Consequences of Partisanship in a Polarized Era." *American Journal of Political Science* 62(1):5–18.
- Moons, Wesley G., Naomi I. Eisenberger and Shelley E. Taylor. 2010. "Anger and Fear Responses to Stress Have Different Biological Profiles." *Brain, Behavior, and Immunity* 24:215–219.
- Panagopoulos, Costas, Donald P. Green, Jonathan Krasno, Michael Schwam-Baird and Kyle Endres. 2019. "Partisan Consumerism: Experimental Tests of Consumer Reactions to Corporate Political Activity." *The Journal of Politics* . doi: <https://doi.org/10.1086/707491>.

- Pew Research Center. 2019. "Partisan Antipathy: More Intense, More Personal." <https://www.census.gov/prod/2013pubs/p20-570.pdf>. Accessed: 2020-03-12.
- Premeaux, Sonya Fontenot and Arthur G. Bedeian. 2003. "Breaking the Silence: The Moderating Effects of Self-Monitoring in Predicting Speaking Up in the Workplace." *Journal of Management Studies* 40(6):1537–1562.
- Schwarz, Norbert and Gerald Clore. 1983. "Mood, Misattribution, and Judgments of Well-Being: Informative and Directive Functions of Affective States." *Journal of Personality and Social Psychology* 45(3):513–523.
- Snyder, Mark. 1974. "Self-Monitoring of Expressive Behavior." *Journal of Personality and Social Psychology* 30(4):526–537.
- Webster, Steven W. 2018. "Anger and Declining Trust in Government in the American Electorate." *Political Behavior* 40(4):933–964.
- Webster, Steven W. 2020. *American Rage: How Anger Shapes Our Politics*. Cambridge University Press.

A Appendix

Social Polarization Measures

1. Suppose your neighbor was a [OPPOSING PARTISAN]. How often would you do the following activities for him or her? (Response options: never, sometimes, about half the time, most of the time, always)
 - Do favors for him or her
 - Watch over his or her property while they are not home, or are on vacation
 - Ask him or her about personal things
 - Talk to him or her about politics
2. If you were at a party or social gathering and you found out that the person you were talking to is a [OPPOSING PARTISAN], what would you do?
 - Continue talking to them, including about politics
 - Continue talking to them, but not about politics
 - Try to find a polite way out of the conversation
 - Leave the conversation without worrying about being polite
 - Attack their political views
3. If a [OPPOSING PARTISAN] asked you to have coffee, a drink, or a meal with them, what would you do?
 - Certainly go
 - Go if I had nothing better to do
 - Try to find a polite way to say no
 - Say no
 - Say no and attack their political views

4. If there was a social gathering or club that you would normally want to go to or join, but you found out that there was mostly going to be [OPPOSING PARTISANS] there, what would you do?
- Certainly go
 - Go if I had nothing better to do
 - Try to find a polite way to say no
 - Say no
 - Say no and talk badly about those who are attending to your friends
5. If a [OPPOSING PARTISAN] asked you to go on a first date, what would you do?
- Certainly go
 - Go if I had nothing better to do
 - Try to find a polite way to say no
 - Say no
 - Say no and talk badly about the person to your friends
6. If you found out that a close friend or family member was dating a [OPPOSING PARTISAN], would you approve of the relationship?
- Certainly
 - Yes, but only if the person was otherwise a good person
 - Probably not
 - Certainly not
7. If you found out a close friend was a [OPPOSING PARTISAN], what would be your response?
- I would end the friendship
 - I would remain friends with them but I would attack their political beliefs

- I would remain friends with them but would not discuss politics
 - I would change nothing about the friendship
8. If you found out a close family member was a [OPPOSING PARTISAN], what would be your response?
- I would treat them the exact same
 - I would treat them the same but not talk about politics
 - I would distance myself a bit
 - I would cut them out of my life as much as possible
 - I would cut them out of my life as much as possible, and I would attack their political beliefs
9. If your friend (who is a [IN-PARTISAN]) got a divorce from their spouse (who is a [OUT-PARTISAN]), how sad would you be about the ending of this relationship?
- Very sad
 - Sad
 - Neither sad nor happy
 - Happy
 - Very happy
10. How comfortable are you having close personal friends who are [OPPOSING PARTISANS]?
- Extremely comfortable
 - Moderately comfortable
 - Slightly comfortable
 - Neither comfortable nor uncomfortable
 - Slightly uncomfortable
 - Moderately uncomfortable

- Extremely uncomfortable

11. How comfortable are you having neighbors on your street who are [OPPOSING PARTISANS]?

- Extremely comfortable
- Moderately comfortable
- Slightly comfortable
- Neither comfortable nor uncomfortable
- Slightly uncomfortable
- Moderately uncomfortable
- Extremely uncomfortable

12. Suppose a son or daughter of yours was getting married. How upset would you be if he or she married someone who is a [OPPOSING PARTISAN]?

- Not at all upset
- Not too upset
- Somewhat upset
- Upset
- Extremely upset

13. Suppose you read a news article that was critical of the [OPPOSING PARTY], but this article was deemed to be questionable in terms of its accuracy. How likely would you be to share it with friends or family members?

- Extremely unlikely
- Moderately unlikely
- Slightly unlikely
- Neither unlikely nor likely

- Slightly likely
- Moderately likely
- Extremely likely

Tables

Statistic	N	Proportion	St. Dev.	Min	Max
Race					
White	3,411	0.728	0.445	0	1
Black	3,411	0.117	0.321	0	1
Asian	3,411	0.049	0.215	0	1
Native American	3,411	0.010	0.101	0	1
Hispanic	3,411	0.084	0.277	0	1
Other	3,411	0.013	0.114	0	1
Education					
High School Only	3,401	0.208	0.406	0	1
Some College	3,401	0.259	0.438	0	1
Bachelors Degree	3,401	0.251	0.433	0	1
Gender					
Male	3,403	0.483	0.500	0	1
Female	3,403	0.517	0.500	0	1
Partisanship					
Democrat	3,416	0.439	0.496	0	1
Republican	3,416	0.426	0.495	0	1
Ideology					
Liberal	3,408	0.390	0.488	0	1
Conservative	3,408	0.349	0.477	0	1

Table A.1: *Summary Statistics of Data*. This table shows summary statistics of the data used in this paper.

	Network homogeneity
Anger	.030* (.016)
Democrat	-.071* (.038)
Party Strength	.059*** (.017)
Liberal	.009 (.019)
Ideological Extremity	.009 (.017)
Age	.002** (.001)
Female	-.019 (.030)
Education	-.002 (.010)
Black	.165*** (.053)
Hispanic	.104 (.085)
Income	.003 (.004)
Constant	.357*** (.097)
N	635
R ²	0.065

*p < .1; **p < .05; ***p < .01

Table A.2: *Anger and Network Homogeneity*. This table shows the relationship between anger and social network homogeneity.

	Do favors	Watch property	Ask personal items	Talk politics	Talk at party	Coffee/meal/drink	Gathering	First date
Treated	-0.028*** (0.011)	-0.041*** (0.011)	-0.011 (0.012)	-0.022** (0.010)	0.024*** (0.007)	0.027*** (0.007)	0.028*** (0.009)	0.026*** (0.009)
Democrat	-0.116*** (0.011)	-0.115*** (0.011)	-0.050*** (0.012)	-0.031*** (0.010)	0.033*** (0.007)	0.048*** (0.007)	0.064*** (0.009)	0.065*** (0.009)
Constant	0.683*** (0.010)	0.792*** (0.010)	0.461*** (0.011)	0.301*** (0.009)	0.195*** (0.006)	0.098*** (0.006)	0.180*** (0.008)	0.163*** (0.008)
N	3,410	3,406	3,408	3,403	3,278	3,408	3,410	3,411
R ²	0.033	0.034	0.005	0.004	0.012	0.017	0.019	0.017

*p < .1; **p < .05; ***p < .01

Table A.3: *Anger and Social Polarization, Part 1*. This table shows the effect of anger on eight different measures of social polarization.

	Family date	Friend out-partisan	Family out-partisan	Friend divorce	Friends (comfort)	Neighbors (comfort)	Marriage	Fake news
Treated	0.026*** (0.008)	0.029*** (0.009)	0.022*** (0.007)	0.017* (0.009)	0.033*** (0.009)	0.027*** (0.008)	0.028*** (0.009)	0.006 (0.010)
Democrat	0.038*** (0.008)	0.058*** (0.009)	0.047*** (0.007)	0.054*** (0.009)	0.082*** (0.009)	0.068*** (0.008)	0.047*** (0.009)	-0.031*** (0.010)
Constant	0.187*** (0.007)	0.194*** (0.008)	0.101*** (0.006)	0.262*** (0.008)	0.147*** (0.008)	0.139*** (0.008)	0.159*** (0.008)	0.345*** (0.009)
N	3,408	3,398	3,410	3,412	3,413	3,410	3,409	3,414
R ²	0.009	0.014	0.017	0.012	0.029	0.021	0.011	0.003

*p < .1; **p < .05; ***p < .01

Table A.4: *Anger and Social Polarization, Part 2*. This table shows the effect of anger on eight different measures of social polarization.

	Do favors	Watch property	Ask personal items	Talk politics	Talk at party	Coffee/meal/drink	Gathering	First date
Treated	-0.113*** (0.044)	-0.162*** (0.044)	-0.042 (0.047)	-0.087** (0.042)	0.096*** (0.026)	0.106*** (0.028)	0.110*** (0.034)	0.105*** (0.036)
Democrat	-0.462*** (0.044)	-0.461*** (0.045)	-0.199*** (0.048)	-0.124*** (0.042)	0.134*** (0.027)	0.192*** (0.028)	0.255*** (0.035)	0.262*** (0.036)
Constant	2.734*** (0.039)	3.167*** (0.040)	1.846*** (0.043)	1.203*** (0.037)	0.779*** (0.024)	0.393*** (0.025)	0.721*** (0.031)	0.653*** (0.032)
N	3,410	3,406	3,408	3,403	3,278	3,408	3,410	3,411
R ²	0.033	0.034	0.005	0.004	0.012	0.017	0.019	0.017

*p < .1; **p < .05; ***p < .01

Table A.5: *Treatment Effects With Variables Not Standardized, pt 1.* This table shows the treatment effects of anger on our social polarization measures with the dependent variables kept on their original scale.

	Family date	Friend out-partisan	Family out-partisan	Friend divorce	Friends (comfort)	Neighbors (comfort)	Marriage	Fake news
Treated	0.079*** (0.024)	0.087*** (0.027)	0.087*** (0.027)	0.067* (0.035)	0.197*** (0.052)	0.162*** (0.051)	0.111*** (0.036)	0.033 (0.059)
Democrat	0.114*** (0.024)	0.173*** (0.028)	0.190*** (0.027)	0.215*** (0.035)	0.490*** (0.052)	0.411*** (0.051)	0.189*** (0.036)	-0.187*** (0.060)
Constant	0.562*** (0.022)	0.581*** (0.025)	0.404*** (0.024)	1.049*** (0.032)	0.879*** (0.047)	0.833*** (0.045)	0.636*** (0.032)	2.072*** (0.053)
N	3,408	3,398	3,410	3,412	3,413	3,410	3,409	3,414
R ²	0.009	0.014	0.017	0.012	0.029	0.021	0.011	0.003

*p < .1; **p < .05; ***p < .01

Table A.6: *Treatment Effects With Variables Not Standardized, pt 2.* This table shows the treatment effects of anger on our social polarization measures with the dependent variables kept on their original scale.