**Appendix for “The Policy Basis of Group Sentiments”**

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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 though 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% | 13% |
|  | 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% | 36% |
|  | Independent | 32% | 34% | 34% |
|  | 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) | 0.30\*  (0.07) | 0.06  (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 | 1,079 | 1,080 |

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**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Outcome:**  **Index** | **Outcome:**  **Index** | **Outcome:**  **Favorability** | **Outcome:**  **Close** | **Outcome:**  **Values** |
| **Treatment** | -.01 (.01) | -.01 (.01) | .00 (.01) | .01 (.02) | -.02 (.02) |
| **Issues Attitudes: Gun Control** | .02 (.01) | .01 (.01) | -.00 (.01) | .02 (.02) | .03 (.01)\* |
| **Treatment X Attitudes** | -.08 (.02)\*\*\* | -.06 (.02)\*\*\* | -.03 (.02) | -.06 (.02)\*\* | -.13 (.02)\*\*\* |
| **Partisanship** | .05 (.01)\*\*\* | .06 (.01)\*\*\* | .03 (.01)\*\* | .03 (.01)\*\* | .08 (.01)\*\*\* |
| **Treatment X Partisanship** | --- | -.04 (.02)\* | --- | --- | --- |
| **Pre-Treatment Favorability of Asian Americans** | .23 (.02)\*\*\* | .23 (.02)\*\*\* | .37 (.03)\*\*\* | .21 (.03)\*\*\* | .12 (.03)\*\*\* |
| **Constant** | .39 (.02)\*\*\* | .39 (.02)\*\*\* | .42 (.02)\*\*\* | .35 (.03)\*\*\* | .41 (.02)\*\*\* |
| **N** | 1,081 | 1,081 | 1,083 | 1,082 | 1,082 |

**Table A3. Analyses of Catholic Favorability, Study 2**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Outcome:**  **Index** | **Outcome:**  **Index** | **Outcome:**  **Favorability** | **Outcome:**  **Close** | **Outcome:**  **Values** |
| **Treatment** | -.02 (.01) | -.00 (.01) | -.00 (.01) | -.03 (.01)\* | -.01 (.01) |
| **Issues Attitudes: Gun Control** | -.05 (.02)\*\* | -.05 (.02)\*\*\* | -.04 (.02)\* | -.04 (.02) | -.06 (.02)\*\* |
| **Treatment X Attitudes** | -.06 (.02)\*\* | -.05 (.02)\* | -.05 (.02)\* | -.07 (.03)\* | -.08 (.03)\*\* |
| **Partisanship** | -.01 (.01) | -.04 (.01)\*\*\* | -.01 (.01) | -.01 (.01) | -.02 (.01) |
| **Treatment X Partisanship** | --- | .05 (.01)\*\*\* | --- | --- | --- |
| **Pre-Treatment Favorability of Catholic** | .40 (.02)\*\*\* | .41 (.02)\*\*\* | .42 (.02)\*\*\* | .49 (.02)\*\*\* | .30 (.02)\*\*\* |
| **Constant** | .27 (.01)\*\*\* | .26 (.01)\*\*\* | .35 (.01)\*\*\* | .18 (.02)\*\*\* | .27 (.02)\*\*\* |
| **N** | 1,317 | 1,317 | 1,325 | 1,319 | 1,321 |

*\*=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**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Outcome: Index** | **Outcome: Index** | **Outcome: Favorability** | **Outcome: Close** | **Outcome: Values** |
| **Treatment** | .00 (.01) | .00 (.01) | -.01 (.02) | .02 (.02) | .00 (.02) |
| **Issues Attitudes: Environmental Regulation** | .01 (.02) | .01 (.02) | .02 (.03) | .02 (.03) | .01 (.03) |
| **Treatment X Attitudes** | -.12 (.03)\*\*\* | -.12 (.03)\*\*\* | -.09 (.03)\*\*\* | -.11 (.04)\*\* | -.16 (.04)\*\*\* |
| **Partisanship** | .06 (.01)\*\*\* | .06 (.01)\*\*\* | .04 (.01)\*\*\* | .05 (.01)\*\*\* | .09 (.01)\*\*\* |
| **Treatment X Partisanship** | --- | .00 (.02) | --- | --- | --- |
| **Pre-Treatment Favorability of Mormons** | .35 (.02)\*\*\* | .35 (.02)\*\*\* | .38 (.02)\*\*\* | .38 (.03)\*\*\* | .29 (.02)\*\*\* |
| **Constant** | .24 (.01)\*\*\* | .24 (.01)\*\*\* | .35 (.02)\*\*\* | .15 (.02)\*\*\* | .23 (.02)\*\*\* |
| **N** | 1,076 | 1,076 | 1,076 | 1,076 | 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 -0.16. 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 a 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 like to oppose the bathroom requirement • Much 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