

The Policy Basis of Group Sentiments

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Abstract: Though influential models of public opinion hold that group sentiments play an important role in shaping political beliefs, they often assume that group attitudes stem from socialization and are thus exogenous to politics. We challenge this assumption, arguing that group attitudes may themselves be the consequence of political views. Across three survey experiments that each uses a unique social group-issue pair, we consistently demonstrate that attitudes towards groups are influenced by information about the groups' policy views. These findings persist even when accounting for potential partisan signaling. Altogether, these results show that group sentiments should not be regarded as wholly exogenous to policy concerns and suggest that the use of group-based heuristics can be consistent with instrumental models of public opinion.

Competing interests: the authors declare none.

Group attitudes have long been described as central objects in political belief systems that shape and constrain political attitudes. Scholars have proposed a variety of group-centric models of public opinion (Green, Palmquist, and Schickler 2002; Kane, Mason, and Wronski 2021; Miller, Wlezien, and Hildreth 1991; Wlezien and Miller 1997) and offered a wealth of evidence that group attitudes shape issue attitudes. For example, there is evidence that views of Muslims influenced support for the War on Terror (Sides and Gross 2013), feelings toward African Americans affect support for welfare (Gilens 1996), and that attitudes toward Latinos affect support for immigration (Ramirez and Peterson 2020). Common in this literature is a tendency to assume, either explicitly or implicitly, that group attitudes “are acquired early in life and represent long-standing predispositions that are then capable of shifting political attitudes” (Elder and O’Brian 2022, 1409). Thus, in many common theoretical and statistical models, group attitudes are assumed to be exogenous to policy attitudes and other instrumental concerns.

We, however, challenge this notion. We argue that just as policy preferences shape opinions about individuals (Clifford 2020; Goren 2022; Lelkes 2021; Orr and Huber 2020; Rogowski and Sutherland 2016; Simas 2023; Webster and Abramowitz 2017), they should also drive perceptions of social groups. Across three experimental studies using three different groups and issues, we consistently show that information about a group’s support for an issue significantly affects the favorability of that group. These results hold even when accounting for potential partisan signaling. So while group attitudes can play an important role in shaping opinions and behaviors, our work shows that the causal arrow also runs the other way. Thus, our findings challenge the idea that contemporary American politics is mere tribalism and suggest that emphasizing areas of issue agreement may be a fruitful path for ameliorating inter-group conflict and animosity.

Theory

Our basic argument is that people evaluate social groups, in part, based on the perception of shared political interests. For this to happen, citizens must (1) know where social groups tend to stand on issues; and (2) hold meaningful attitudes on those same issues. The first claim is crucial to the group-centrality literature itself, as that knowledge is necessary for group attitudes to affect political attitudes. For example, Elder and O’Brian (2022, 1422) state that “[m]any people are knowledgeable about the types of social groups that support or oppose policies; this knowledge has historically exceeded knowledge of where parties or ideological groups stand on those same issues.” And indeed, there is growing evidence of individuals’ capabilities to accurately connect various groups to parties, policy preferences, and vote choices (Kane, Mason, and Wronski 2021; Orr and Huber 2020; Rothschild et al. 2019; Titelman and Lauderdale 2021). Thus, people do seem to hold the knowledge required for the reverse causal process.

The second premise, that people hold meaningful issue attitudes, is more contentious. Though many citizens lack ideologically constrained belief systems (Converse 1964; Kinder and Kalmoe 2017), they often hold strong and meaningful attitudes on specific issues. A wide range of evidence supports the existence of “issue publics,” or groups of respondents who care deeply about a particular issue (Krosnick 1990). Citizens may come to hold particularly strong views on an issue due to perceived self-interest (Boninger, Krosnick, and Berent 1995), or their moral beliefs and values (Ryan 2014; Skitka and Morgan 2014). Moreover, some types of issues are particularly “easy” in that they require little knowledge or awareness to make a connection between an issue position and core values (Carmines and Stimson 1980; Johnston and Wronski 2015; Ryan and Ehlinger 2023). Thus, most people seem to hold some meaningful policy attitudes, even if they are not ideologically constrained.

Taken together, there is ample reason to expect that group attitudes may, in part, be shaped by the perception of shared political interests. To be sure, we are not the first advance such a

hypothesis. A number of recent studies have challenged the presumed causal role of group attitudes, primarily through the use of panel data. For example, partisanship may cause racial attitudes as much or more than the reverse process (Engelhardt 2021). And though issue attitudes are often seen as a consequence of partisan identity (Barber and Pope 2019; Freeder, Lenz, and Turney 2019), views on culture war issues can cause partisan identity (Goren and Chapp 2017). Finally, turning a classic finding on its head, Goren (2022) finds that views on welfare influence attitudes towards African Americans, a group that is strongly associated with the policy.

Extending this line of literature, we are the first to explicitly test how the favorability of a social group is influenced by whether an individual shares the policy views of that group. We do so across multiple social groups and political issues, to show the broad applicability of our theory. Moreover, instead of using panel data, we use pre-registered experimental designs that allow us to isolate the causal effects of shared policy attitudes and show that they operate even when accounting for partisanship. This aspect of our work is especially important given debates about whether individuals actually care about policy attitudes or just the partisan identities they signal (Dias and Lelkes 2021; Orr, Fowler, and Huber 2023).

Evidence from Three Studies

Design and Measures

Between February 2022 and March 2023, we conducted three experimental studies among three different samples.¹ All three studies were approved by the institutional review board at [name

¹ See Appendix for sample demographics and information on efforts taken to ensure data quality.

redacted for review]. Studies 2 and 3 follow a pre-registration plan.² Each study featured a different social group and a different issue. Although it is extremely difficult to separately estimate the effects of identity and policy preferences (Fowler 2020; Orr, Fowler, and Huber 2023; Rogers 2020), all our experimental groups are explicitly shown the partisanship of the group, while only the treatment groups receive the additional information that the group holds an opinion that runs counter to the party. Since the policy information conflicts with what should be inferred from the party label, this setup reduces problems with pretreatment and addresses concerns that any effects of issue information are simply due to the fact that it is signaling partisan identity.

To avoid providing misinformation, we thus selected three groups (Vietnamese Americans, Catholics, and Mormons) for whom public opinion data show to have a policy preference (support for gun control, opposition to transgender rights, or support for environmental regulation) that conflicts with the party's stance. While chosen for this more pragmatic reason, these groups offer variation in the strength their stereotypical partisan association, as Kane, Mason, and Wronski (2021) show that Mormons are clearly perceived as Republican, perceptions of Catholics are more mixed, and Vietnamese Americans actually counter the stereotypical association of Asians with the Democratic Party. Having this variation will allow us to speak to the generalizability of our results, and findings of consistent effects across all three groups should help allay potential concerns that the effects of issue information are contingent on the strength of the association between a social group and a party.

² The pre-registration for Study 2 can be found in the Appendix and the link below. Due to an oversight, we did not pre-register Study 3, but we follow the same pre-registered analysis plan from Study 2. https://osf.io/ude28/?view_only=a9f3e5ea580040cfaad3f91d1fcd40da.

Each study follows the same basic structure. First, respondents reported their position on the focal issue used in the treatments (see Table 1 for wordings), followed by measures of attitude strength (Studies 2 and 3 only), which make up the moderating variable. Respondents also reported feelings toward several social groups, including the target group,³ and their partisan identification. These measures are used as pre-treatment control variables to increase the precision of our estimates (Clifford, Sheagley, and Piston 2021) In all three studies, respondents then completed unrelated content prior to the experiment.

To introduce the experiment, respondents were told that researchers are interested in their opinions on a social group that plays an important role in politics. As noted above, respondents in both conditions were told about the partisan distribution of the focal group, while only those in the treatment condition received the additional information about the group’s party-inconsistent position on the featured issue. Following the treatment, respondents completed several questions capturing their attitudes toward the target group, as well as two items serving as manipulation checks.

Table 1: Summary of Experimental Designs

	Study 1	Study 2	Study 3
Sample	1,041 US adults recruited via Lucid	1,318 US adults recruited via Dynata	1,457 US adults recruited via Prime Panels
Date(s) Fielded	Feb. 23-March 2, 2022	Dec. 1-10, 2022	March 17, 2023
Pre-Test Issue Support	Gun regulations	Transgender bathroom bill	Environmental regulations
Information Shown to All Respondents	According to a recent poll, 42% of Vietnamese Americans identified with the Republican party, while only 28%	According to a recent poll, 49% of Catholics identify with the Democratic party, while 43% identify with the Republican party.	According to a recent poll, 65% of Mormons identify with the Republican Party, while 22% identify with the Democratic Party.

³ In Study 1, respondents evaluated “Asian Americans” rather than “Vietnamese Americans.”

	identified with the Democratic party.		
Additional Information Shown to Treatment Group	However, 74% of Vietnamese Americans support stricter gun control laws, while only 6% oppose them.	40% of Catholics believe that transgender individuals should be required to use public restrooms that match the sex that they were assigned at birth, while only 26% oppose this policy. The rest are unsure.	55% of Mormons believe that environmental regulations are worth the costs, while only 30% say these regulations are too costly.

Even though our experiments are designed to minimize the potential for issue information to only operate by signaling partisan identity, this is again a concern we cannot completely eliminate. (Dias and Lelkes 2021). Likewise, the issues themselves may evoke separate group sentiments (Conover 1988), and the partisan stereotypes of those groups may also influence responses. We further address these concerns by assessing manipulation checks (Dafoe, Zhang, and Caughey 2018), and by estimating alternative models that account for partisan inferences.

Measures

In Study 1, respondents reported their position on gun control on a five-point scale. In Studies 2 and 3, respondents reported their issue position on a seven-point scale, then how important the issue is to them personally and their level of moral conviction on the issue (Ryan 2014; Skitka 2010).⁴ For these studies, following our pre-registration plan for Study 2, we rescale the attitude position variable to range from -1 to 1, average the two measures of attitude strength, then

⁴ While there are often concerns that measuring moderators prior to an experiment can bias the results, a systematic test of this concern finds no evidence to support it (Clifford, Sheagley, and Piston 2021).

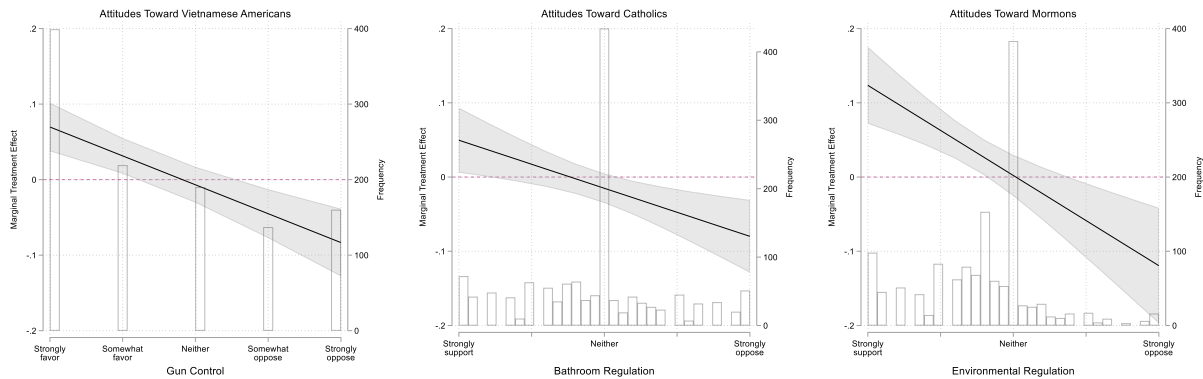
multiply the attitude position measure by the attitude strength measure to construct a single measure of issue attitude (for a similar approach, see Taber and Lodge 2006).

To measure group attitudes, respondents were asked how well the social group shares their values (5-pt scale), how close they feel to the group (Mason and Wronski 2018) and their favorability of the group (7-point scale). For our primary outcome, we follow our preregistered plan and recode these three variables to range from 0 to 1, then averaged them ($\alpha_s > .71$). Finally, as a manipulation check, respondents were asked to estimate the percentage of the focal social group favoring the target policy and the breakdown of partisan identification among that group.

Results

Following the Study 2 analysis plan, we predict the group attitudes index as a function of treatment assignment, issue attitudes, and an interaction between the two. Additionally, we control for pre-treatment measures of partisan identity and pre-treatment feelings toward the featured group. Figure 1 shows the marginal effects of the treatment as moderated by the issue attitude (full model results are available in the Appendix). As expected, in all three studies there is a significant interaction between the treatment and the respondent's issue attitude ($p_s < .004$).

Figure 1: Marginal Effects of Group Issue Information by Respondent Issue Attitudes



Main plots show the effects of the group issue stance treatments and the 95% confidence intervals for those estimates. Minor plots show the distribution of issue attitudes in our samples. See Appendix for full model results.

Starting with the left-hand panel, among respondents who strongly favor stricter gun control laws, the treatment increases the favorability of Vietnamese Americans by 0.07 ($p < .001$), or about 0.35 standard deviations. Among those who strongly oppose stricter gun control laws, the treatment decreases the favorability of Vietnamese Americans by 0.08 ($p < .001$), or about 0.42 standard deviations. Moving to the middle panel, among respondents who oppose a transgender bathroom bill, the treatment decreases the favorability of Catholics by 0.08 ($p = .001$), or about 0.36 standard deviations. Among those who favor the bathroom bill, the treatment increased favorability by 0.05, or about 0.23 standard deviations ($p = .026$). Turning to the right-hand panel, effects are similarly strong at either end of the attitude scale. Among those who strongly favor (oppose) environmental regulation, the treatment increases (decreases) the favorability of Mormons by 0.12 ($p < .003$), or about 0.28 standard deviations. We find substantively similar results, though weaker in magnitude, when we examine only the favorability outcome (see Appendix for details). Notably, all of these effects are substantially larger when accounting for non-compliance (Harden, Sokhey, and Runge 2019; see Appendix for details), which likely arises due to pretreatment and satisficing.

An alternative explanation is that the treatments are affecting group attitudes largely because they are sending signals about the group's partisanship (Dias and Lelkes 2021).⁵ We minimized this concern by design by providing information about group partisanship in all conditions.

⁵ Likewise, there may be concerns that effects are driven by reactions to the stereotypical partisanship of the groups cued by the issues featured (gun owners, transgender individuals, or environmentalists).

Manipulation checks available in the Appendix show that in Studies 2 and 3, there was no evidence that the policy treatment moved perceptions of group partisanship (Study 2: $p=.72$; Study 3: $p=.37$). In Study 1, however, the treatment shifted perceived support for the Republican party by about four percentage points ($p = .002$).⁶ So to address this possible confound, we re-estimate the initial models while also including an interaction between respondent partisanship and the treatment. If the treatment works primarily by affecting perceptions of group partisanship, then we should see a strong interaction between the treatment and partisanship, which eliminates the interaction between the treatment and issue attitudes.

The results of these models (see the Appendix) reveal some evidence of partisan signaling, though our core findings are unchanged. In both Studies 1 and 2, the interaction between the treatment and partisanship is significant ($ps<.029$). In Study 3, however, the interaction between the treatment and partisanship is both substantively and statistically indistinguishable from zero ($b=.00$, $p=.849$). Most importantly, in all three studies, the interactions between the treatment and issue attitudes remain statistically significant ($p<.01$) and show little change in magnitude. Our experimental design does not allow us to estimate the relative importance of party and policy cues, but the persistence of the effects of policy agreement support our claim that partisan signaling cannot explain away sizable effects of issue attitudes on group attitudes.

Discussion

⁶ As suggested by an anonymous reviewer, this effect may be linked to the fact that this was perhaps a more counter-stereotypical group, the inclusion of the word “however” in the treatment, or some combination of the two. But it may also be something unique to either Vietnamese Americans or the issue of the environment. And thus, we acknowledge this as an interesting finding, but leave it to future work to speak more directly to its potential causes.

Scholars have long acknowledged the role that group attachments and sentiments play in shaping political attitudes and identifications. We contribute to this line of research not by disputing the role of those sentiments, but by probing deeper into their roots. Across three samples and three different group-issue pairs, we consistently show that feelings about social groups are shaped by agreement with the policies those groups endorse. These findings show that the common assumption that group sentiments are exogenous to policy concerns needs to be reconsidered and suggest the implications of some prior studies should be revisited. For example, recent work showing a relationship between group affect and partisan identification argues that this connection “suggests that political decisions can often be made on the basis of liking or disliking groups, rather than purely rational self-interest” (Kane, Mason, and Wronski 2021, 1784). But since our evidence suggests that like or dislike of those groups is at least partially due to shared political interests, it appears that the public may in fact be more rational than previously assumed.

We have focused on the U.S., as group theory plays a prominent role in explaining shifts in party coalitions over time (Achen and Bartels 2016), but we expect our findings to generalize beyond the U.S. But, of course, our experiments are somewhat limited. Though we find consistent results across multiple groups and issues, future work should expand the design and further test (1) the conditions under which policy information may be more or less informative, (2) the relative importance of policy and non-policy factors, and (3) the generalizability across groups and issues. Still, our work makes an important contribution by highlighting the need to better explore the more instrumental component of group sentiments. Group attitudes surely play a casual role in politics, but as works on partisan intoxication show (Fowler 2020; Rogers 2020), identity and policy explanations should not be treated as mutually exclusive. As such, failure to adequately acknowledge the potential role of policy agreement can lead to mischaracterization of the nature of contemporary partisan politics in the U.S. While any attempts to address affective polarization will undoubtedly be

confronted with elements of pure “teamsmanship,” the possibility of appealing to common group interests does open up broader avenues for dealing with the negative consequences of the growing divide.

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Appendix for “The Policy Basis of Group Sentiments”

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Page 4. Question Wording

Page 7. Model Details for Analyses Referenced in Main Text

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Participant Recruitment and Screening

Study 1

Respondents were recruited by Lucid between February 23 and March 3, 2022. Due to concerns about inattention on Lucid (Ternovski et al. 2022), we employed stringent screening for inattentive respondents. Near the beginning of the survey (prior to the experiment), we embedded an instructed response question in which respondents were told to select a specific response option and an open-ended question asking respondents to identify the name of the Vice President of the US. Additionally, in a grid of pretreatment policy attitude questions (which included the moderating variable), we included a second instructed response. All respondents who did not provide a substantively relevant (not necessarily correct) answer to the open-ended question were coded as inattentive. Respondents were not allowed to complete the survey if they did not pass both instructed response questions. We also drop respondents who failed the open-ended question, leaving 1,041 respondents who completed the survey.

Study 2

Study 2 was fielded by Dynata on Dec. 2-11, 2022 and 1,318 respondents completed the study. Survey completions were planned to be balanced to US demographics on age, gender, race, and census region. However, due to an error by Dynata, we ended up with an oversample of some demographic groups, particularly racial minorities. An instructed response question was embedded in a grid at the beginning of the survey. Respondents who failed the attention check were not allowed to complete the survey.

Study 3

Study 3 was fielded through CloudResearch's Prime Panels on March 17, 2023. Prime Panels draws participants from a variety of opt-in online panels and employs patented vetting technology to prevent bots and fraudulent respondents. In addition, an instructed response question was embedded in a grid at the beginning of the survey. Those who failed this attention check were not allowed to complete the survey, leaving us with 1,457 respondents.

Table A1. Sample Demographics

	Study 1 Lucid	Study 2 Dynata	Study 3 Prime
Male	45%	50%	36%
Median Age Category	45-54	45-54	45-54
Race			
White	73%	45%	79%
Black	12%	18%	12%
Hispanic	7%	14%	4%
Asian	5%	16%	3%
Other	3%	6%	2%
Education			
No HS diploma	3%	3%	5%
HS graduate	25%	17%	29%
Some college	27%	22%	24%
Associate degree	12%	12%	13%
Bachelor's degree	23%	29%	18%
Master's degree	8%	13%	9%
Doctorate	3%	4%	2%
Partisanship			
Democrat	39%	44%	35%
Independent	32%	34%	29%
Republican	29%	22%	30%
Ideology			
Liberal	37%	36%	30%
Moderate/DK	34%	39%	39%
Conservative	30%	25%	31%

Question Wording, Study 1

Pretest: Group Attitudes

Question: How favorable or unfavorable are your feelings toward each of the following groups?

Response: 0-100 slider grid that randomized the order of presentation of groups including Asian Americans

Pretest: Gun Control Attitudes

Question: To what extent do you support or oppose the following policies?

Response Options: Randomized grid featuring Strongly favor, Somewhat favor, Neither favor nor oppose, Somewhat oppose, and Strongly oppose that randomized a number of policies including “making it more difficult for individuals to purchase guns.”

Dependent Variables

Question 1: Based on what you know, to what extent do Vietnamese Americans share your values?

Response Options: Not at all, Not too much, Somewhat, Very much, Completely

Question 2: How close do you feel toward Vietnamese Americans? By ‘close’ we mean people who are most like you in their ideas, interests, and feelings.

Response Options: Not close at all, Not too close, Somewhat close, Very close

Question 3: How favorable or unfavorable are your attitudes toward Vietnamese Americans?

Response Options: Very favorable, Favorable, Somewhat favorable, Neither favorable nor unfavorable, Somewhat unfavorable, Unfavorable, Very Unfavorable

Manipulation Checks

Question 1: Based on your best guess, what percent of Vietnamese Americans identify as Republicans?

Response: 0-100 slider

Question 2: Based on your best guess, what percent of Vietnamese Americans support stricter gun control laws?

Response: 0-100 slider

Question Wording, Study 2

Pre-test: Group Attitudes

Question: How favorable or unfavorable are your feelings toward each of the following groups?

Response: 0-100 slider grid that randomized the order of presentation of a number of groups including Catholics

Pre-test: Transgender Bathroom Use Attitudes

Question 1: How strongly do you favor or oppose requiring transgender individuals to use public bathrooms that match the sex they were assigned at birth, not the gender they identify with?

Response Options: Strongly favor, Favor, Somewhat favor, Neither favor nor oppose, Somewhat oppose, Oppose, Strongly oppose

Question 2: How important is this issue to you personally?

Response Options: Not important at all, not too important, somewhat important, very important, extremely important

Question 3: To what extent is your position on this issue a reflection of your core moral beliefs and convictions?

Response Options: Not at all, Slightly, Moderately, Much, Very much

Dependent Variables

Question 1: Based on what you know, to what extent do Catholics share your values?

Response Options: Not at all, Not too much, Somewhat, Very much, Completely

Question 2: How close do you feel toward Catholics? By 'close' we mean people who are most like you in their ideas, interests, and feelings.

Response Options: Not close at all, Not too close, Somewhat close, Very close

Question 3: How favorable or unfavorable are your attitudes toward Catholics?

Response Options: Very favorable, Favorable, Somewhat favorable, Neither favorable nor unfavorable, Somewhat unfavorable, Unfavorable, Very Unfavorable

Manipulation Checks

Question 1: Based on your best guess, do you think Catholics are more likely to identify as Republicans or Democrats?

Response Options: Much more likely to identify as Republicans, Slightly more likely to identify as Republicans, Evenly split between Republicans and Democrats, Slightly more likely to identify as Democrats, Much more likely to identify as Democrats

Question 2: If the legislature were considering a bill that would require transgender individuals to use the public restrooms that match the sex they were assigned at birth, do you think Catholics would be more likely to support or oppose this bill?

Response Options: Much more likely to support the bathroom requirement, Slightly more likely to support the bathroom requirement, Evenly split between support and oppose, Slightly more likely to oppose the bathroom requirement, Much more likely to support the bathroom requirement

Question Wording, Study 3

Pre-test: Group Attitudes

Question: How favorable or unfavorable are your feelings toward each of the following groups?

Response: 0-100 slider grid that randomized the order of groups including Mormons

Pre-test: Environmental Attitudes

Question 1: How strongly do you favor or oppose government imposing regulations on businesses in order to protect the environment?

Response Options: Strongly favor, Favor, Somewhat favor, Neither favor nor oppose, Somewhat oppose, Oppose, Strongly oppose

Question 2: How important is this issue to you personally?

Response Options: Not important at all, not too important, somewhat important, very important, extremely important

Question 3: To what extent is your position on this issue a reflection of your core moral beliefs and convictions?

Response Options: Not at all, Slightly, Moderately, Much, Very much

Dependent Variables

Question 1: Based on what you know, to what extent do Mormons share your values?

Response Options: Not at all, Not too much, Somewhat, Very much, Completely

Question 2: How close do you feel toward Mormons? By 'close' we mean people who are most like you in their ideas, interests, and feelings.

Response Options: Not close at all, Not too close, Somewhat close, Very close

Question 3: How favorable or unfavorable are your attitudes toward Mormons?

Response Options: Very favorable, Favorable, Somewhat favorable, Neither favorable nor unfavorable, Somewhat unfavorable, Unfavorable, Very Unfavorable

Manipulation Checks

Question 1: Based on your best guess, do you think Mormons are more likely to identify as Republicans or Democrats?

Response Options: Much more likely to identify as Republicans, Slightly more likely to identify as Republicans, Evenly split between Republicans and Democrats, Slightly more likely to identify as Democrats, Much more likely to identify as Democrats

Question 2: If the legislature were considering a bill that would place more environmental regulations on businesses, do you think Mormons would be more likely to support or oppose this bill?

Response Options: Much more likely to support to environmental regulation of business, Slightly more likely to support environmental regulation of business, Evenly split between support and oppose, Slightly more likely to oppose environmental regulation of business, Much more likely to support environmental regulation of business

Analyses Referenced in Main Text

Table A1. Manipulation Checks

	Study 1		Study 2		Study 3	
	Issue	PID	Issue	PID	Issue	PID
Treatment	14.89* (1.46)	3.54* (1.16)	-0.25* (0.07)	-0.02 (0.06)	0.31* (0.07)	0.07 (0.07)
Constant	48.29* (1.02)	53.91* (0.81)	2.57* (0.05)	2.98* (0.04)	3.01* (0.05)	3.78* (0.05)
N	1,078	1,077	1,334	1,333	1,086	1,087

Note: Both DVs represent perceptions of where the group stands on the relevant issue (*Issue*) and partisan identity (*PID*). Both *Issue* and *PID* measure on 101-point scales in Study 1, both on 5-point scales in Study 2 and Study 3.

Table A2. Analyses of Vietnamese American Favorability, Study 1

	Baseline Model (Figure 1)	Robustness Check
Treatment	-.01 (.01)	-.01 (.01)
Issues Attitudes: Gun Control	.02 (.01)	.01 (.01)
Treatment X Attitudes	-.08 (.02)*	-.06 (.02)*
Partisanship	.05 (.01)*	.06 (.01)*
Treatment X Partisanship	---	-.04 (.02)*
Pre-Treatment Favorability of Asian Americans	.23 (.02)*	.23 (.02)*
Constant	.39 (.02)*	.39 (.02)*
N	1,081	1,081

Table A3. Analyses of Catholic Favorability, Study 2

	Baseline Model (Figure 1)	Robustness Check
Treatment	-.01 (.01)	-.01 (.01)*
Issues Attitudes: Transgender Bathrooms	-.02 (.01)	-.02 (.01)
Treatment X Attitudes	-.04 (.02)*	-.03 (.02)
Partisanship	-.01 (.01)	-.02 (.02)
Treatment X Partisanship	---	.03 (.01)*
Pre-Treatment Favorability of Catholics	.12 (.01)*	.12 (.01)*
Constant	.37 (.01)*	.36 (.01)*
N	1,317	1,317

*= $p < .05$; Entries are OLS coefficients with standard errors in parentheses. Issue attitudes and partisanship are coded so that higher values indicate stronger opposition or stronger Republican identification.

Table A4. Analyses of Mormon Favorability, Study 3

	Baseline Model (Figure 1)	Robustness Check
Treatment	.00 (.01)	.00 (.01)
Issues Attitudes: Environmental Regulation	.01 (.02)	.01 (.02)
Treatment X Attitudes	-.12 (.03)*	-.12 (.03)*
Partisanship	.06 (.01)*	.06 (.01)*
Treatment X Partisanship	---	.00 (.02)
Pre-Treatment Favorability of Mormons	.35 (.02)*	.35 (.02)*
Constant	.24 (.01)*	.24 (.01)*
N	1,088	1,076

*= $p < .05$; Entries are OLS coefficients with standard errors in parentheses. Issue attitudes and partisanship are coded so that higher values indicate stronger opposition or stronger Republican identification.

Accounting for Non-Compliance

While non-compliance is often unaddressed in survey experiments, it can be consequential to interpretation of effect sizes. In our case, some respondents were pretreated – they already know where the groups stood on the issue. And some of our respondents were inattentive to the treatment. As a result, our estimate of the treatment effect is reduced by these forms of non-compliance. Here we estimate the complier average causal effect (CACE) using an instrumental variables approach for each study. We use treatment assignment as the instrument and the manipulation check (perceptions of the group's stance on the issue) as the independent variable. To simplify, we dichotomize the manipulation check to represent whether the respondent recognizes the majority position of the group or not. We also split the sample based on pretreatment support or opposition to the policy, while ignoring the role of attitude strength.

In Study 1, 43% of the control group correctly reported that a majority of Vietnamese Americans support gun control, while this figure rises to 72% in the treatment condition. Thus, while the treatment was effective, there was significant non-compliance. Among respondents supporting gun control, the ITT is 0.06, while the CACE is 0.21. Thus, the causal effect among compliers is about 20% of the scale of the DV, or about one standard deviation. Among opponents, the ITT is -0.06 and the CACE is -0.15. Thus the causal effect among compliers is about 15% of the scale of the DV or three-quarters of a standard deviation.

In Study 2, 46% of the control group correctly reported that Catholics are more likely to support than oppose bathroom regulations, while this figure increased to only 58% in the treatment group, providing evidence of substantial non-compliance. Among supporters of the policy, the ITT is 0.02, but the CACE is 0.20. Thus, again, the causal effect among compliers is about 20% of the scale of the DV and close to a full standard deviation. Among opponents of the policy, the ITT is -0.05 and the CACE is -0.36. This effect more than a third of the scale of the DV and more than 1.5 standard deviations.

In Study 3, 26% of the control group correctly reported that Mormons are more likely to support environmental restrictions, while this figure increased to 42% in the treatment group. Among supporters of the policy, the ITT is 0.05 and the CACE is 0.31. Thus, the causal effect among compliers is about 31% of the response scale and about 1.3 standard deviations. Among opponents of the policy, the ITT is -0.03 and the CACE is -0.16. Thus, the causal effect among compliers is about 16% of the response scale or about 0.7 standard deviations.

Data Collection Ethics

Our data collection procedures adhere to the American Political Science Association's *Principles and Guidance for Human Subjects Research*. All three studies were approved by the authors' university Institutional Review Board. The surveys and embedded experiments did not involve any deception. There were not any sensitive questions, and the data are anonymous. Respondents read an informed consent page and voluntarily participated in the surveys. Respondents were compensated for their participation at a rate determined by the survey firms.

Pre-Registration for Study 2

Study Information

Hypotheses

Respondents who learn that a group shares their view on a policy will hold more favorable attitudes toward that group. Respondents who learn that a group opposes their view on a policy will hold less favorable attitudes toward that group.

Design Plan

Study type

Experiment - A researcher randomly assigns treatments to study subjects, this includes field or lab experiments. This is also known as an intervention experiment and includes randomized controlled trials.

Blinding

For studies that involve human subjects, they will not know the treatment group to which they have been assigned.

Is there any additional blinding in this study?

No response

Study design

The experiment is a two-group between-subjects design. All respondents will read a short text about Catholics' political views, including their partisan balance. In the treatment group, respondents will also be informed that Catholics tend to support requiring transgender people to use bathrooms that match the sex they were assigned at birth. Respondents will then answer several questions about their feelings toward Catholics.

No files selected

Randomization

No response

Sampling Plan

Existing Data

Registration prior to creation of data

Explanation of existing data

No response

Data collection procedures

Respondents will be recruited and compensated by Dynata. Participants must reside in the US and be at least 18 years old. An attention check will be embedded among the first several questions. Respondents who fail the attention check will not be allowed to participate in the survey.

No files selected

Sample size

We aim for 1,000 complete responses.

Sample size rationale

No response

Stopping rule

No response

Variables

Manipulated variables

Respondents in the treatment condition will read that: “40% of Catholics believe that transgender individuals should be required to use public restrooms that match the sex that they were assigned at birth, while only 26% oppose this policy. The rest are unsure.”

No files selected

Measured variables

The pretreatment control variables will be measured as follows:

How favorable or unfavorable are your feelings toward each of the following groups? Catholics
<101-point slider>

Additionally, we will include a standard branching measure of partisan identity, following the ANES format.

The moderator – issue attitudes – will be measured with the following three items:

How strongly do you favor or oppose requiring transgender individuals to use public bathrooms that match the sex they were assigned at birth, not the gender they identify with? • Strongly favor • Favor • Slightly favor • Neither favor nor oppose • Slightly oppose • Oppose • Strongly oppose

How important is this issue to you personally? • Not important at all • Not too important • Somewhat important • Very important • Extremely important

To what extent is your position on this issue a reflection of your core moral beliefs and convictions? • Not at all • Slightly • Moderately • Much • Very much

The dependent variable will consist of the following three items:

Based on what you know, to what extent do Catholics share your values? • Not at all • Not too much • Somewhat • Very much • Completely

How close do you feel toward Catholics? By ‘close’ we mean people who are most like you in their ideas, interests, and feelings. • Not close at all • Not too close • Somewhat close • Very close

How favorable or unfavorable are your attitudes toward Catholics? • Very favorable • Favorable • Slightly favorable • Neither favorable nor unfavorable • Slightly unfavorable • Unfavorable • Very unfavorable

The manipulation checks will be measured as follows:

Based on your best guess, do you think Catholics are more likely to identify as Republicans or Democrats? • Much more likely to identify as Republicans • Slightly more likely to identify as Republicans • Evenly split between Republicans and Democrats • Slightly more likely to identify as Democrats • Much more likely to identify as Democrats

If the legislature was considering a bill that would require transgender individuals to use the public restrooms that match the sex they were assigned at birth, do you think Catholics would be more likely to support or oppose this bill? • Much more likely to support the bathroom requirement • Slightly more likely to support the bathroom requirement • Evenly split between support and oppose • Slightly more likely to oppose the bathroom requirement • Much more likely to support the bathroom requirement

No files selected

Indices

We will combine the three variables measuring attitudes toward transgender bathroom policies into a single moderator. To do so, we will first recode the first policy position question to range from -1 to 1, such that 0 represents indifference or ambivalence toward the policy. We will then rescale policy important and moral conviction to each range from 0 to 1 and average them

together to capture attitude intensity. Finally, we'll multiply the policy position item by the attitude intensity item to create our final moderating variable. We will combine the three outcome variables into a single scale by rescaling each variable to range from 0 to 1, then averaging the three items together.

No files selected

Analysis Plan

Statistical models

For our primary model, we will estimate an OLS model predicting our group attitude index as a function of treatment assignment, the policy attitudes moderator, and an interaction between the two. Additionally, we will control for pretreatment partisan identity (7-pt scale) and feelings toward Catholics. To analyze the manipulation checks, we will two conduct t-tests comparing means of each variable by treatment condition.

No files selected

Transformations

No response

Inference criteria

No response

Data exclusion

An attention check will be embedded among the first several questions. Respondents who fail the attention check will not be allowed to participate in the survey.

Missing data

No response

Exploratory analysis

No response

Other

Other

No response