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IZA DP No. 15428

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ISSN: 2365-9793

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ABSTRACT

Political Ideology, Mood Response, and the Confirmation Bias

The confirmation bias is a well-known form of motivated reasoning that serves to protect an individual from cognitive discomfort. Hearing rival viewpoints or belief-opposing information creates cognitive dissonance, and so avoiding exposure to, or discounting the validity of, dissonant information are rational strategies that may help avoid or mitigate negative emotion. Because there is often systematic thought involved in generating the confirmation bias, deliberation tends to promote this behavioral bias. Nevertheless, the importance of negative emotion in triggering the need for this bias is underappreciated. This paper addresses a gap in the literature by examining mood and the confirmation bias in the political domain. Using results from two studies and three distinct decision tasks, we present data on over 1100 participants documenting the confirmation bias in different settings. All methods (recruitment and sample size, hypotheses, variables, analysis plans, etc.) were preregistered on the Open Science Framework. Our data show evidence of a confirmation bias across distinct dimensions of belief and preference formation. As hypothesized, the data show a strong increase in self-reported negative mood states after viewing political statements or information that are dissonant with one's political ideology. Finally, while not as robust across tasks, we report evidence that supports our hypothesis that negative mood will moderate the strength of the confirmation bias. Together, these results highlight the importance of mood response in understanding the confirmation bias, which helps further our understanding of how this bias may be particularly difficult to combat.

JEL Classification: C91, D91, D89

Keywords: confirmation bias, sleep, deliberation, cognitive reflection, motivated reasoning

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Introduction

This paper reports on two preregistered studies with the following objectives: In Study 1 we replicated existing evidence on the confirmation bias using a classic laboratory decision task in the political domain. This was then followed by tests of mood response hypotheses regarding the classic confirmation bias task. Study 1 also administered a distinct and novel task assessing preferences over political issues that allow us to examine distinct mood and confirmation bias effect of ideology on normative preference judgments. In Study 2, we examined mood impacts of factual political statements and Bayesian updating with noisy signals regarding the truthfulness of each statement—the noisy binary signal may be either ideology-consonant of ideology-dissonant. Thus, in additional to studying a variety of complementary tasks, a main novelty of this paper lies in the examination of the mood impacts of consonant versus dissonant information and how this is hypothesized to moderate the confirmation bias. Our viewpoint is that self-reported mood can reveal cognitive dissonance and mood response is likely an important factor in understanding belief and preference formation.

Background

One of the likely contributing elements to a growing political divide between conservatives and liberals is a form of motivated reasoning referred to as the confirmation bias. As individuals preferentially expose themselves to information or assess arguments on political issues in ways that align with their existing beliefs, polarization of viewpoints may increase. In general, decision biases result from lack of deliberation or attempts to economize on cognitive input to a decision. In contrast, the confirmation bias has been shown to thrive with, and even be enhanced by, issue-specific deliberation or a more reflective style of thinking. Both theory and evidence support this claim (Festinger, 1957; Jones and Sugden, 2001; Cotton, 1985; Frey, 1986; Kahan, 2012; Frimer et al., 2017; Knobloch-Westerwick et al., 2020; Dickinson, 2020) and theory suggests this bias is a rational response to existing or anticipated cognitive dissonance partly aimed at avoiding regret (Kobayashi and Hsu, 2019; Charpentier et al., 2018; Nicolle et al., 2011). The experience of cognitive dissonance is associated with negative mood states (Van Veen et al., 2009), and so one's emotional response to new information may play a critical role in understanding this bias and how it may impact information processing. Thus, the confirmation bias is a form of implicit emotion regulation strategy, and evidence confirms such motivated reasoning produces neural activation that differs from when there is no emotional stake in the issue (Westen et al., 2006).

Political issues are an important and emotionally charged domain for belief formation and information processing where the confirmation bias or biased assimilation of information has been previously documented (Lord et al., 1979; Taber and Lodge, 2006; Hart et al., 2009; Bakshy et al., 2015; Hill, 2015; Allcott and Gentzkow, 2017; Bail et al., 2018; Knoblock-Westerwick et al., 2020; Dickinson, 2020; Bauer et al., 2022). The confirmation bias may present itself both through selective information exposure and/or biased assessment of information (see Taber and Lodge, 2006). Both effects have been documented using social media as a platform to study information exposure to politically dissonant views (Bakshy et al., 2015), and forced exposure to dissonant views on social media was also found to increase partisanship (Bail et al., 2018). Though our focus is on how ideology impacts preference and belief formation, ideology may have other important and diverse downstream effects. For example, ideology likely also drives one's perceptions of how economic systems function (Austin and Wilcox,

2007). And, another recent study documents reduced holiday time together among individuals visiting from opposite-voting precincts (Chen and Rohla, 2019).

Our focus in this paper will be the updating of one's preferences and beliefs regarding political issues and facts in the face of arguments and new information. The closest study of which we are aware to ours is Bauer et al. (2022) who also study baseline beliefs, information exposure, and belief updating among U.S. individuals. While related, our methodologies differ and thus provide complementary evidence on these important questions. A main contribution of our study is to also elicit mood reports at key points in our task administration, which allows us to examine the extent to which affective states may be important in understanding these confirmation bias phenomena.

Some introductory data on mood response by political ideology

To highlight that state-level mood is clearly relevant when it comes to political issues and ideology, Figure 1 reports the impact of political ideology on self-report mood data from liberal and conservative respondents assessed at four different points in time between September 2020 and December 2021. Self-reported mood was assessed on a 7-point scale (higher values indicating that one feels that mood more strongly at present time) across several positive and negative dimensions that were then combined to create a net-negative mood index. Political ideology was assessed on a 1-9 scale with higher values indicating a more liberal political ideology. These data are longitudinal and surveyed the same respondents at each point in time, although the most recent wave included some new respondents to increase the sample size—the respondents in the first and last waves are those in our Study 1 and Study 2 samples. In Figure 1, simple regressions estimated the impact of a more liberal political ideology on the net-negative mood measure in the left-most set of estimation results. Here, we can see that a more liberal political ideology predicted a more negative baseline mood elicited at the beginning of the study—such a difference has been noted previously (e.g., see Napier and Jost, 2008). In each survey wave, we also assessed mood at the end of the study *after* presenting to participants a photo of Donald Trump and, separately, a photo of Joe Biden (presented in random order), with an interest in documenting the mood response to two polarizing figures in American politics at the time. The indication from these data in Figure 1 is that, independent of one's baseline mood report, these two political personalities elicit strong mood responses in the expected direction at several points in time. The more liberal one's self-reported political ideology, the more likely one's mood turns relatively more negative (compared to baseline mood) upon viewing just an image of Donald Trump, but more positive after viewing an image of Joe Biden. This evidence helps increase our confidence in the mood self-report data we use to capture affective state of the participant. Though this paper is not focused on political personalities, these data highlight that mood states should be of clear interest in understanding belief formation and the assessment of information signals regarding political issues and facts.

Methods (common to both Studies 1 and 2)

Both studies were administered on the Prolific platform (Peer et al., 2017; Palan & Schitter, 2018) using U.S. participants. Mood ratings were elicited at key points and included several dimensions of positive (happy, excited, surprised, satisfied) and negative (angry, irritated, confused, regret, disgust) mood. A

main hypothesis tested in each study (and each task) is that ideologically dissonant information will elicit a relatively more negative mood response in the participant. We also examined whether the relative mood response to dissonant statements or information signals can predict the extent to which preferences or beliefs are updated (or not). We used the Open Science Framework (OSF) to preregister our plans for both studies (recruitment approach, sample sizes, hypotheses, and analysis plans) prior to any data collection (Study 1 at doi: 10.17605/OSF.IO/YHVSB; Study 2 at doi: 10.17605/OSF.IO/NQRJD). Both studies were reviewed and approved by the author's human subjects protection review board for the ethical treatment of human subjects. For Study 1, custom screening was used within the Prolific recruitment platform to recruit roughly equal numbers of self-identifying political conservatives and liberals from the subset of U.S. based participants at least 18 years of age. Study 2 recruited first from those who had participated in Study 1, and then our sample size was increased through additional recruitments on Prolific using custom screening for political conservatives and liberals within the U.S. All participants were compensated a flat fee for participation (Study 2 included additional compensation using an incentive compatible belief elicitation task). Full survey details for Studies 1 and 2 are given in the Supplemental Appendix C. In what follows below, we next discuss specific methods, results, and discussion of Studies 1 and 2 separately prior to a general discussion of our overall key findings.

STUDY 1: Mood, and preference Impacts of consonant versus dissonant messages.

In study 1, a sample of n=650 U.S. participants who had self-identified as politically conservative (n=327) or liberal (n=323) were recruited on the Prolific platform, with n=611 (females: n=306, 50.2%) passing the attention checks (conservatives: n=302 49.43%). The Study 1 survey administered two distinct tasks aimed at testing the impact of mood on perceptions and preferences effects that would by hypothesized by the confirmation bias. The first task was a classic confirmation bias task methodology aimed at replicating Taber and Lodge (2006). One modification to the task for this study was to elicit mood reports at key junctures, and we additionally administered a validated emotion regulation questionnaire (Gross and John, 2003) in order to test novel hypotheses related to mood when presented with belief-dissonant information. A distinct and novel second task then elicited beliefs and preferences regarding policy importance and priorities on 12 distinct issues. Preference elicitation was followed by the randomized presentation of informational statements on each issue that were relatively more or less aligned with one's current beliefs or preferences. Mood states were elicited after the information treatment, along with a re-assessment of policy preferences, such that we could test the hypothesis that mood state moderates the confirmation bias effect in different preference dimensions across a wide set of policy issues.

After the second "information manipulation" task, participants were asked if they were registered to vote, and they were also asked of their intention to vote in the (upcoming, at the time) 2020 U.S. presidential election. The survey then asked for two final sets of mood reports, each administered after viewing an image of Donald Trump and Joe Biden (presented in random order). A 6-item cognitive reflection task (Primi et al., 2016) then completed the survey for Study 1.

We preregistered a larger set of hypotheses for Study 1, not all of which are discussed here (see the Supplemental Appendix A for the full set of hypotheses, which are also given in the preregistration plans). The focus of this paper is on those Study 1 hypotheses that involve mood effects of dissonant versus consonant statements and their impact on the confirmation bias in either the classic task

(Hypotheses 1, 2a, and 2b) or the novel policy issue task we administered (Hypotheses 3, 4a, 4b, 4c). We present full results testing the pre-registered hypotheses not discussed in this paper in Appendix B, and our results generally support these additional preregistered hypotheses, which included a replication of the confirmation bias finding with the issue of gun control (Taber and Lodge, 2006).

Study 1 Survey Methods

Participants were recruited from the U.S. on the Prolific platform, where the study was administered within survey software. The survey first administered informed Consent, which required approval to continue the study. The survey then elicited initial demographic and political preference measures, the Emotional Regulation Questionnaire (ERQ) (Gross and John, 2003), and Likert scale baseline mood measures for each of several positive and negative affective states (happy, excited, surprised, satisfied, angry, irritated, confused, regret, disgust). Following these we administered a classic confirmation bias task (Taber and Lodge, 2006) using the issue of gun control, which contained information exposure and perceived argument strength outcome measures with which to assess the confirmation bias.

After the classic confirmation bias task, the survey presented participants with a second "information manipulation" task that examined 12 current political issues of varying degrees of partisanship: environment protection, drug addiction, COVID-19, gun rights, crime reduction, climate change, border security, federal budget deficits, rights of illegal immigrants, police brutality, and ethics in government. For each issue the two preference measures elicited were in response to the following questions: "On a scale of 0-100, please tell us your view of ***how big of a problem POLICY ISSUE X is*** (0 means not a problem at all, 100 means huge problem, in your opinion)"; "On a scale of 0-100, please tell us your view of ***how many resources the Federal Government should be devoting, out of its limited resources (people, budget funds), compared to what it is devoting*** to address this problem of ***POLICY ISSUE X*** (0 means the government ***should*** be devoting a lot fewer, and 100 means the government ***should*** be devoting a lot more resources, in your opinion)". Thus, the preference measures captured the participant's views on how big of a problem the issue is perceived to be, and that participant's preferred resource prioritization for that issue.

The information manipulation task presented participants with the 12 policy issues in randomized order. After eliciting one's perceived importance and preferred resource prioritization on the issue, a randomly drawn informational statement was presented to the participant. The *High Info* treatment presented a statement intended to amplify the importance of the issue, while the *Low Info* treatment statement minimized the issue's importance (see SI Appendix C for all treatment statements on all policy issues).[1]

[1] As an example, for the issue of *CRIME*, the *High Info* treatment statement was: "In a recent 2018 survey, the Bureau of Justice Statistics found that less than half of all violent crimes they track were reported to police, and an even lower percentage of property crimes were reported. Also, most crimes reported to the police were not "solved" (did not result in arrest, charging, or a referral for prosecution). **Thus, it is clear that crime is a bigger problem in this country than we may have thought."** The information statement for the *Low Info* treatment was: "Recent data have shown consistent decreases in the violent crime rate in the U.S. And, recent data published by the Federal Bureau of Investigation from 2018 has shown an even larger drop in property crime. These drops in crime rates have been part of a 25 year trend now, and so **the magnitude of the crime problem in the U.S. is not as bad as one might think."** (highlights were included in what participants viewed for these issues and the information treatment statements). See Appendix C for all statements used in the study.

Following the information treatment, the respondent self-reported mood states (happy, excited, surprised, satisfied, angry irritated, confused, regret, disgust) on a 7-point scale, and policy views/preferences were re-assessed. We assume any change in policy views were the result of the information treatment just presented.

Study 1 Hypotheses

Hypothesis 1: When viewing arguments of opposing political beliefs (i.e., when required to view them) in the classic confirmation bias task, participants will self-report relatively more negative mood/affective states.

Hypothesis 2a: Negative affective/mood states will predict a stronger classic confirmation bias in perceived argument strength.

Hypothesis 2b: Cognitive reappraisal (assessed by the Emotion Regulation Questionnaire) will moderate the strength of the negative mood impact on the classic confirmation bias.

Hypothesis 3: When viewing randomly presented information incongruent with one's policy viewpoints, participants will report relatively stronger negative mood/affective states

Hypothesis 4a: New information will have a lesser impact on updating one's policy priority viewpoints if the information is incongruent with one's viewpoint.

Hypothesis 4b: Negative affect will moderate the relationship between information and viewpoints (more negative mood states will mean a stronger discounting of the belief-opposing information.)

Hypothesis 4c: A stronger cognitive reappraisal style of emotion regulation will moderate (lessen) the impact of negative mood states on the discounting of belief-dissonant information.

Classic Confirmation Bias task: Key variables

Liberal Score $\in$ [1,9]: We elicited ideology in response to the question "In terms of politics, do you consider yourself conservative, liberal, or middle-of-the-road?" on a 9-point scale (response options: 1 = "very conservative", 5 = "middle-of-the-road", 9 = "very liberal"). We refer to this key measure as *Liberal Score*, which is a bit more informative than the dichotomous indicator used to custom screen our sample for roughly equal numbers of conservative and liberal participants from the Prolific platform. The validity of this *Liberal Score* measure is seen in its ability to predict favorability ratings in line with expectations, such as a higher *Liberal Score* predicting a higher favorability rating of Joe Biden and a lower favorability rating of Donald Trump, among other items (see SI Appendix A, Table A1). The distribution of *Liberal Score* in the Study 1 participants is shown in Figure 2.

Mood reports: Participants were asked to report current mood on a 1-7 scale with 1 = "Zero level of this emotion", 4 = "Mid-Range level of this emotion", and 7 = "Maximum level of this emotion." Mood reports were elicited for the following affective states: happy, excited, surprised, satisfied, angry, irritated, confused, regret, disgust. These mood reports were elicited at baseline, as well as after seeing each argument pro-gun or anti-gun argument. Composite measures were created for all positive mood

dimensions (happy, excited, surprised, satisfied) and for all negative mood measures (angry, irritated, confused, regret, disgust). These were used for create net-mood measures as described in the text.

Pro-Gun Views ∈ [-24,+24]: This is a more direct measure of one's ideology regarding the specific issue of gun control used in the classic confirmation bias task. Participants were asked to indicate agreement on a 9-point scale for each of 6 statements (pro- and anti-gun statements included). The scale was later centered at 0 such that the low response "STRONGLY DISAGREE" was a -4 and "STRONGLY AGREE" was a +4 for pro-gun statements. Scoring was reversed for anti-gun statements such that the combined scored across the 6 statements reflected the degree to which the participant agreed with pro-gun statements (negative scores reflect disagreement with pro-gun statements or agreement with anti-gun statements).

Perceived Argument Strength ∈ [-24,+24]: This is the key outcome measure used to assess the confirmation bias regarding one's views on the strength of pro-gun or anti-gun arguments. Participants were presented with 3 pro-gun and 3 anti-gun arguments and we elicited how weak or strong the argument was perceived to be (not whether he/she agreed with the argument). As with *Pro-Gun Views*, responses were elicited on a 9-point scale, centered at zero, and scored such that the composite reflects the perceived average argument strength of pro-Gun arguments. So, negative scores meant one viewed pro-gun (anti-gun) arguments as more weak (strong), on average.

Anti-Gun Mood ∈ [-18,+18]: This variable is a constructed index used to reflect one's overall mood response to arguments regarding gun control. Specifically, each of 6 arguments used in the "perceived argument strength" dimension of the confirmation bias task produced a positive mood measure ∈ [1,7] and a negative mood measure ∈ [1,7] that averaged the multiple dimensions of positive (4 dimensions) and negative (5 dimensions) mood obtained. Positive and, separately, Negative mood measures were then summed for the 3 pro-gun and, separately, the 3 anti-gun arguments to generate a combined Positive and, separately, Negative mood measure for the set of arguments that each ranged in value from 3-21. Finally, a net-mood measure reflecting anti-gun mood was created taking the Negative-Positive mood difference for the pro-gun arguments and the Positive-Negative mood difference for the anti-gun arguments, which could each range from -18 to +18 and averaging these to produce *Anti-Gun Mood.* The distribution of *Anti-Gun Mood* in the Study 1 participants is shown in Figure 2.

Control variables: Age, Female (indicator), Minority (indicator), and Education Level were used as basic control variables in model specifications identified as "controls" (See Table 1 for their full descriptions).

Additional control variables: In specifications labeled as "additional controls, the remaining variables listed and defined in Table 1 were included as regressors. These add additional controls for one's cognitive reappraisal style, political preference and characteristic measures, self-reported sleep (shown in other research to impact the confirmation bias, see Dickinson, 2020), and baseline mood measures.

Information Manipulation task: Key variables

Liberal Score: This measured the participant's ideology on a 1-9 scale (defined above in detail).

Mood reports: These reports (as described above) were elicited after being presented with each of the 12 issues used in the information manipulation task. There were also elicited at the beginning of the survey as baseline mood measures.

Big Problem Statement (=0 or 1): After the presentation of each political issue, participants received a randomly selected informational statement that was created to either amplify or minimize the importance of the issue (see Appendix C for the full set of all statements for all issues). If the statement received was the one intended to amplify the importance of the issue to the participant, we coded *Big Problem Statement* =1 (otherwise, 0).

Preference Ratings $\in$ [0,100]. For each of 12 political issues presented (in randomized order), participants were asked to give a 0-100 rating in response to the following two questions: "On a scale of 0-100, please tell us your view of how big of a problem [INSERT ISSUE HERE] is" (0="not a problem **at all**", 100="this is a **huge problem**"); and, "On a scale of 0-100, please tell us your view of *how many resources the Federal Government should be devoting, out of its limited resources (people, budget funds), compared to what it is devoting* to address this problem of [INSERT ISSUE HERE]." (0="should be devoting **fewer resources** to this issue", 100="should be devoting **more resources** to this issue"). These responses generated two preference ratings variables for each of the 12 issues for each participant: a *Problem Rating* and *Resource Priority Rating*. Furthermore, these ratings were elicited both before and after viewing of the randomized informational statement on the issue, such that we have a pre-treatment and post-treatment preference rating on each issue.

Degree of Dissonance $\in$ [0,100]: If the randomly received message promoted the importance of the issue, then *Degree of Dissonance* was defined as "100-*rating*", where *rating* is the individual's *Problem Rating* or *Resource Priority Rating.* This creates two *Degree of Dissonance* $\in$ [0,100] values for the individual for each issue: one defined based on one's perception of how big a problem the issue is, and one defined based on one's preferred resource prioritization regarding the issue. Also, it defines the degree of dissonance with respect to one's direct response to these issue questions, as opposed to using ideology as a proxy for how dissonant one's views may be with the received information statement.

Controls and *Additional Controls variables*: Same as above for the classic confirmation bias task.

All estimations included sensitivity analysis with full estimation results shown in Appendix A. Specifically, simple or binary regressions were complemented with regression analysis that included demographic and additional controls derived from the survey measures. We summarize the key results by way of coefficient plots, and relegate the full estimation results to Appendix A. The pre-registration plans identified several other a priori hypotheses that are not as relevant to the focus of this paper. These additional preregistered hypotheses, which were mostly supported by the data, are given in Appendix B along with full estimation results testing those pre-registered hypotheses.

Study 1: Results

Our sample of n=611 participants from Study 1 includes n=307 females (50.25%), n=302 self-reported Republicans (49.43%), and the average age of the participants was 34.11 years (± 13.56 years standard

deviation, range 18-72). The baseline mood ratings were averaged for all positive (happy, excited, surprised, satisfied) and negative (angry, irritated, confused, regret, disgust) mood dimensions and differenced to create a measure of one's neg negative mood, *NetNegMood*, that ranged from -6 to +6 with positive values indicating a relatively more negative than positive mood. The baseline *NetNegMood* for the Study 1 sample was -1.76 (± 1.71, range -6 to +3.6), which implied an average net *positive* mood overall, though we saw in the September 2020 data in Figure 1 (i.e., the survey wave in which the Study 1 tasks were administered) that a more liberal ideology predicted a more negative baseline mood report.

Tests of H1-H2 (classic confirmation bias task)

Results of our H1 test are shown in Figure 4, which shows robust support for the hypothesis. We estimated linear regression models using two distinct controls for one's views on gun control (Left-panel and Right-panel estimates in Figure 4). In each instance, we also estimate models with and without additional controls (full results of all estimations are in Appendix A, Table A2). The dependent variable, *Anti-Gun Mood,* captures the impact of dissonant arguments on viewpoints regarding gun control because it measures the relative negative over positive mood reported after viewing pro-gun arguments, as well as the relative positive over negative mood reported after viewing anti-gun arguments. That is, *Anti-Gun Mood* captures the combined argument-consonant positive mood and argument-dissonant negative mood reported by the participant, with this measure being positive for more liberal or anti-gun ideological views and more negative for more conservative or pro-gun ideological views (i.e., *Anti-Gun Mood* <0 implies mood is more positive after seeing pro-gun arguments). The H1 test is whether negative (positive) mood promoted by dissonant (consonant) arguments is moderated by the strength of one's ideological views, reflected in the key independent variables, *Pro-Gun Views* (left-panel) and *Liberal Score* (right-panel).

The left-panel of results in Figure 4 directly evaluate H1 using one's expressed viewpoints on the issue of gun-control (i.e., *Pro-Gun Views*), and the negative and significant coefficient estimates ($p < .01$) indicate that having more pro-gun views lowers one's *Anti-Gun Mood* measure, which supports H1. A similar result is found when using *Liberal Score* as the (indirect) measure of how one likely feels about the issue of gun control—a more liberal ideology predicts an increase in one's *Anti-Gun Mood* measure ($p < .01$), which also supports H1 (Figure 4 right-panel results). Thus, evidence supporting H1 established the basis for the mood-mechanism hypotheses that follow.

Hypothesis 2 tests whether mood moderates the degree of the confirmation bias, and whether this additionally depends on approach to emotion regulation via cognitive reappraisal. Figure 5 summarizes these results via coefficient plots, with full results in Appendix A, Table A3. In Figure 5 we present results from regressions with and without controls for both full sample (testing H2a), as well as the split subsamples of those low and high in cognitive reappraisal (using a median split to test H2b). On the left-panel we see that, holding ideology constant, the degree of one's negative affective response to pro-gun statements (i.e., one's *Anti-Gun Mood*) predicts a lower perceived strength of pro-gun arguments in the classis confirmation bias task ($p < .01$ in all instances). Point estimates are similar for the split samples with a somewhat reduced statistical significance. For the full sample, the right-panel coefficient estimates on the interaction term *Anti-Gun Mood * Liberal Score* test whether mood moderates the confirmation bias, with negative coefficient estimates supporting H2a ($p < .01$). Regarding H2b, the data

do not support the hypothesis that those high in cognitive reappraisal have a lower confirmation bias effect (i.e., no statistically significant difference in the coefficient estimates in the High versus Low cognitive reappraisal subsample estimates). However, we note that the mood-moderation hypothesis is only statistically significant for the Low Cognitive Reappraisal subsample ($p < .05$ or better). So, while out data fail to support H2b, these results perhaps merit future research.

***Tests of H3-H4* (*Information manipulation task—a novel confirmation bias task*)**

These tests involve the panel data set created from the information experiment component of the survey, in which participants assessed 12 distinct policy issues before and after a randomized information treatment that provided dissonant or consonant information on the issue, with dissonance measured by *Degree of Dissonance* defined above. To establish the connection between this component of the study and the previous gun control confirmation bias task, we first tested H3 to evaluate the pre-registered hypothesis that information more dissonant with one's perceived importance and prioritization of the issue would significantly increase one's relative negative mood state (as was supported by result above with H1). Here, the dependent variable in the regressions is defined as one's average *Negative Mood* minus one's average *Positive Mood* metric (i.e., one's relative negative mood) captured after viewing the political issue informational statement. Here, we have 12 observations per participant, and the models estimated are random effects GLS models with errors clustered at the participant level.

Because we define the dependent variable as a relative *negative* mood report, H3 is supported if the estimated coefficient on *Degree of Dissonance* is positive. As shown in Figure 6 coefficient plot summary results, in all cases the data support H3 with respect to both preference dimensions examined at the $p < .01$ level (perceptions regarding how big of a problem the issue is we label as "perceived issue importance" in Figure 6).

Hypothesis 4 is evaluated next, where we again use random effects GLS estimations with standard errors clustered at the participant level. The dependent variable is the log of one's post-treatment preference rating (*Perceived Problem* or *Resource Prioritization*), which we model as a function of log of one's pre-treatment preference rating, an indicator for the information statement received (*Big Problem*), the *Degree of Dissonance* of the information statement with one's preference rating, and an interaction between *Degree of Dissonance* and *Big Problem*. Preference ratings of 0 were replaced with "1" prior to the log transformation. The baseline specification, to which we then add control variables for the sensitivity analysis is:

$$(1) \quad \log(Rating_{post}) = \alpha + \beta_1 \log(Rating_{pre}) + \beta_2 Big\ Problem + \beta_3 Dissonance\ Degree + \beta_4 (Dissonance\ Degree * Big\ Problem) + error$$

Figures 7-9 show the results of our H4a-H4c tests in the form of coefficient plots of the key coefficient estimates that test H4, β_3 and β_4 (See Appendix A for full results).[2] In Figure 7, the positive and

[2] Key results note shown in the main text include the predicted positive and significant impact of one's baseline preferences rating on post-information ratings ($\beta_1 > 0$ in all instances, $p < .01$), and a significant and positive main

statistically significant coefficient estimates on the main *Dissonance* measure, β_3, have the following interpretation. An increased *Dissonance Degree* for a reference group *Big Problem* = 0 statement (i.e., the participant received the statement minimizing how big of a problem the issue is) predicts a higher rating on both preference dimensions--$\beta_3 > 0$ in all instances, $p < .01$. That is, the effect of *Dissonance Degree* is opposite the direction of the informational statement, as predicted. When a statement is received intended to increase one's perception of how big a problem the issue is, i.e., when *Big Problem* =1, the negative and significant interaction term *Dissonance Degree* * *Big Problem* implies a marginal reduction in one's preference rating that is separate from the main positive effect of *Big Problem* = 1 (not shown in Figure 7). The combined β_3 and β_4 effects are significantly different from zero (X^2 test, $p <$ .01 in each instance) in the direction of the pre-registered hypothesis (i.e., $\beta_3 - \beta_4 < 0$ is the alternative hypothesis). That is, we estimated a significant negative effect on one's preference ratings for the combined coefficients that apply for someone receiving the *Big Problem* = 1 informational treatment, which supports H4a that updating preferences measures is to a lesser degree for dissonant statements.

In short, the more dissonant one's pre-treatment preferences are with the randomly assigned information/statement treatment, the less one's preferences are influenced in the direction suggested by the informational statement for that issue. The magnitude of the coefficients in the logged regression are such that in the left panel, for example, a 30 unit change in the degree of dissonance of one's preferences with the statement received predicts a 9%-10% reduced influence of the statement on one's post-statement preference rating (i.e., exponentiating the impact given by the estimated log coefficients).

Hypotheses H4b and H4c evaluate this same hypothesis and whether it is moderated (i.e., increased) by one's negative mood state (H4b) and whether it is moderated (i.e., decreased) by one's cognitive reappraisal style. The results in Figure 8 offer qualified support for H4b. In the Panel A results of Figure 8, the left-side compares the same β_3 and β_4 estimates of the *Perceived Problem* preference model for the subset of those reporting more negative mood (top-left of Panel A) compared to those reporting more positive mood (bottom-left of Panel A), where mood is defined by one's *baseline mood measures*. For the *Perceived Problem* measure, we find that those with more negative baseline mood have a stronger moderation effect of dissonant information than those with more positive baseline mood. The upper and lower results comparison of the upper-right and lower-right shows the same results for the *Resource Priority* measure, and here we fail to estimate a significant difference. So, H4b is supported for one of the preference measures in this task when using baseline mood. However, in Panel B, which defines more positive or negative mood based on post-information statement mood reports, the results are not consistent with those in Panel A, and fail to support H4b. The H4c tests results shown in Figure 9 also fail to find support that cognitive reappraisal style moderates the confirmation bias prediction on either measure of issue preference. From these H4b and H4c tests using the information manipulation task, the conclusion supported by the data is that dissonant information leads to the same degree of preference-update moderation regardless of mood or explicit emotion regulation style (but from H3, which was supported by the data, dissonant information directly and negatively impacts one's mood).

Study 1 DISCUSSION

effect of *Big Problem*, as expected if one believes preference ratings respond in the direction of the information statement ($\beta_2 > 0$, $p < .01$ in all instances). These effects can be seen in Appendix A Table A6.

As a whole, our results from study 1 support all preregistered hypotheses regarding dissonant information and negative mood. We also find support in the classic confirmation bias task results that this negative mood predicts a stronger confirmation bias effect when evaluating the strength of gun control arguments. Our novel information manipulation task allowed us to examine the confirmation bias along two preference dimensions, and we found support for the hypothesis the dissonant information promotes a more negative mood state. Furthermore, our data supported the hypothesis that dissonant informational statements have a lesser impact on the updating of one's preference ratings on a variety of political issues. The results regarding mood moderating this confirmation bias effect in the novel information manipulation task were less clear—the mood moderation hypothesis using the classic confirmation bias task was supported by the data (H2a), but not robustly supported when using the novel information manipulation task (H4b). Finally, we generally found no support for the hypothesis that cognitive reappraisal style would moderate the confirmation bias impact in our novel task.

One critique of the novel information updating task is that is examines preference ratings along dimensions that may not be a clearly defined as one may wish. Also, because preference ratings are not the same as a probability estimate over the likelihood of one or the other state-of-the-world, the task does not lend itself to a more proper Bayesian updating analysis. Study 2 (discussed next) was aimed at addressing these concerns to provide further complementary evidence on the question of mood and the confirmation bias.

STUDY 2: Mood and probabilistic beliefs regarding factual statements (a Bayes task belief-consonant versus belief-dissonant signals)

In Study 2, a sample of n=503 U.S. participants (females: n=294, 58.45%) who had self-identified as politically conservative (n=266, 52.88%) or liberal (n=237) were recruited on the Prolific platform.[3] We preregistered plan to recruit initially from the set of participants in Study 1, which had taken place about 15 months before Study 2. A total of n=193 (n=111 Conservative) of these took part in Study 2 and then, as indicated in our preregistration plans, we recruited others to target a total sample of n=500 by inviting other Prolific participants who were balanced across self-reported political conservatives and liberals (n=310 total, n=155 Conservative, n=155 Liberal).

The survey flow for Study 2 included a Consent page (required to approve to continue the study), followed by baseline Likert scale mood reports for the same positive and negative affective states as was used in Study 1. Political ideology was then elicited using the same *Liberal Score* measure (9-point scale) that was used in Study 1. Following, instructions were given for the Bayes task used in Study 2. Then after passing an attention check question, participants were administered the Bayes task discussed in more detail below. The survey then ended with two final mood measures elicitations, each administered after viewing an image of Donald Trump and Joe Biden (presented in random order)—

[3] For Study 2, all participants "passed" the attention checks because these were automated within the survey for Study 2 such that those failing the attention check would not be allowed to continue the study. This allowed the study to be returned to Prolific to open up the slot for another participant. This approach was not used for Study 1, which is why Study 1 included some participants who failed attention checks and were not included in the analysis (as per our preregistration plans for that study).

these were the exact same two images used in Study 1, and also used in two other waves of follow-up studies to the original set of Study 1 participants, as shown in Figure 1.

Notably, because the original intent was to recruit up to 500 participants for Study 2 from the original set of over 600 participants in Study 1, no further demographics or preference measures were collected in the Study 2 survey. We noted above that we recruited participants who had not completed Study 1 (following our pre-registered contingency plan). As a result, we do not have as robust a set of control variables for our estimation models of Study 2 data but we will estimate models with and without controls for age and gender.[4]

Study 2 Survey Methods

The task administered for Study 2 was based on the design in Hill (2017), which elicited multiple beliefs regarding the truthfulness of several factual political statements after the presentation of multiple noisy signals regarding the statement's truth. Table 2 shows the set of 4 factual political statements used in the belief elicitation task. Two of the statements are factually true and two are false, with one statement benefitting conservatives and one benefitting liberals in the set of true and false statements. Probabilistic beliefs regarding the truthfulness of each statement are elicited using a crossover scoring mechanism that is incentive compatible in the sense that participants maximize their chance of a bonus payment for each elicitation if giving an accurate subjective probability report and, in the event participants do not pay close attention to the description of the bonus payment procedure, it is clearly noted at several points that the mechanism is such that they maximize their expected bonus payment by reporting their true belief in each trial.[5] As in Hill (2017), for each statement a baseline belief is elicited, followed by presentation of a noisy signal that is accurate 75% of the time, on average, and this is common knowledge. Beliefs are elicited again after the noisy signal and this process repeats for a total of 4 noisy signals and posterior belief reports. Practice trials, which are not incentivized, help ensure the participant is familiar with the belief elicitation process and the sequence of noisy signals that follow the initial presentation of the statement. The practice statement was unrelated to political facts—it was a statement regarding the average temperature on Mars.

After the practice trials, the Bayesian elicitation task is administered for each of the 4 statements, which are presented in randomized order, such that each participant provides a total of 16 observations (4 per statement) of posterior beliefs that can be modeled as a function of the prior trial belief and the observed signal. The innovation in our design is that mood reports are given by the participant upon first viewing each political statement, as well as after the 4 trials where noisy signals were observed. In each trial, the participant is reminded of his/her prior probability estimate of the statement's

[4] In fact, not even age and gender were obtained from the Study 2 survey questions but rather were obtained from available data within Prolific for any completed study. We have control measures for those Study 2 participants who also completed Study 1, but this ended up being less than half the final Study 2 sample size. While more characteristics of the Study 2 participants were available from Prolific, none of these corresponded to the other measures used in our set of Study 1 control variables.

[5] This procedure is a variation of the Becker-DeGroot-Marschak mechanism first used as an incentive compatible way to elicit willingness-to-pay (Becker et al., 1964) and is invariant to risk attitude (see Holt and Smith, 2016, for a comparison of several belief elicitation procedures).

truthfulness and 20-second timer counted down for timely responses (see Hill, 2017, online supplementary material).

Study 2 Hypotheses

Hypothesis 1: Bayesian updating--in general, beliefs will update with new information signals in the direction predicted by Bayes rule (other hypotheses will test whether there is updating to the extent predicted by Bayes rule)

Hypothesis 2: Confirmation Bias presence--baseline beliefs will reflect one's political ideology (i.e., more confidence/extreme probability estimate of a statement's factual truth or falseness will align with one's beliefs. So, if a statement being "TRUE" would favor liberal views, then liberals will have baseline probability assessments of its truthfulness closer to 100% (on a 0-100 scale of perceived truthfulness). Also, new information signals not favorable to one's political ideology will predict a lesser level of belief updating compared to information signals that favor one's ideology

Hypothesis 3: A political statement not favorable to one's political ideology (liberal or conservative assessed on a 9-point Likert scale) will elicit more negative mood ratings.

Hypothesis 4: A series of noisy signals that are less favorable to one's political ideology (liberal or conservative assessed on a 9-point Likert scale as in the original study) will elicit an increase in one's net-negative mood ratings compared to when the factual statement was first presented.

Hypothesis 5: Mood impact on confirmation bias--we hypothesize that higher negative affect after viewing a statement will predict the degree to which one updates after an information signal towards or away from one's ideological preference (regarding the statement's truth). For example, the more negative one's mood rating upon viewing a statement, the more one will update a probability assessment in her favored direction when a random signal favors one's ideology. Also, the more negative one's mood rating upon viewing a statement, the less one will update a probability assessment in her un-favored direction when a random signal does not favor one's ideology.

Study 2 Key Variables:

Liberal Score: This measured the participant's ideology on a 1-9 scale (defined above for Study 1 in detail).

Mood reports: These reports (as described above) were elicited at the beginning of the survey but, importantly, also after being presented with each factual political statement. They were also elicited after the set of 4 noisy signals on the accuracy of the statement. We will refer to the mood report given immediately after viewing a political statement for the first time as the *Baseline Statement Mood*.

Statement Negative Mood: The average of the positive mood reports is subtracted from the average of the negative mood reports from *Baseline Statement Mood* were used to produce a composite measure of one's relative negative mood at the moment of having just seen a factual political statement.

TRUE and *FALSE* statement indicators: rather than using one indicator variable, we include these two binary indicators to allow estimation of the separate impact of a *TRUE*=1 versus a *FALSE*=1 statement in our specifications (omitting the constant term).

Statement Dissonance Level $\in$ [1,9]: We define how dissonant a given statement is with one's ideology on a 1-9 scale to capture some degree of more versus less dissonant, and to do so we use *Liberal Score* and *Conservative Score* (which reverse-scores *Liberal Score* such that 9=strong conservative and 1=strong liberal). The *Statement Dissonance Level* is defined as *Conservative Score* level for statements 2 and 3—here, a reading of each statement, if true, would be dissonant with one's conservative ideology. *Statement Dissonance Level* is defined as one's *Liberal Score* value for statements 1 and 4, which would be dissonant (if true) with a liberal ideology.

Dissonant vs Consonant Signal (indicators): The *Dissonant Signal* (*Consonant Signal*) indicator is coded equal to 1 if the noisy signal revealed in that trial is dissonant (respectively, consonant) with one's conservative or liberal beliefs (e.g., a "TRUE" signal for Statement 1 would be *Dissonant Signal* =1 (*Consonant Signal* = 0) for a liberal participant but *Dissonant Signal* = 0 (*Consonant Signal* =1) for a conservative participant). Conservative versus liberal beliefs are defined as *Liberal Score* > 6 (liberal beliefs) or *Liberal Score* < 4 (conservative belief), such that some signals are considered neither dissonant nor consonant if *Liberal Score* = 4-6 on the 1-9 scale (i.e., at or next to the "Middle-of-the-road" classification) for that participant (82 out of 503 participants).

Other key variables describing baseline beliefs and the likelihood of a statement's truth are defined below when discussion the empirical specification.

Empirical model specification:

Bayes rule defines the posterior probability of a statement being TRUE at time *t*, $\hat{p}_t$, as a function of the prior probability at time *t-1* of TRUE, $\hat{p}_{t-1}$, and the information received in time *t* via the observed binary truthfulness signal, s_t, = S $\in$ {0,1}. Using odds ratios, and the likelihood ratio, LR_S , to capture new information, Bayes rule can be written as:

(2) $$\frac{\hat{p}}{1-\hat{p}_t} = \frac{\hat{p}_{t-1}}{1-\hat{p}_{t-1}} \cdot LR_S$$

A log-odds (logit) specification is common in the literature (e.g., Holt and Smith, 2009; Hill, 2017; Coutts, 2019) and we maintain an interest in separately identifying the contribution of True (S=1) and False (S=0) signals, such that we specify the model as

(3) $$logit(\hat{p}_t) = logit(\hat{p}_{t-1}) + I\{s_t = 1\} \cdot \ln(LR_1) + I\{s_t = 0\} \cdot \ln(LR_0)$$

Where $I\{\cdot\}$ *are* indicator functions identify true or false signals. This follows Coutts (2019) and produces the baseline empirical specification (with no constant term given the separate TRUE or FALSE signal indicators).

(4) $$logit(\hat{p}_t) = \delta logit(\hat{p}_{t-1}) + \beta_1 I\{s_t = 1\}\ln(LR_1) + \beta_0 I\{s_t = 0\}\ln(LR_0) + e_{it}$$

The signal strength we use in our design is three-fourths given an accurate signal 3 out of 4 times (as in Hill, 2017), and so the likelihood ratio is 3 for a true signal and 1/3 for a false signal, which highlights the extent to which one's posterior belief of a statement's truthfulness should increase when a TRUE signal is received (i.e., a change of ln(3)) and decrease when a FALSE signal is received (i.e., a change of ln(1/3)). Our novel mood hypotheses are tested using modifications of this baseline specification where we consider both the consonance or dissonance of the TRUE vs FALSE signal, given the participant's reported ideology, and whether the individual reported an initial statement-specific mood that was relatively more positive or negative. Recall that a signal can be neither consonant or dissonant as we have defined the indicators, and so (5) below is well-specified.

(5) $$logit(\hat{p}_t) = \delta logit(\hat{p}_{t-1}) + \beta_1 I\{s_t = 1\}\ln(LR_1) + \beta_0 I\{s_t = 0\}\ln(LR_0)$$
$$+\gamma DissSignal \cdot \ln(LR_S) + \varphi ConsSignal \cdot \ln(LR_S) + e_{it}$$

Study 2 Results

Our sample of n=503 participants for Study 2 included n=294 females (58.45%), n=266 self-reported Republicans (52.88%), and the average age of the participants was 37.65 years (± 14.32 years standard deviation, range 18-79). The distribution of *Liberal Score* ideology measure in the Study 2 participants is shown in Figure 10. The baseline mood ratings were averaged for all positive (happy, excited, surprised, satisfied) and negative (angry, irritated, confused, regret, disgust) mood dimensions and differenced to create a measure of one's neg negative mood, *NetNegMood*, that ranged from -6 to +6 with positive values indicating a relatively more negative than positive mood. The baseline *NetNegMood* at the start of the study for the Study 2 sample was -1.96 (± 1.65, range -6 to +5), which implied an average net *positive* mood overall.

Tests of H1 and H2 (Bayesian updating and the confirmation bias)

The test of hypothesis 1 required estimating model (4) above, which we did both with and without controls for age, gender, and baseline mood at the start of the study. The results of these estimations are shown in Table 3, which are based on 16 observations per subject (4 signals per each of 4 statements with belief elicitation afterwards). Errors were clustered at the participant level in these estimations. Consistent with previously reported findings (Coutts, 2019; Hill, 2017), our results indicate a type of conservative Bayesian updating. Specifically, both one's prior subjective probability estimate as well as the new information significantly impact beliefs in the predicted direction, with δ, β_1, and β_0 all statistically significantly greater than zero ($p < .01$ in each case). However, a perfect Bayesian would yield an estimated $\delta = \beta_1 = \beta_0 = 1$ in equation (4). However, we find $0 < \delta < 1$, $0 < \beta_1 < 1$, $0 < \beta_0 < 1$, such that the new information signal is not incorporated into one's updated beliefs to the extent predicted by Bayes rule ($p < .01$ in each case for the test of the coefficient = 1).

Hypothesis 2 examines whether a confirmation bias is apparent in one's baseline beliefs (call this H2a) and/or in one's degree of belief updating (H2b). Table 4 estimations document evidence of a confirmation bias in baseline probability estimates of a statement's truthfulness. The estimations are carried out separately for each statement such that we regress one's baseline beliefs for a given statement (before receiving any signals regarding the statement's accuracy) on the political ideology measure, *Liberal Score*. As can be seen in Table 4, the more liberal is one's political ideology, the lower is one's baseline estimate of the statement's truthfulness for Statements 1 and 4 (in each case, the statement being true would benefit conservatives) but the higher is one's baseline beliefs regarding the truthfulness of Statements 2 and 3 (where "true" would benefit liberals). Thus, the data support H2a.

Table 5 estimates model (5) above, also with and without controls for age, gender, and baseline mood. We also conduct sensitivity analysis by estimating specifications that include interactions for either dissonant or consonant signals and the log likelihood ratio, $\ln(LR_S)$ (see models (3)-(6) in Table 5). Our estimation results in Table 5 show consistent evidence that a signal consonant with one's ideological beliefs (whether it be a "TRUE" or "FALSE" signal) is given significantly more weight in the Bayesian updating of beliefs. Dissonant signals are not given significantly lesser weight, but together these results are consistent with H2b that dissonant signals will be given *relatively* less weight in one's belief updating than belief-consonant signals.

Tests of Hypotheses 3 and 4 (mood impacts of dissonant statements and signals)

Hypothesis 3 is examined in regression results shown in Table 6. Here, we have 4 observations per participant for the *Relative Negative Mood* measure from self-reports given immediately after viewing each political statement. We regressed *Statement Negative Mood* on the *Statement Dissonance Degree* to test H3. We estimated a specification with controls for age, gender, and baseline mood (start of the study), and we also included a model with a *Female* * *Statement Dissonance Degree* interaction given some recent findings suggesting motivated reasoning in some context may differ by sex (Thaler, 2021). The Table 6 results show robust support for H3, which states that ideologically dissonant statements elicit more negative mood states.

Hypothesis 4 is a related hypothesis that we tested by examining the change in one's self-reported mood for a given statement both before the first noisy signal and after the series of 4 noisy signals have been received. A variable is coded to count the total number of dissonant signals received (between 0 and 4) for each statement, # *Dissonant Signals*. The dependent variable subtracts the relative negative mood measure upon first viewing a statement from one's relative negative mood after the series of 4 noisy signals. Thus, a positive coefficient estimate on *# Dissonant Signals* supports H4 by indicating that dissonant signals made one's mood worse. As can be seen in Table 7, the data fail to support H4, except for the case of Statemen 4. We have no reason why Statement 4 should differ from the others regarding how dissonant signals impact one's mood, and so we conclude that our data do not support H4. In the end, H3 and H4 results indicate that dissonant political statements negatively impact one's state-level mood (H3), but dissonant information signals do not further worsen mood in this task (H4).

Test of Hypothesis 5 (mood impacts the confirmation bias in belief updating)

Our final hypothesis for Study 2, as it was for the Study 1 tasks, seeks to test whether the confirmation bias is a function of one's state-level mood upon viewing the political statement. We test this hypothesis by estimating the model (5) specification for the subset of those with relatively negative (*Neg Mood* > 0,) and those with relatively positive (*Neg Mood* < 0) mood after viewing the statement. The results are in Table 8. As before, the coefficient estimates on the logit prior beliefs and log-likelihood variables are consistent with conservative Bayesian updating across both subsamples. We find evidence that the increased weight given to belief-consonant signals in the one's updating process is restricted to the subsample of those with relatively more positive mood after viewing the statement (models (3) and (4) in Table 8).[6] While this is not exactly how H5 was envisioned, this result is somewhat consistent with H5. That is, because those with more positive mood are estimated to weight consonant signals more in belief-updating, this means that they weight dissonant signals *relatively* less. Nevertheless, we do not estimate the same result in the subsample of those with relatively more negative mood after viewing the statement (models (1) and (2)).

Because the sample of participants for Study 2 included both return participants from Study 1 as well as new participants, we conducted sensitivity analysis on this key Hypothesis 5 (see Appendix A Tables A14-A16). In Tables A14-A15, we estimated the model (5) specification on the subsample of 193 participants in Study 2 who also participated in Study 1 (i.e., original wave (return) participants): Table A14 shows the results for the relatively negative mood observations, and Table A15 shows results for the relatively positive mood observations. We estimated models with and without controls, and also with and without an inverse-probability weight correction for potential sample selection (Appendix A Table A13 gives the selection equation used to yield the predicted probability of a Study 1 participant returning to participate in Study 2). These estimations fail to find robust support for consonant signals being weighted more strongly for those with positive mood (Table A15). However, we find robust support in Table A14 that those with relatively negative post-statement mood weight dissonant signals less. A final set of estimations (Appendix A Table A16) confirmed that the initial result reported in Table 8 is driven mostly by the larger set of new participants (n=310) recruited for Study 2.

Taken together, these estimation results support H5, though in a somewhat qualified fashion relative to the pre-registered version of this hypothesis. We found that one's relative mood state upon viewing a political statement was a significant factor in determining how signals were weighted in one's belief updating. Those with relatively positive mood after viewing a statement were found to give increased weight to a belief-consonant signal regarding the statement's accuracy, while those with a negative mood given give reduced weight to belief-dissonant signals. These findings seem to depend on whether we restrict our analysis to return-participants from Study 1 or to new participants who only participated in Study 2 (even though summary data reported at the beginning of each Study's *Results* section

[6] A singular (pooled sample) model only shows **negative** significance of the Neg Mood * Consonant Signal * lnlr triple interaction (p <.05), but it is hard to interpret whether that results from an increase in negative mood decreasing one's updating emphasis of consonant signals, or whether it results from an increase in positive mood (negative change in *Neg Mood*) increasing one's weight on consonant signals. The mood-split sample estimations above clear this up. Note that the Dissonant signal interaction becomes negative and marginally significant if considering those with *Neg Mood* > 1, which means we are at marginal significance of the result that more negative mood would cause one to reduce emphasis on dissonant signals in updating (even with samples above, the results is p < .06)

revealed no significant differences in age, gender, or baseline mood). Because the new participants recruited into Study 2 contained a higher proportion of female participants (64.52%) compared to those Study 1 participants who returned to participate in Study 2 (48.70% female), we conducted one final set of estimations to compare whether our results may be moderated by sex. Again, we employ the split sample approach for ease of interpretation over triple-interaction effects. In short, Table 9 results indicate the mood moderation effects may be restricted mostly to female participants (models (3) and (4)). Here, the evidence suggests that for female participants discount dissonant signals when experiencing more negative mood, but give extra weight to consonant signals when experiencing more positive mood after viewing the political statement. These significant results indicate more clear support of H5 for females than for male participants (models (1) and (2)).

Study 2 DISCUSSION

Our results from Study 2 offer broad support for our set of hypotheses. The estimation results showed that both prior beliefs and new information matter in forming posterior probability estimates, as suggested by Bayes rule, even though the weight given to new information is less than predicted by Bayes rule (i.e., a "conservative" updating approach). The negative mood response to dissonant statements is robust and supports our hypothesis, although another hypothesis was not supported—additional dissonant signals regarding the statement's truthfulness did not further promote negative mood. The data supported our hypothesis that mood moderates the confirmation bias in this Bayesian setting, although perhaps a bit differently than one might think. Those with positive mood after viewing a political statement were more likely to give extra weight to belief-consonant signals in their Bayesian updating, although those with more negative mood did not give significantly less weight to dissonant signals—this result was marginal at $p = .06$ significance). The mood moderation results appear to be stronger for females compared to males in our sample. This may imply that mood is of additional importance among females in understanding motivated reasoning and, taken to the extreme, it may hint that females are more resistant to dissonant information. This is speculative, however, and would require further research to examine this conjecture.

GENERAL DISCUSSION AND CONCLUSION

Across two studies examining behavior in 3 different tasks, we highlight several consistencies that shed light on our hypotheses regarding dissonance, mood, and their impact on the confirmation bias in the setting of political issues and beliefs. First, across both Study 1 tasks, and in Study 2, there is robust evidence to support the hypothesis that information, arguments, or statements that are dissonant with one's political ideology produce a negative affective response. Only in Study 2 in a Bayesian task environment did the data fail to support our hypothesis that dissonant noisy signals would negatively impact mood. However, in this case we still observed a strong negative mood impact when initially shown a political statement dissonant with one's beliefs. It may be that there was little room for one's mood to further decline if the initial statement largely sets one's mood state for the series of trials related to that statement. Across the various tasks examined in Studies 1 and 2, we examined mood response across several related contexts: mood response to arguments made regarding a singular political issue; mood response to randomly assigned informational statements designed to amplify or

minimize the perceived magnitude of a set of 12 political issues/problems; and, mood response in the context of factual political statements. We therefore consider the mood-impact quite robust and this finding motivates our examination of how mood interacts with ideology in producing confirmation bias effects of various types.

The classic confirmation bias task in the political realm (Taber and Lodge, 2006) examined emotionally-charged political issues, one of them being the issue of gun control. The confirmation bias may be reflected in how we prefer to expose ourselves to belief-consonant information and/or in how weak we perceive belief-dissonant arguments to be for that political issue. Alternatively, we developed a novel task where perceptions and preferences on 12 distinct political issues were elicited, and the confirmation could be examined after participants were exposed to a randomly drawn informational statement designed to move perceptions and preferences towards or away from viewing the issue as a serious problem. Finally, incentivize-compatible probability estimates were elicited regarding the truthfulness of 4 distinct factual political statements in Study 2 in order to examine how noisy signals may be given differential weight in one's belief-updating process depending on whether the noisy signal was dissonant or consonant with one's ideology (Hill, 2017). Across all tasks, the evidence supports the presence of a confirmation bias, which complements existing research on this bias with our use of varied task design and outcome measures capturing different dimensions of how beliefs, preferences, and perceptions are formed.

If the confirmation bias is a robust phenomenon across different domains, and our evidence consistently found that dissonant information (or arguments, or statements) negatively impacts mood, then our examination of the mood moderation effect on the confirmation bias is a natural question. In general, results across all tasks presented also supported the hypothesis that mood moderates the impact of the confirmation bias. In the classic confirmation bias task, more negative mood increases the extent to which liberal (conservative) ideology makes one view pro-gun (anti-gun) arguments as weak. In the novel information manipulation task, a more negative baseline mood state (at the beginning of the study) predicted a stronger discounting of dissonant information in updating one's views regarding how big of a problem the issue is but not one's preferences regarding the Federal government's resource commitments to fix the problem. The mood moderation hypothesis support was weaker regarding its impacts on this novel task, which focused on perceived problem size and resources preferences over 12 distinct political issues. In Study 2, we found support that one's mood upon viewing a politically factual statement is important for understanding how signals regarding the statement's accuracy will be incorporating into one's belief updating process. More positive mood predicted that belief-consonant signals are given additional weight in updating beliefs in the direction of the signal. While pooled data did not find that consonant vs. dissonant signals were given differential weight when one's mood is more negative, exploratory analysis on separate male and female participants indicated that the mood impact may be more robust in females: with positive mood, consonant signals were given additional weight, but with negative mood dissonant signals were given less weight in belief-updating. This result suggests that one's mood when processing a factual political statement may prime one to differentially update information signals depending on how those signals align with one's ideological beliefs.

As a whole, we hope our results will stimulate additional research on the importance of mood state in understanding how ideology impacts preferences and belief formation. Mood is of significant importance in understanding motivated reasoning in our data, and this helps underscore the importance of how the messaging of opposing views can impact the likelihood of those messages influencing those

with opposing views. In this case, messaging should be careful to not inflame negative mood as much as possible. Regarding factual information, our design presented binary true or false signals on the factual content of the statements, and so it is unclear whether signals that include justification of some sort would induce a greater or lesser affective response. Results from our information manipulation task in Study 1 suggest arguments intended to convince one of an opposing viewpoint generate clear negative mood responses, and so while we did not report a marginal impact on mood when presented dissonant information signals in Study 2, it may be the case that additional explanation along with those binary signals may serve to only make mood worse (possibly amplifying the impacts found in our Study 2 task). As always, this research points to areas where one may wish to focus future efforts as we attempt to better understand the mechanisms behind the confirmation bias.

Acknowledgements: The author is grateful for useful comment provided by seminar participants at GATE (Lyon, France).

Funding: The author wishes to thank the Walker College of Business and Appalachian State University for funding this work.

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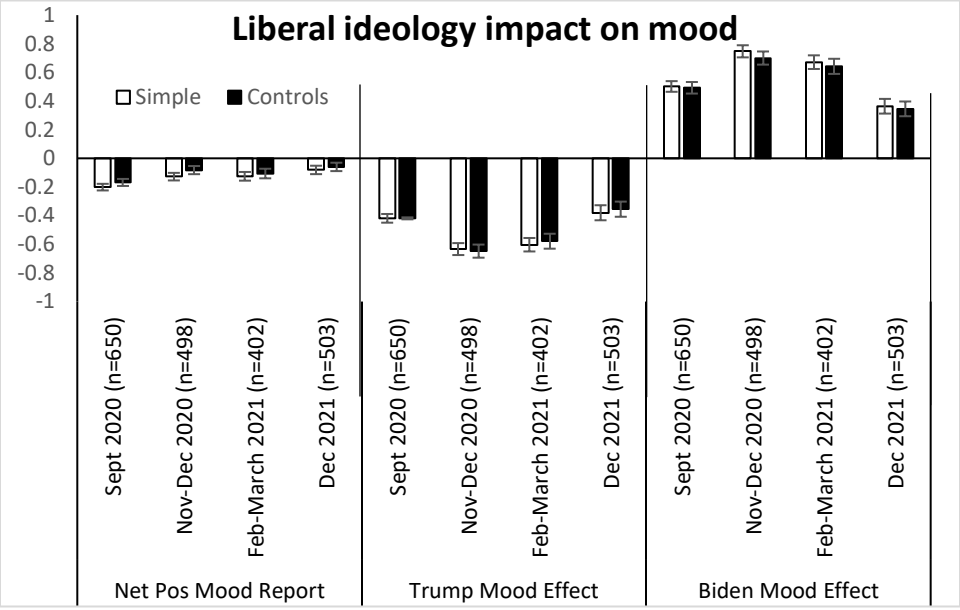
FIGURE 1: Baseline mood and mood impacts of image by ideology



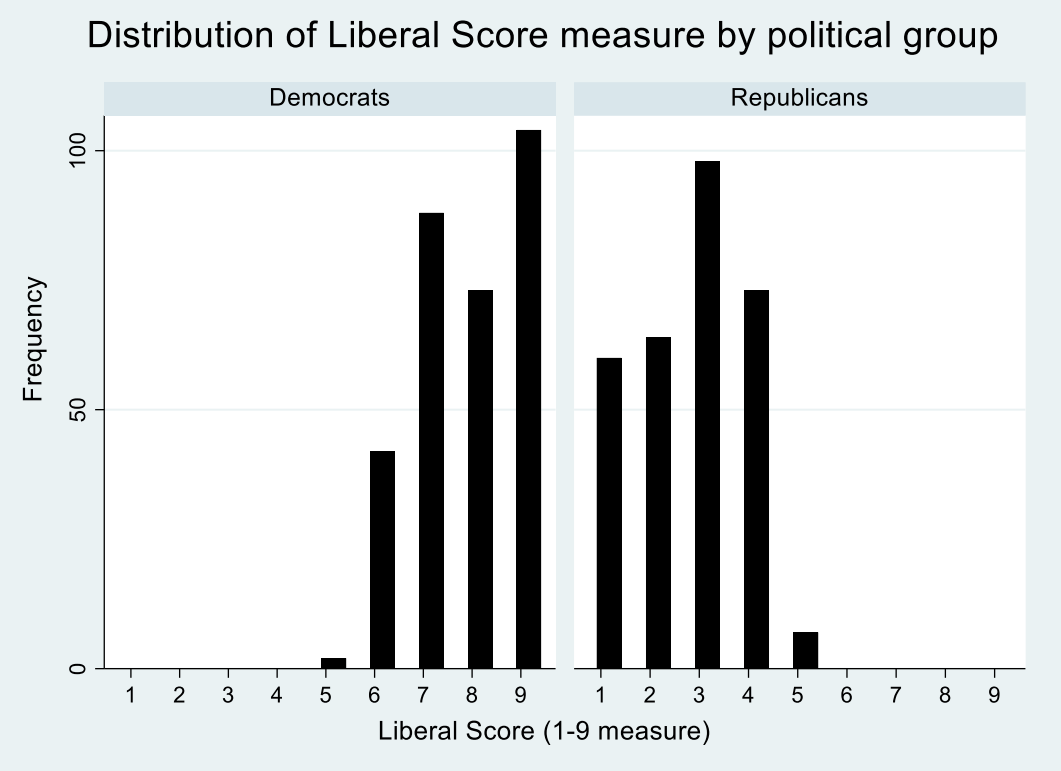
Notes: Coefficient plots show estimates of coefficient on *Liberal Score* variable in binary regression (Simple) or regressions with demographic controls (Controls) across a span of 15 months, self-reported liberal political ideology predicts a relatively more negative baseline mood state (left panel: Net Pos Mood is the average of self-reported positive mood states minus the average of self-reported negative mood states at the beginning of the survey). Additionally, a more liberal ideology predicts that one's mood report become more negative (relative to baseline) upon viewing a photo of Donald Trump and more positive upon viewing a photo of Joe Biden (photos presented in randomized order). The initial study (September 2020) generated n=650 participants who were then contacted for follow-up in November-December 2020 and February-March 2021. These same participants were contacted in December 2021, but only n=193 of the original participants took part in the December 2021 follow-up. As per the preregistration plan, additional participants were then screened for political ideology and U.S. residency on Prolific to produce a sample of approximately 500 participants. For the December 2021 results shown above, both the Trump and Biden mood effects are statistically significant for the split samples of original participants (n=193) as well as new participants (n=310) that make up the total n=503 December 2021 sample ($p < .001$ in all instances). The Net Pos Mood Report effect, however, only remains statistically significant ($p < .05$) for the newly recruited sample of n=310 conservatives and liberals from Prolific. For Waves 1-3, "controls" models included regressors for age, sex, minority, and education, while for Wave 4 they included only age and sex (more return participants were anticipated, and so Wave 4 was not designed to re-elicit all control measures).

Table 1: Study 1 Sample Summary Statistics

Variable	**Mean (SD)**	**Notes and/or "survey question"** (bold present in original survey question)
Female (=1)	.502 (.500)	
Age (in years)	34.108 (13.562)	Sample minimum=18, sample maximum=72
Minority (=1)	.272 (.445)	Scored as minority if ethnicity was Hispanic or Latino, or if racial category was anything other than "White (Caucasian)"
Education level category ∈ [1,7]	4.332 (1.352)	"What is the highest level of education you have *completed*?" [1="Did not complete High School", 7="Terminal Degree beyond Master's Level (e.g., Ph.D., J.D., Ed. D., etc)"]
Emotion Regulation Questionnaire (ERQ) Cognitive Reappraisal component∈ [1,7]	4.871 (1.139)	Gross and John (2003). This component considered beneficial/healthy
Emotion Regulation Questionnaire (ERQ) Expressive Suppression component∈ [1,7]	4.000 (1.312)	Gross and John (2003). This component considered emotionally unhealthy
Attention Politics ∈ [1,5]	3.414 (.941)	"How closely do you pay attention to information about what's going on in **government and politics?**" [1="Not closely at all", 5="Extremely closely"]
Enjoy News ∈ [1,5]	3.480 (1.192)	"In general, how much do you **enjoy keeping up with the news?**" [1=Not at all", 5="A lot"]
Liberal Score ∈ [1,9]	5.249 (2.769)	"In terms of politics, do you consider yourself conservative, liberal, or middle-of-the-road?" [1="Very Conservative", 5="Middle-of-the-road", 9="Very Liberal"]
Strength of Ideology ∈ [0,100]	77.167 (18.108)	"How strongly do you hold to your **political** ideological positions?
Felt Discrimination ∈ [1,7]	2.820 (1.619)	"Have you even felt **discriminated against** this past year ***because of your political views***? We are not asking about whether others have expressed to you different political views from yours, but ***whether you have felt unjust or unfair treatment as a result of your political viewpoints*.**
Fear of Discrimination ∈ [1,7]	3.658 (1.854)	"How often do you choose *not* to share your political views **as a direct result of fear of discrimination or unjust treatment** because of your political views?
Epworth daytime Sleepiness ∈ [1,24]	6.933 (4.047)	Epworth > 10 considered problematic
Last Week Average Nightly sleep (hrs/night)	7.054 (1.170)	Self-reported
Optimal Nightly Sleep (hrs/night)	7.920 (1.042)	Self-reported
Positive Mood metric ∈ [1,7]	3.495 (1.314)	Average ratings composite from self-reported moods: Happy, Excited, Surprised, Satisfied (each mood rating given on [1,7] emotion-level scale)
Negative Mood metric ∈ [1,7]	1.736 (1.076)	Average ratings composite from self-reported moods: Angry, Irritated, Confused, Regret, Disgust (each mood rating given on [1,7] emotion-level scale)

Observations=611

Figure 2: Ideology scale distribution (Study 1)



Notes: average = 7.77 ± 1.08 and 2.68 ± 1.13 for Democrats and Republicans, respectively.

Figure 3: Anti-gun mood measure distribution (Study 1)

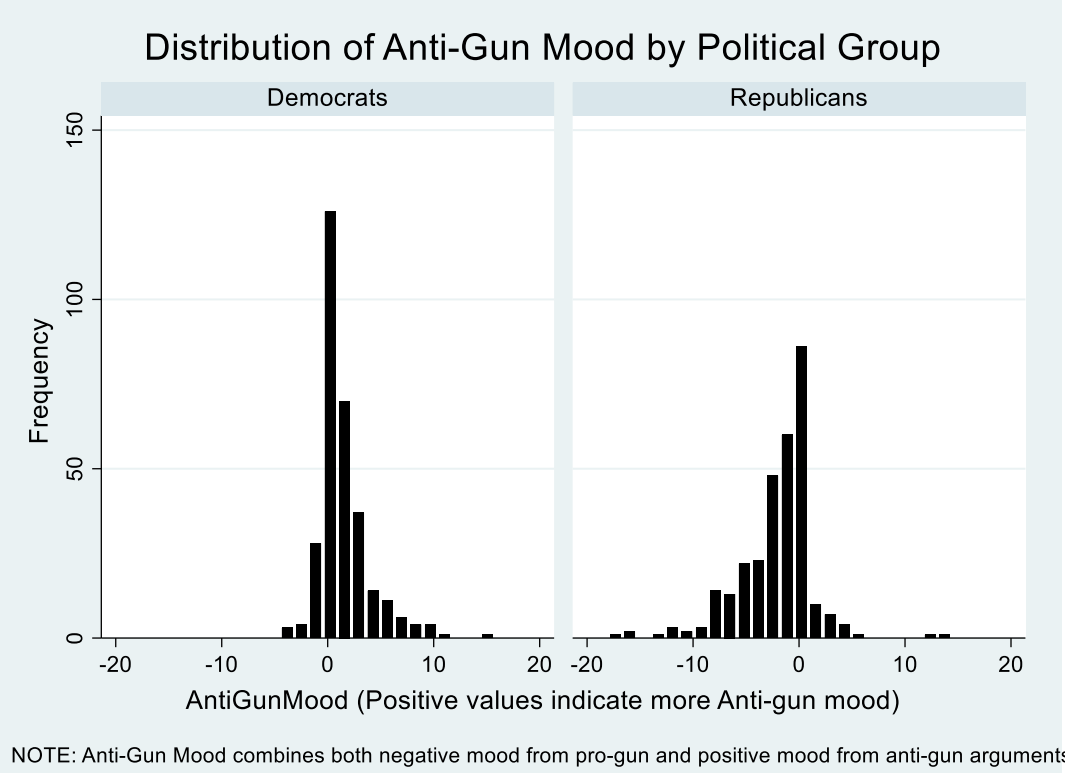
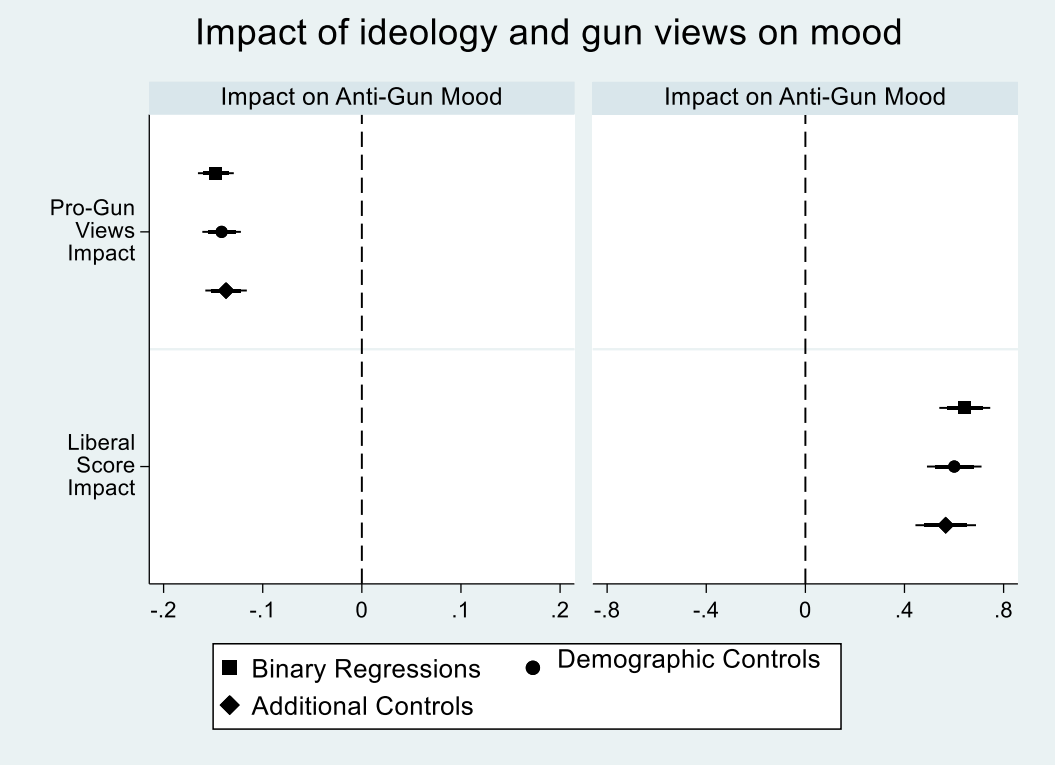
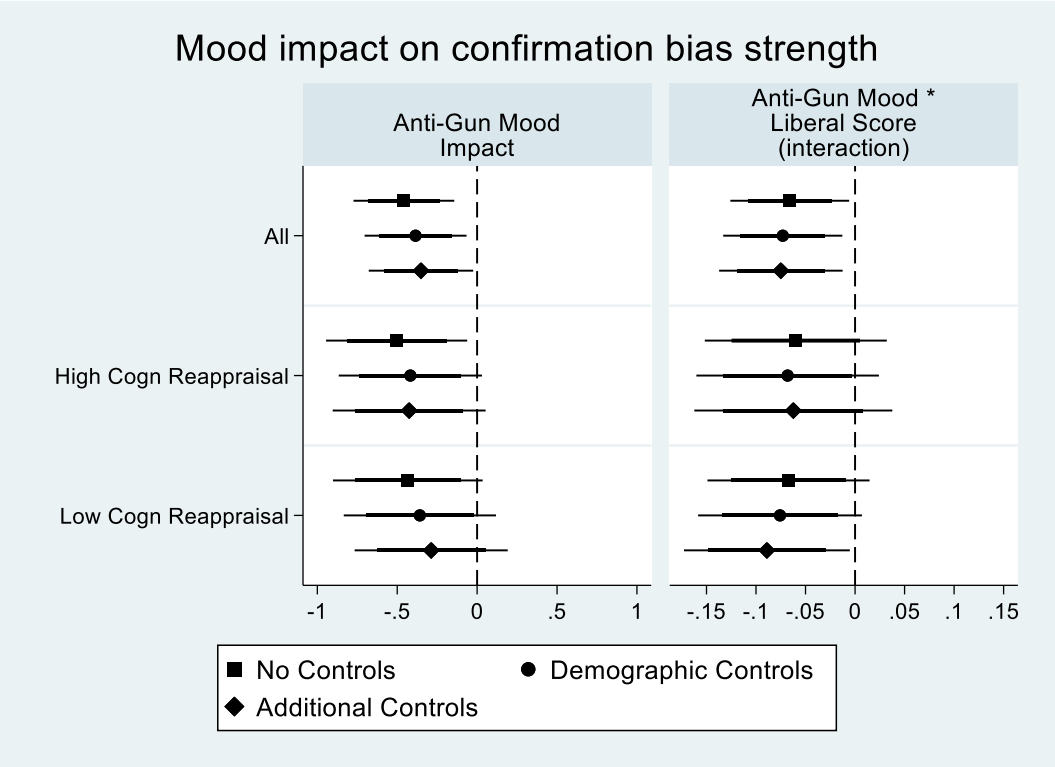


Figure 4: Study 1 Hypothesis 1 test—mood impact of partisan arguments (see Appendix A Table A2 for full estimation results)



Notes: Thick (thin) lines shows the 95% (99%) confidence interval around the point estimates for the 1-tailed pre-registered hypotheses regarding the impact of one's *Pro Gun Views* (left side) or *Liberal Score* (right side) on her Anti-gun mood measure. The *Anti-gun Mood* measure is an average of one's net anti-gun mood averaged across the 3 pro-gun and, separately, the 3 anti-gun arguments to create a singular metric that averages one's net negative mood after seeing pro-gun arguments and one's net positive mood after seeing anti-gun arguments. As defined, the coefficient estimates all support H1 by indicating that *Anti-gun Mood* increases in one's degree of liberalism but decreases in one's degree of pro-gun views. Note the different x-axis scales used due to the different ranges of the dependent variables used—*Pro-Gun Views* $\in$ [-24,+24], *Liberal Score* $\in$ [1,9].

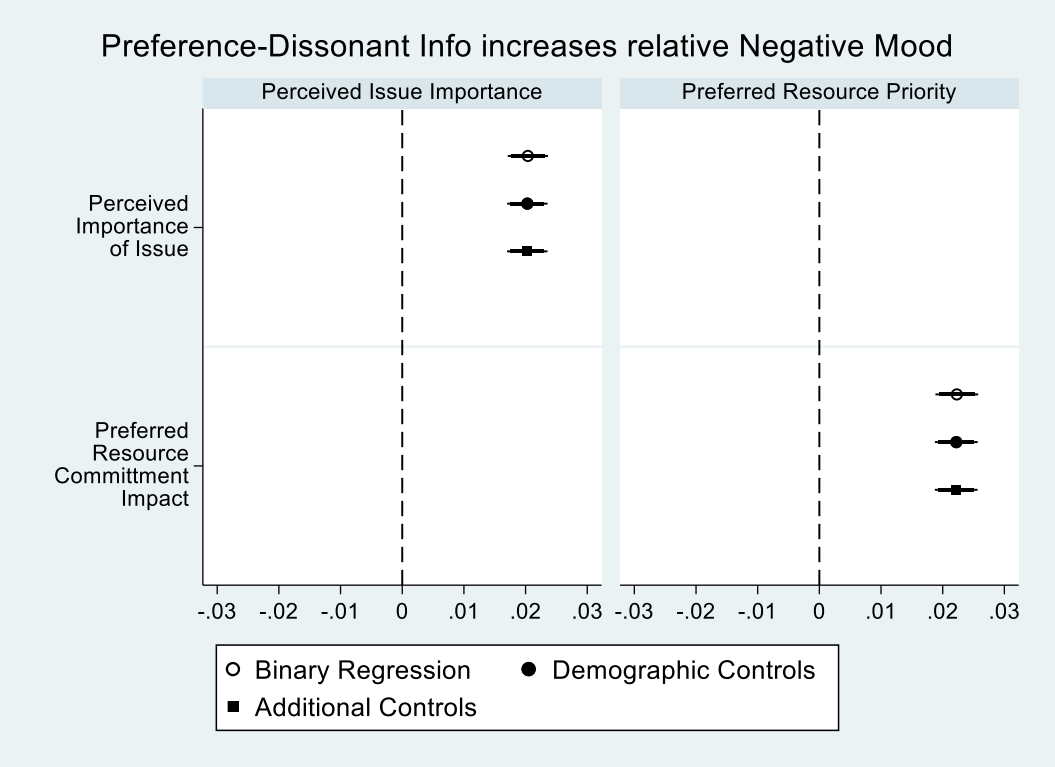
Figure 5: Study 1 Hypotheses 2a and 2b test—mood moderation of confirmation bias on perceived argument strength (see Appendix A Tables A3 and A4 for full results)



Notes: Thick (thin) lines shows the 95% (99%) confidence interval around the point estimates for the 1-tailed pre-registered hypotheses regarding the impact of one's relative *Anti-Gun Mood* and the *Liberal Score* * *Anti-Gun Mood* interaction on perceived argument strength. Note the different x-axis scales in figure. Mood was elicited after viewing each gun control argument (for or against), which was prior to the elicitation of perceived argument strength. Average mood reports were combined (summed) across pro-gun and anti-gun arguments to create a singular measure of one's *Anti-Gun Mood* $\in$ [-18,+18].

The main *Liberal Score* effect (not shown above) was negative and statistically significant across all models ($p < .01$ in all instances), which shows clear evidence of a confirmation bias effect whereby one's political ideology impacts how strong one views the strength of a dissonant argument. Negative coefficient estimates on the *Anti-Gun Mood* variable indicate a more anti-gun mood decreases the perceived strength of pro-gun arguments, while a negative and significant interaction coefficient (right panel) supports the H2a hypothesis that negative mood magnifies the confirmation bias effect on the issue of gun control (i.e., "*All*" estimates above support H2a). H2b is a test of whether those stronger in cognitive reappraisal style (as measured by the Emotion Regulation Questionnaire) will have a reduced mood-moderation impact on the confirmation bias. This H2b is somewhat weakly supported. While the interaction effect coefficient estimates are not different from each other in comparing those High versus Low in cognitive reappraisal style, one can see above that in the split sample estimates, the subsample of those low in cognitive reappraisal have more precisely estimated mood-moderation effects (most notable in the "additional controls" coefficient estimates, which are statistically significant at the $p < .01$ level in the low cognitive reappraisal subsample but statistically insignificant in the high cognitive reappraisal subsample $p > .05$).

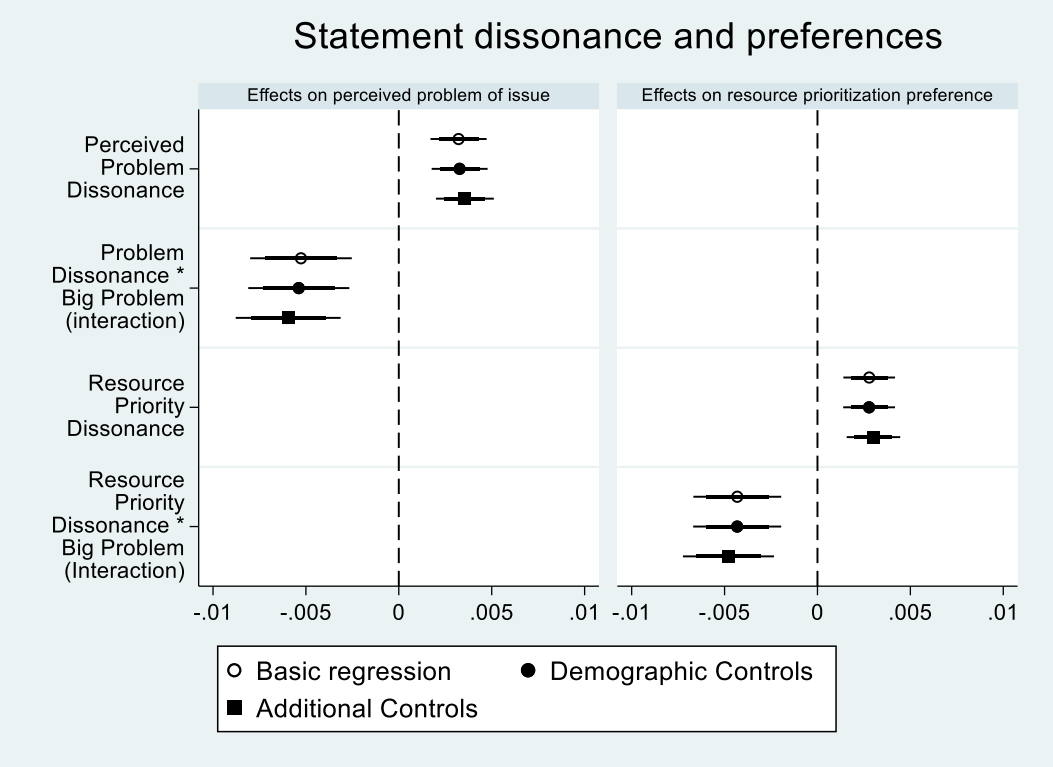
Figure 6: Hypothesis 3 tests (panel data estimations) (see Appendix A, Table A5 for full results)



Notes: The panel data set is comprised of 12 observations per participant capturing mood and preference measures on 12 distinct political issue (n=7,332 for the estimations, with robust standard errors clustered at the subject level). For each issue, presented in randomized order, participants were first asked to rating on a 0-100 scale how big of a problem the individual viewed the issue (*Perceived Issue Importance*) and, whether they thought the government should be devoting fewer or more resources to the issue (*Preferred Resource Priority*). Afterwords, the participant was administered a randomized information treatment to view additional information on the topic, and for each issue the information was scripted to promote a heightened importance of the issue (*HighInfo* =1) or to downplay the importance of the issue (*HighInfo*=0). Participant emotion ratings were then elicited followed by a re-assessment of *Perceived Issue Importance* and *Preferred Resource Priority*.

The thick (thin) lines shows the 95% (99%) confidence interval around the point estimates for the 1-tailed pre-registered hypotheses regarding the impact of the dissonance information, *DissDegree* $\in$ [0 , 50], on the relative negative mood expressed upon seeing the information. The dependent variable, *Relative Negative Mood* $\in$ [-6 , +6], is the *Negative Mood Metric – Positive Mood Metric* measures (see Table 1 on these measures) from the elicited emotion/mood measures post-information treatment for that political issue. *DissDegree* is set equal to zero for those individuals who received additional issue information aligned with their pre-Info rating of *Perceived Issue Importance* and, separately, *Preferred Resource Priority*. For example, if one received the *HighInfo* = 1 treatment on Issue #1, which promoted the importance of the issue, then *DissDegree*=0 for that individual regarding issue importance is *Perceived Issue Importance* >50. Otherwise, if *Perceived Issue Importance* <50, *DissDegree* was defined as 50-*Perceived Issue Importance*. A similar construction was made regarding how dissonant the information was regarding the individual's *Preferred Resource Priority* rating. The maximum level is information dissonance, *DissDegree* = 50, is therefore achieved for perceived issue importance when *HighInfo* =1 (*HighInfo*=0) and *Perceived Issue Importance* =0 (*Perceived Issue Importance* =1).

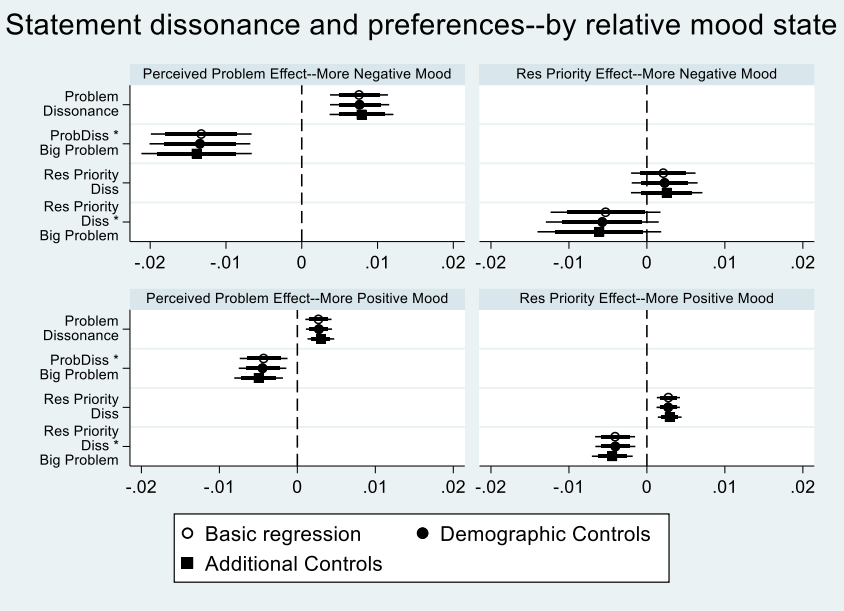
Figure 7: Hypothesis 4a test (see Appendix A, Table A6 for full results)



Notes: The thick (thin) lines shows the 95% (99%) confidence interval around the point estimates for the 1-tailed pre-registered hypotheses. Dependent variable for the estimations is the log of the preference rating (perceived *Size of Problem* of the issue (Left panel) or *Preferred Resource Prioritization* for the issue).

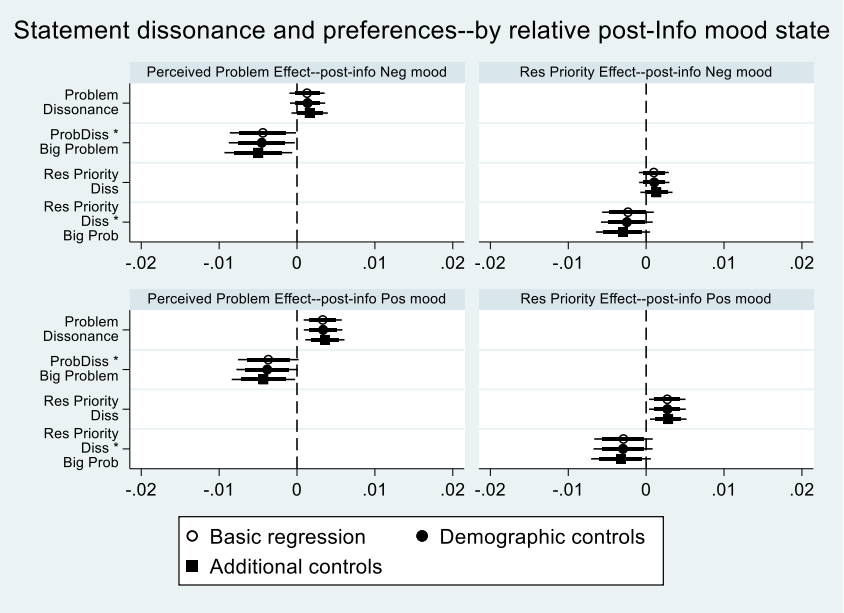
Figure 8: Hypothesis 4b test

Panel A: By Baseline Mood state (see Appendix A, Tables A7-A8 for full results)



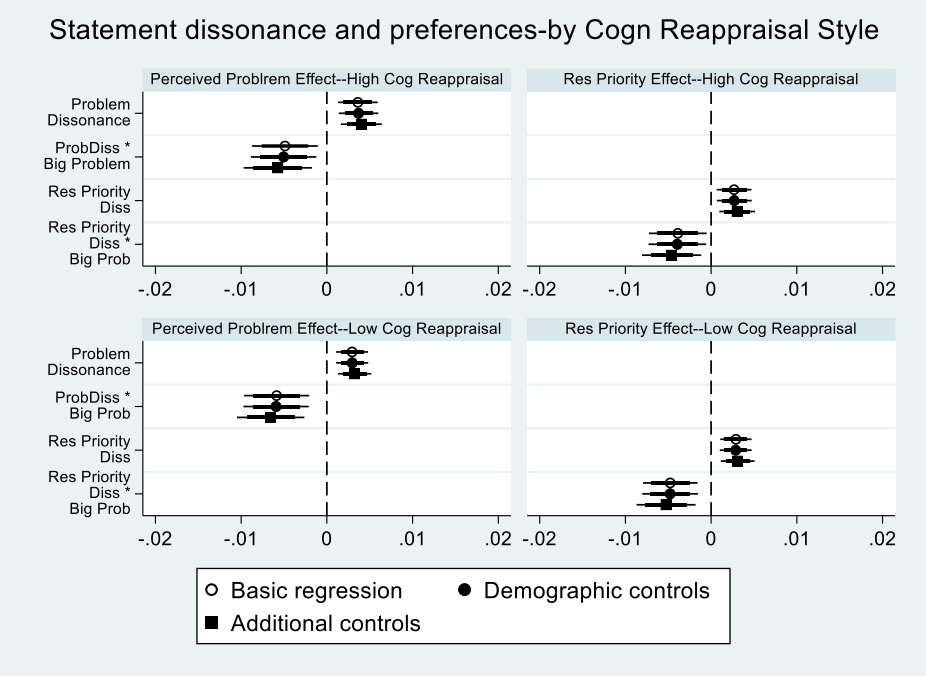
Notes: The thick (thin) lines shows the 95% (99%) confidence interval around the point estimates for the 1-tailed pre-registered hypotheses. Dependent variable for the estimations is the log of the preference rating (perceived *Size of Problem* of the issue (Left panel) or *Preferred Resource Prioritization* for the issue). Trials where positive > negative baseline mood: n=6,216 (518 participants). Trials where negative > positive mood: n= 912 (76 participants). We excluded n=18 participants where baseline positive = negative mood.

Panel B: By post-treatment Mood state (see Appendix A, Tables A9-A10 for full results)



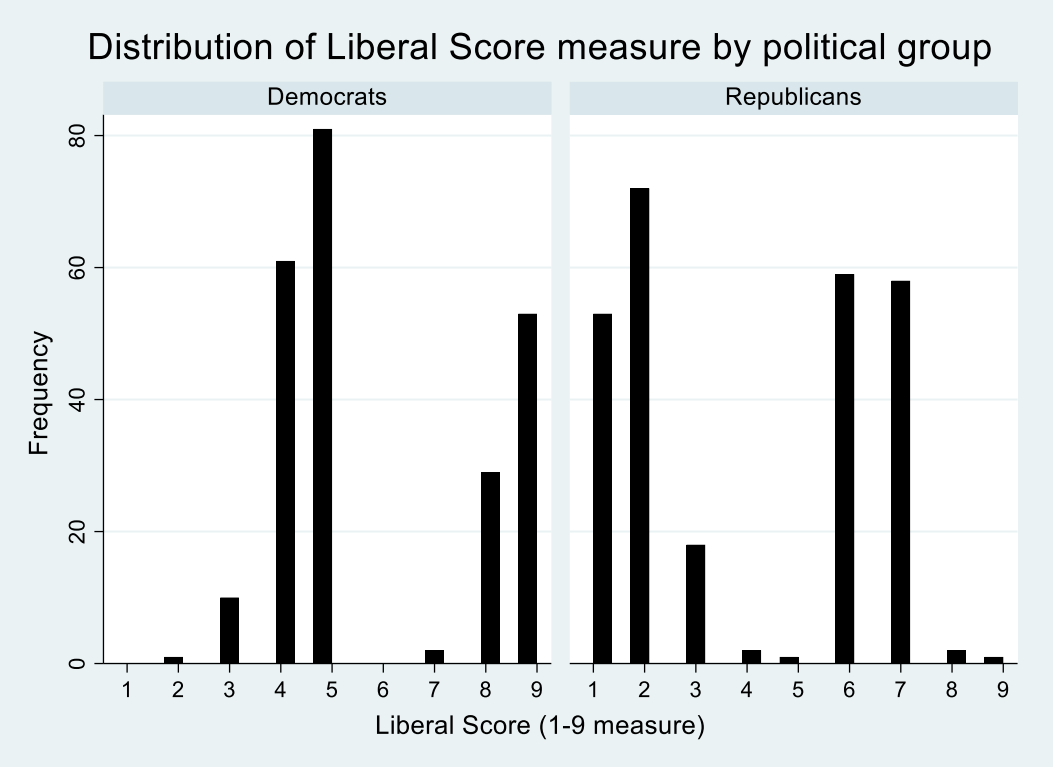
Notes: The thick (thin) lines shows the 95% (99%) confidence interval around the point estimates for the 1-tailed pre-registered hypotheses. Dependent variable for the estimations is the log of the preference rating (perceived *Size of Problem* of the issue (Left panel) or *Preferred Resource Prioritization* for the issue). Trials where positive > negative mood post-info: n=3,219 (562 participants). Trials where negative > positive mood: n= 3,349 (532 participants). Unlike with baseline mood, with post-information mood a given participant may present trials with both relatively negative and relatively positive mood, depending on the political issue for that trial. We excluded n=803 trial-level observations (10.29%) from this analysis where post-treatment positive = negative mood.

Figure 9: Hypothesis 4c test (see Appendix A, Tables A11-A12 for full results)



Notes: The thick (thin) lines shows the 95% (99%) confidence interval around the point estimates for the 1-tailed pre-registered hypotheses. Dependent variable for the estimations is the log of the preference rating (perceived *Size of Problem* of the issue (Left panel) or *Preferred Resource Prioritization* for the issue). There was n=3,348 trial-level observations where cognitive reappraisal style was below the median (Low Cognitive Reappraisal: on n=279 clusters at level of participant) and 3,984 trial-level observations where cognitive reappraisal style was above the median (High Cognitive Reappraisal: on n=332 participant clusters).

Figure 10: Ideology scale distribution (Study 2)



Notes: average = 5.92 ± 2.08 and 3.94 ± 2.45 for Democrats and Republicans, respectively.

Table 2: Factual Political Statements (Study 2)

Statement	Statement text	Truthfulness & Ideology impact
Practice trials	The average temperature on Mars, as a whole, is -81 degrees Fahrenheit.	TRUE: benefits no one
1	Median household incomes grew, and both the poverty rate and jobless rate of racial minorities fell from 2017 through 2019 while Donald Trump was president.	TRUE: benefits Conservatives
2	There were more U.S. COVID-19 deaths during the first 9 months of the pandemic when Donald Trump was president than there were in the first 9 months of the Joe Biden presidency.	FALSE: benefits Conservatives
3	A careful analysis of the 2020 U.S. Presidential election data found no evidence that systematic voter fraud harmed incumbent President Trump and helped elect Joe Biden to the presidency.	TRUE: benefits Liberals
4	Between 2009 and 2016 when Barack Obama was president, European countries were less confident that the U.S. would do the right thing regarding world affairs than between 2001 and 2008 when George W. Bush was president.	FALSE: benefits Liberals

Note: See supplemental information for sourcing on each statement.

TABLE 3 **Hypothesis 1**: Bayesian updating--in general, beliefs will update with new information signals in the direction predicted by Bayes rule.

Dependent Variable: Logit posterior belief **Regressor**	**Model (1)**	**Model (2)**
Age	---	.001 (.001)
Female (=1)	---	-.016 (.026)
Relative Negative Mood (baseline)	---	-.000 (.007)
Logit prior beliefs	.852 (.014)**	.852 (.014)**
Log-Likelihood TRUE signal	.588 (.034)**	.566 (.050)**
Log-Likelihood FALSE signal	.588 (.028)**	.609 (.041)**
R-squared	0.774	0.774
Observations (total)	8,048	8,048

Notes: *$p < .05$, **$p < .01$ for the preregistered 1-tailed test on the prior beliefs and log-likelihood regressors (otherwise, 2-tailed tests). Models are estimated by linear regression with no constant term (given specification with TRUE and FALSE signal indicators on Log-Likelihood) with robust standard errors clustered at the subject level (n=503 subjects total).

TABLE 4: Ideology effects on baseline perceptions of political statements.

Dependent Variable = *Baseline belief* of statement's likely truth								
Regressor	**Statement 1**: TRUE (benefits Conservatives)		**Statement 2**: FALSE (benefits Conservatives)		**Statement 3**: TRUE (benefits Liberals)		**Statement 4**: FALSE (benefits Liberals)	
Constant term	.753 (.029)**	.660 (.051)**	.455 (.043)**	.627 (.057)**	.529 (.034)**	.676 (.061)**	.585 (.028)**	.515 (.050)**
Age	---	.003 (.001)**	---	-.004 (.001)**	---	-.003 (.001)*	---	.000 (.001)
Female (=1)	---	-.071 (.026)**	---	-.062 (.029)*	---	-.042 .031)	---	.069 (.026)**
Relative Neg Mood (baseline)	---	-.007 (.008)	---	-.003 (.009)	---	.008 (.010)	---	-.007 (.008)
Liberal Score	-.022 (.005)**	-.018 (.005)**	.018 (.006)**	.017 (.006)**	.038 (.006)**	.036 (.006)**	-.024 (.005)**	-.024 (.005)**
R-squared	0.032	0.069	0.020	0.051	0.072	0.087	0.043	0.058
Observations	503	503	503	503	503	503	503	503

Notes: *$p < .05$, **$p < .01$ for the preregistered 1-tailed test on the coefficient estimate of *Liberal Score* (otherwise, 2-tailed tests).

TABLE 5: Updating Response to belief-consonant versus dissonant signals

Dependent Variable: Logit posterior belief **Regressor**	**Control for Consonant and Dissonant signals**		**control for Dissonant signals only**		**control for Consonant signals only**	
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Age	---	.001 (.001)	---	.001 (.001)	---	.001 (.001)
Female (=1)	---	-.015 (.02)	---	-.016 (.026)	---	-.015 (.026)
Relative Neg Mood (baseline)	---	-.000 (.007)	---	-.000 (.007)	---	-.000 (.007)
Logit prior beliefs	.849 (.014)**	.849 (.014)**	.851 (.014)**	.851 (.014)**	.849 (.014)**	.849 (.014)**
Log-Likelihood * TRUE signal	.553 (.037)**	.531 (.051)**	.604 (.036)**	.584 (.051)**	.551 (.032)**	.529 (.042)**
Log-Likelihood * FALSE signal	.549 (.035)**	.571 (.047)**	.605 (.030)**	.625 (.042)**	.547 (.028)**	.569 (.042)**
Dissonant Signal * Log-Likelihood	-.004 (.048)	-.003 (.048)	-.057 (.037)	-.057 (.037)	---	---
Consonant Signal * Log-Likelihood	.133 (.047)**	.133 (.047)**	---	---	.134 (.037)**	.134 (.037)**
R-squared	0.774	0.774	0.774	0.774	0.774	0.774
Observations	8,048	8,048	8,048	8,048	8,048	8,048

Notes: *$p < .05$, **$p < .01$ for the preregistered 1-tailed test on the coefficient estimates of the signal type interaction variables (otherwise, 2-tailed tests). Consonant versus Dissonant signals are defined as those at odds when beliefs of a more clear conservative (*Liberal Score* < 4) or a clear liberal (*Liberal Score* > 6). A simple correlation coefficient between *Liberal Score* and the self-reported indicator of conservative versus liberal is .3973 with a about 40% of our sample (n=204) participants indicating a rather neutral level ideological bent on the *Liberal Score* measure (i.e., *Liberal Score* of 4, 5, or 6 on the 1-9 scale). Thus, for some participants signals (no matter what they are) are scored as neither consonant nor dissonant. Models are estimated by linear regression with no constant term (given specification with TRUE and FALSE signal indicators on Log-Likelihood) with robust standard errors clustered at the subject level (n=503 subjects total).

TABLE 6: Dissonant statements and mood

Dependent Variable = *Relative Negative Mood* after initially viewing statement			
Regressor	(1) Binary regression	(2) Controls regression	(3) Controls + gender interaction
Constant term	-1.422 (.105)**	-.632 (.196)**	-.644 (.215)**
Age	---	-.006 (.004)	-.006 (.004)
Female (=1)	---	.468 (.112)**	.488 (.200)*
Relative Neg Mood (baseline)	---	.434 (.042)**	.434 (.042)**
Statement Dissonance Level $\in$ [1,9]	.112 (.018)**	.112 (.018)**	.114 (.027)**
*Statement Diss Level * Female*	---	---	-.004 (.036)
R-squared	0.018	0.166	0.166
Observations	2,012	2,012	2,012

Notes: *p < .05, **p < .01 for the preregistered 1 tailed test on the coefficient estimate of *Ideological Dissonance Level* (otherwise, 2-tailed tests). *Relative Negative Mood after statement* is the average of the negative mood measures (angry, irritated, confused, regret, disgust) minus the average of the positive mood measures (happy, excited, surprised, satisfied) each elicited on a 1-7 self-report scale. The same approach is used to measures baseline mood (i.e., *Relative Negative Mood (baseline)*) at the start of the survey and prior to the decision task. Models are linear regressions with errors are clustered at the subject level for 4 political statement baseline mood observations per subject.

TABLE 7: Ideologically dissonant noisy signals and negative mood.

Dependent Variable = Change in *Relative Negative Mood* across statement trials								
Regressor	**Statement 1:** TRUE (benefits Conservatives)		**Statement 2:** FALSE (benefits Conservatives)		**Statement 3:** TRUE (benefits Liberals)		**Statement 4:** FALSE (benefits Liberals)	
Constant term	.075 (.059)	-.118 (.145)	-.229 (.070)**	.102 (.192)	-.046 (.057)	.014 (.139)	-.171 (.071)*	-.407 (.171)*
Age	---	.000 (.003)	---	-.007 (.004)	---	-.001 (.003)	---	.004 (.004)
Female (=1)	---	.287 (.092)**	---	-.121 (.122)	---	-.010 (.090)	---	.116 (.111)
# of Dissonant signals received	-.051 (.033)	-.044 (.033)	-.035 (.041)	-.040 (.041)	-.013 (.031)	-.012 (.031)	.089 (.03)**	.087 (.039)*
R-squared	0.005	0.024	0.002	0.008	0.0004	0.001	0.011	0.015
Observations	503	503	503	503	503	503	503	503

Notes: *$p < .05$, **$p < .01$ for the preregistered 1-tailed test on the coefficient of *# Dissonant signals received* (otherwise, 2-tailed tests). The *# of Dissonant signals received* takes on values of 0-4 given the 4 elicitations of beliefs after viewing a noisy signal. Whether a signal is dissonant with one's beliefs is defined based on the statement, the signal received, and whether the participant is a clear liberal or conservative (i.e., *Liberal Score* = 1, 2, 3, 7, 8, or 9). Baseline mood at the start of the survey is not used as a regressor here due to our focus on the relative mood change across the trials of each statement viewed. Models are estimated by linear regression.

TABLE 8: Mood impacts on the confirmation bias in belief updating

Dependent Variable = Logit posterior belief				
	Subsample *Neg Mood* > 0 (trials with relatively **more negative reported mood**)		**Subsample *Neg Mood* < 0** (trials with relatively **more positive reported mood**)	
Regressor	(1) Simple	(2) Controls	(3) Simple	(4) Controls
Age	---	.003 (.002)	---	-.000 (.001)
Female (=1)	---	-.011 (.062)	---	.013 (.033)
Neg Mood (baseline)	---	.025 (.017)	---	-.000 (.012)
Logit prior beliefs	.844 (.023)**	.843 (.023)**	.834 (.020)**	.834 (.020)**
Log-Likelihood * TRUE signal	.564 (.063)**	.480 (.104)**	.601 (.051)**	.595 (.065)**
Log-Likelihood * FALSE signal	.717 (.068)**	.789 (.093)**	.533 (.043)**	.539 (.061)**
Dissonant Signal * Log-Likelihood	-.133 (.082)	-.129 (.082)	.015 (.062)	.015 (.062)
Consonant Signal * Log-Likelihood	-.056 (.078)	-.048 (.079)	.185 (.060)**	.185 (.060)**
R-squared	0.736	0.736	0.786	0.786
Observations	2,140 (280 clusters)	2,140 (280 clusters)	4,824 (440 clusters)	4,824 (440 clusters)

Notes: *$p < .05$, **$p < .01$ for the preregistered 1-tailed test on the coefficient estimates of the signal type interaction variables (otherwise, 2-tailed tests). Consonant versus Dissonant signals are defined as those at odds when beliefs of a more clear conservative (*Liberal Score* < 4) or a clear liberal (*Liberal Score* > 6). Subsample groups defined by *Neg Mood*, which capture the net negative mood report of the participant after viewing the political statement (i.e., *Neg Mood* > 0 reflects relatively more negative than positive self-reported mood). Models are estimated by linear regression with no constant term (given specification with TRUE and FALSE signal indicators on Log-Likelihood) with robust standard errors clustered at the subject level (n=503 subjects total, who may appear in one or both samples of *Neg Mood* > 0 and *Neg Mood* < 0 depending on the political statement viewed for a given set of belief assessments).

TABLE 9: Mood impacts on the confirmation bias—gender split samples

Dependent Variable = Logit posterior belief				
	Males only		**Females only**	
Regressor	(1) Subsample *Neg Mood* > 0 **(Neg mood)**	(2) Subsample *Neg Mood* < 0 **(Pos mood)**	(3) Subsample *Neg Mood* > 0 **(Neg mood)**	(4) Subsample *Neg Mood* < 0 **(Pos mood)**
Logit prior beliefs	.879 (.027)**	.802 (.036)**	.826 (.031)**	.863 (.018)**
Log-Likelihood * TRUE signal	.533 (.112)**	.655 (.089)**	.569 (.076)**	.553 (.056)**
Log-Likelihood * FALSE signal	.690 (.124)**	.551 (.077)	.731 (.081)**	.521 (.053)**
Dissonant Signal * Log-Likelihood	-.064 (.141)	.015 (.103)	-.175 (.102)*	.018 (.078)
Consonant Signal * Log-Likelihood	-.076 (.133)	.183 (.100)*	-.040 (.099)	.166 (.065)**
R-squared	.777	.746	.716	.823
Observations	716 (94 clusters)	2,216 (187 clusters)	1,424 (186 clusters)	2,608 (253 clusters)

Notes: *p < .05, **p < .01 for the preregistered 1-tailed test on the coefficient estimates of the signal type interaction variables (otherwise, 2-tailed tests). Consonant versus Dissonant signals are defined as those at odds when beliefs of a more clear conservative (*Liberal Score* < 4) or a clear liberal (*Liberal Score* > 6). Subsample groups defined by *Neg Mood*, which capture the net negative mood report of the participant after viewing the political statement (i.e., *Neg Mood* > 0 reflects relatively more negative than positive self-reported mood). Models are estimated by linear regression with no constant with robust standard errors clustered at the subject level (n=503 subjects total, who may appear in one or both samples of *Neg Mood* > 0 and *Neg Mood* < 0 depending on the political statement viewed for a given set of belief assessments).

Supplementary Information Appendix A: Additional estimations and details

STUDY 1: Supplemental Information and full estimation results

Our full set of preregistered hypotheses (those highlighted are covered in the main text as a focus of this paper and numbering shown reflects what is reported in the main text). The study was preregistered on the Open Science Framework and can be found at DOI: 10.17605/OSF.IO/YHVSB

Hypothesis: More liberal respondents will hold a position promotes gun control, while conservative respondents will hold positions that promote gun rights.

Hypothesis: More politically liberal (conservative) participants will voluntarily view a smaller (larger) number of pro-gun-rights information clips--the confirmation bias in information exposure.

Hypothesis: More liberal (conservative) participants will consider arguments promoting pro-gun-rights as more weak (strong)--the confirmation bias in perceived argument strength.

Hypothesis: More liberal respondents will have Emotional Regulation Questionnaire (ERQ) responses that indicate a different approach to emotion regulation compared to political conservatives.

Hypothesis: The confirmation bias will be stronger among issues viewed as higher priority

Hypothesis 1: When viewing arguments of opposing political beliefs (i.e., when required to view them), participants will self-report relatively more negative mood/affective states.

Hypothesis 2a: Negative affective/mood states will predict a stronger confirmation bias in perceived argument strength.

Hypothesis 2b: Cognitive reappraisal (assessed by the ERQ) will moderate the strength of the negative mood impact on the confirmation bias.

Hypothesis 3: When viewing randomly presented information incongruent with one's policy viewpoints, participants will report relatively stronger negative mood/affective states

Hypothesis 4a: New information will have a lesser impact on updating one's policy priority viewpoints if the information is incongruent with one's viewpoint.

Hypothesis 4b: Negative affect will moderate the relationship between information and viewpoints (more negative mood states will mean a stronger discounting of the belief-opposing information.)

Hypothesis 4c: A stronger cognitive reappraisal style of emotion regulation will moderate (lessen) the impact of negative mood states on the discounting of belief-dissonant information.

Hypothesis: the confirmation bias will be enhanced with deliberation. Deliberation will be proxied by: self-reported thought on the issue; a higher cognitive reflection style of thinking; a higher self-reported state-level of alertness (i.e., lower self-reported sleepiness); age.

Hypothesis: Confirmation bias and mood predictions will be stronger for more partisan political issues, with partisan nature of issue derived from objective measures on political issues.

********** Additional estimation results (not shown in main text) **********

Table A1: Participant and favorability ratings outcomes by *Liberal Scale*

Dependent Variables—simple binary regression results

Coefficients (Standard Errors)

UPPER PANEL--Liberal Scale effect on ***participant specific measures*** (seem summary statistics table for variable definitions)

Dep Var	Female	Age	Minority	Education	ERQ Cog-R	ERQ Exp-S	Attention Politics	Enjoy News	Ideology Strength	Felt Discr	Shut Discr
	.04	-1.42	.03	.002	-.06	-.01	-.01	-.07	.39	-.09	-.12
	(.01)**	(.19)**	(.01)**	(.02)	(.02)**	(.02)	(.01)	(.02)**	(.26)	(.02)**	(.03)**
R^2	.042	.082	.034	.000	.021	.000	.001	.024	.004	.025	.033

Dep Var	Epworth Sleepiness	Last Week Sleep	Optimal Sleep	Pos Mood	Neg Mood
	.09	-.02	.05	-.16	.04
	(.06)	(.02)	(.02)**	(.02)**	(.02)**
R^2	.004	.002	.015	.113	.012

LOWER PANEL--Liberal Scale effect on ***favorability ratings***

Dep Var	Trump	Biden	Conservatives	Liberals	Wealthy Individuals	Middle Class Individuals	Poor Individuals	Individuals On Welfare
	-11.37	5.74	-10.76	8.31	-5.07	-1.54	1.30	3.17
	(.35)**	(.38)**	(.27)**	(.31)**	(.33)**	(.28)**	(.31)**	(.34)**
R^2	.636	.276	.730	.540	.278	.048	.027	.125

Notes: Observations=611 (passed attention check). *p<.05, **p<.01 for the 2-tailed test. Table show coefficient estimates on *Liberal Score* $\in$*[1,9]* for each of the binary regressions (variable columns show dependent variable for each regression)

Table A2: Effect of gun rights attitudes on mood after viewing pro-gun and anti-gun arguments—(**main text H1 test**)

Estimating the impact of dissonant and dissonant arguments on mood (issue=gun control) Shaded cells represent those results highlighted in coefficient plots						
	Impact of *Pro-Gun Views* (direct test) Dep Var = *Anti-Gun Mood*			**Impact of *Liberal Score* (indirect test) Dep Var *Anti-Gun Mood***		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	-.915 (.117)**	-.967 (.459)*	.005 (1.406)	-3.689 (.261)**	-4.436 (.570)**	-2.434 (1.550)
Pro-Gun Views	-.147 (.008)**	-.142 (.008)**	-.137 (.009)	---	---	---
Liberal Score	---	---	---	.643 (.044)**	.601 (.047)**	.566 (.052)**
Age	---	.013 (.009)	0.010 (.010)	---	-.015 (.010)	-.016 (.010)
Female (=1)	---	-.183 (.231)	-.104 (.257)	---	.000 (.249)	.070 (.277)
Minority (=1)	---	.616 (.260)*	.611 (.266)*	---	.690 (.280)*	.635 (.287)*
Education level	---	.103 (.086)	.133 (.089)	---	.300 (.091)**	.296 (.095)**
Cognitive Reappr. Score	---	---	-.234 (.106)*	---	---	-.159 (.114)
Expressive Suppress Score	---	---	.067 (.093)	---	---	.006 (.100)
News attention	---	---	.130 (.166)	---	---	.071 (.181)
Enjoy news	---	---	-.154 (.115)	---	---	-.089 (.125)
Pol Ideology Strength	---	---	.005 (.007)	---	---	.002 (.008)
Felt Pol Discr (=1)	---	---	-.064 (.086)	---	---	-.117 (.092)
Kept quiet due to pol discr (=1)	---	---	-.028 (.072)	---	---	-.128 (.077)
Daytime sleepiness	---	---	.041 (.029)	---	---	.043 (.032)
Last week sleep	---	---	-.007 (.107)	---	---	.013 (.115)
Optimal sleep	---	---	-.088 (.120)	---	---	-.126 (.129)
Pos Mood (baseline)	---	---	-.013 (.099)	---	---	.064 (.110)
Neg Mood (baseline)	---	---	.086 (.113)	---	---	.054 (.123)
R-squared	.3720	.3833	.3967	.2594	.2819	.2982

Notes: n=611 observations**.** *p <.05, **p <.01 for the 1-tailed preregistered H1 test (otherwise, 2-tailed test significance reported above). Coefficients shown with standard errors in parenthesis.

Table A3: H2a test—mood moderation of confirmation bias (**main text H2a test)**

Estimating the confirmation bias as moderated by one's relative Anti-Gun views Shaded cells represent those results highlighted in coefficient plots			
	Dep Var = perceived argument strength (of pro-gun arguments)		
	(1)	(2)	(3)
Constant	11.255 (.560)**	12.503 (1.110)**	14.589 (2.818)**
Liberal Score	-1.110 (.094)**	-1.080 (.099)**	-1.110 (.103)**
Relative Anti-gun Mood	-.458 (.135)**	-.385 (.137)**	-.351 (.140)**
Anti-gun Mood * *Lib Score*	-.066 (.026)**	-.073 (.026)**	-.075 (.027)**
Age	---	.023 (.018)	.020 (.019)
Female (=1)	---	.067 (.462)	-.660 (.499)
Minority (=1)	---	-.801 (.522)	-.922 (.520)
Education level	---	-.451 (.170)**	-.312 (.173)
Cognitive Reappr. Score	---	---	-.173 (.206)
Expressive Suppress Score	---	---	-.177 (.181)
News attention	---	---	-.478 (.325)
Enjoy news	---	---	.015 (.225)
Pol Ideology Strength	---	---	.018 (.015)
Felt Pol Discr (=1)	---	---	.086 (.166)
Kept quiet due to pol discr (=1)	---	---	.074 (.138)
Daytime sleepiness	---	---	-.078 (.057)
Last week sleep	---	---	.155 (.208)
Optimal sleep	---	---	.259 (.235)
Pos Mood (baseline)	---	---	-.474 (.198)*
Neg Mood (baseline)	---	---	-1.005 (.222)**
R-squared	.4519	.4612	.5032

Notes: n=611 observations**.** *p <.05, **p <.01 for the 1-tailed test of pre-registered H2 hypotheses (2-tailed tests for all other coefficient estimates). Coefficients shown with standard errors in parenthesis. Argument strength measures here made from composite of only the pro-gun or anti-gun arguments (3 arguments each), rather than from pooling all together.

Table A4: H2b test—mood moderation of confirmation bias: **Split samples by COGNITIVE APPRAISAL style High or Low**

Estimating the confirmation bias as moderated by one's relative Anti-Gun views Shaded cells represent those results highlighted in coefficient plots						
	High Cognitive Appraisal subsample Dep Var = perceived argument strength (of pro-gun arguments)			**Low Cognitive Appraisal subsample** Dep Var = perceived argument strength (of pro-gun arguments)		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	10.538 (.791)**	11.191 (1.689)**	13.866 (5.444)*	12.042 (.799)**	13.556 (1.525)**	17.371 (3.972)**
Liberal Score	-1.001 (.138)**	-.972 (.141)**	-.013 (.151)**	-1.229 (.132)**	-1.200 (.142)**	-1.272 (.145)**
Relative Anti-gun Mood	-.503 (.189)**	-.418 (.192)*	-.425 (.204)*	-.434 (.200)*	-.358 (.204)*	-.286 (.205)
Anti-gun Mood * *Lib Score*	-.060 (.039)	-.068 (.039)*	-.062 (.043)	-.067 (.035)*	-.076 (.035)*	-.089 (.036)**
Age	---	.030 (.026)	.008 (>028)	---	.018 (.026)	.018 (.026)
Female (=1)	---	.352 (.682)	-.856 (.781)	---	-.093 (.647)	-.721 (.674)
Minority (=1)	---	-1.163 (.786)	-1.371 (.795)	---	-.396 (.711)	-.678 (.708)
Education level	---	-.379 (.263)	-.270 (.268)	---	-.489 (.227)*	-.297 (.230)
Cognitive Reappr. Score	---	---	.181 (.662)	---	---	-.546 (.343)
Expressive Suppress Score	---	---	-.206 (.279)	---	---	-.241 (.244)
News attention	---	---	-.833 (.502)	---	---	-.295 (.432)
Enjoy news	---	---	.764 (.353)*	---	---	-.503 (.298)
Pol Ideology Strength	---	---	.026 (.024)	---	---	.010 (.019)
Felt Pol Discr (=1)	---	---	.167 (.253)	---	---	.023 (.226)
Kept quiet due to pol discr (=1)	---	---	.253 (.215)	---	---	-.045 (.183)
Daytime sleepiness	---	---	-.127 (.088)	---	---	-.062 (.079)
Last week sleep	---	---	.537 (.321)	---	---	-.034 (.283)
Optimal sleep	---	---	-.643 (.404)	---	---	.691 (.295)*
Pos Mood (baseline)	---	---	-.538 (.291)	---	---	-.465 (.279)
Neg Mood (baseline)	---	---	-.780 (.347)*	---	---	-1.088 (.293)**
R-squared Observations	.4447 n=286	.4563 n=286	.5014 n=286	.4612 n=325	.4699 n=325	.5382 n=325

Notes: n=286 observations**.** ***High (Low) Cognitive Reappraisal*** subsample defined as those with ERQ cognitive reappraisal subscale score higher (lower) than the median of the sample. *p <.05, **p <.01 for the 1-tailed test of pre-registered H6 hypotheses (2-tailed tests for all other coefficient estimates). Coefficients shown with standard errors in parenthesis.

Table A5: H3 test—Preference dissonant Info increases relative negative mood state

Estimating the confirmation bias as moderated by one's relative negative mood (issue=gun control)
Shaded cells represent those results highlighted in main text coefficient plots

Dep Var = Relative Negative Mood (assessed post-Info treatment)

	Dissonance degree assessed with respect to *How Big a Problem* is the issue.			**Dissonance degree assessed with respect to *Preferred Resource Priority* for issue**		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	-.290 (.062)**	-.304 (.220)	.385 (.706)	-.292 (.062)**	-.343 (.220)	.391 (.702)
Degree of Info Dissonance	.020 (.002)**	.020 (.002)**	.020 (.002)**	.022 (.002)**	.022 (.002)**	.022 (.002)**
Age	---	-.006 (.004)	-.003 (.004)	---	-.005 (.004)	.001 (.004)
Female (=1)	---	.475 (.110)**	.260 (.118)&	---	.481 (.109)**	.264 (.117)*
Minority (=1)	---	.220 (.125)	.225 (.118)	---	.224 (.125)	.227 (.118)
Education level	---	-.017 (.039)	.045 (.035)	---	-.017 (.039)	.046 (.035)
Cognitive Reappr. Score	---	---	-.030 (.048)	---	---	-.027 (.047)
Expressive Suppress Score	---	---	-.045 (.044)	---	---	-.047 (.044)
News attention	---	---	.016 (.074)	---	---	.015 (.074)
Enjoy news	---	---	-.074 (.050)	---	---	-.073 (.050)
Pol Ideology Strength	---	---	.008 (.003)*	---	---	.008 (.003)*
Felt Pol Discr (=1)	---	---	-.038 (.034)	---	---	-.043 (.033)
Kept quiet due to pol discr (=1)	---	---	.059 (.030)*	---	---	.064 (.030)*
Daytime sleepiness	---	---	-.003 (.014)	---	---	-.004 (.024)
Last week sleep	---	---	-.134 (.043)**	---	---	-.135 (.043)**
Optimal sleep	---	---	-.003 (.056)	---	---	-.003 (.056)
Pos Mood (baseline)	---	---	-.243 (.055)**	---	---	-.244 (.054)**
Neg Mood (baseline)	---	---	.330 (.048)**	---	---	.326 (.048)**
Wald X^2 Stat	149.67**	203.41**	303.42**	158.96**	211.70**	315.67**

Notes: n=7332 observations (on n=611 clusters at level of participant). *p <.05, **p <.01 for the 1-tailed test of pre-registered H3 hypotheses (2-tailed tests for all other coefficient estimates). Coefficients shown with standard errors (clustered at participant level) in parenthesis. Models are random effects generalized least squares regressions.

Table A6: H4a test—Information impact on ***Preference Ratings***

	Dep Var = Ln(post-Info *Perceived Problem* Rating)			**Dep Var = Ln(post-Info preferred *Resource Prioritization* Rating)**		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	.242 (.066)**	.273 (.074)**	.569 (.125)**	.170 (.045)**	.193 (.055)**	.481 (.116)**
Ln(pre-info *Perceived Problem* Rating)	.862 (.022)**	.861 (.022)**	.853 (.023)**	---	---	---
Ln(pre-info *Resource Prioritization* Rating)	---	---	---	.886 (.016)**	.885 (.016)**	.879 (.017)**
***Big Problem Info* (=1)**	.388 (.061)**	.394 (.061)**	.422 (.063)**	.357 (.054)**	.357 (.055)**	.380 (.056)**
***Degree of Dissonance* ∈ [0,100]**	.003 (.001)**	.003 (.001)**	.004 (.001)**	.003 (.0006)**	.003 (.001)**	.003 (.001)**
***Dissonance * Big Problem* statement**	-.005 (.001)**	-.005 (.001)**	-.006 (.001)**	-.004 (.001)**	-.004 (.001)**	-.005 (.001)**
Age	---	-.001 (.0005)*	-.001 (.001)	---	-.001 (.0005)*	-.001 (.0005)*
Female (=1)	---	-.0022 (.015)	-.023 (.016)	---	-.018 (.015)	-.022 (.015)
Minority (=1)	---	.0oo4 (.020)	-.009 (.020)	---	-.006 (.019)	-.016 (.019)
Education level	---	.005 (.005)	.009 (.005)	---	.008 (.005)	.011 (.006)*
Cognitive Reappr. Score	---	---	-.017 (.008)*	---	---	-.004 (.009)
Expressive Suppress Score	---	---	-.007 (.007)	---	---	-.009 (.006)
News attention	---	---	.006 (.012)	---	---	-.002 (.012)
Enjoy news	---	---	-.006 (.008)	---	---	.002 (.008)
Pol Ideology Strength	---	---	-.002 (.001)**	---	---	-.001 (.0006)*
Felt Pol Discr (=1)	---	---	-.016 (.007)*	---	---	-.009 (.006)
Kept quiet due to pol discr (=1)	---	---	.005 (.005)	---	---	.002 (.005)
Daytime sleepiness	---	---	.002 (.002)	---	---	.002 (.002)
Last week sleep	---	---	-.011 (.007)	---	---	-.007 (.007)
Optimal sleep	---	---	-.001 (.007)	---	---	-.009 (.007)
Pos Mood (baseline)	---	---	.005 (.006)	---	---	-.004 (.006)
Neg Mood (baseline)	---	---	.009 (.008)	---	---	.005 (.008)
Wald X^2 Stat (MODEL)	7847.08**	8302.59**	9389.16**	12,366.86**	13,871.64**	15,601.39**
X^2 test *Diss Degree* > *Diss Degree*Big Prob* interaction	9.84**	10.55**	12.94**	7.97**	8.11**	10.33**

Notes: n=7,332 observations (on n=611 clusters at level of participant). *p <.05, **p <.01 for the 1-tailed test of pre-registered H4a hypotheses (2-tailed tests for all other coefficient estimates). Given log transformation of issue ratings, ratings of 0 were replaced with a rating of 1 (on the 0-100 ratings scale) prior to taking natural logs. Coefficients shown with standard errors (clustered at participant level) in parenthesis. Models are random effects generalized least squares regressions.

Table A7: H4b test—Information impact on ***Preference Ratings*--BASELINE MORE NEGATIVE mood state**

	Dep Var = Ln(post-Info *Perceived Problem* Rating)			**Dep Var = Ln(post-Info preferred *Resource Prioritization* Rating)**		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	.319 (.196)	.375 (.239)	.440 (.329)	.219 (.123)	.418 (.174)*	.546 (.259)*
Ln(pre-info *Perceived Problem* Rating)	.762 (.054)**	.760 (.052)**	.754 (.054)**	---	---	---
Ln(pre-info *Resource Prioritization* Rating)	---	---	---	.883 (.042)**	.877 (.042)**	.872 (.045)**
***Big Problem Info* (=1)**	.819 (.152)**	.829 (.154)**	.846 (.168)**	.358 (.151)*	.379 (.157)*	.395 (.172)*
***Degree of Dissonance* ∈ [0,100]**	.008 (.002)**	.008 (.002)**	.008 (.002)**	.002 (.002)	.002 (.002)	.003 (.002)
***Dissonance * Big Problem* statement**	-.013 (.003)**	-.013 (.003)**	-.014 (.003)**	-.005 (.003)*	-.006 (.003)*	-.006 (.003)*
Age	---	-.001 (.002)	-.002 (.002)	---	-.001 (.002)	-.002 (.002)
Female (=1)	---	.005 (.040)	.040 (.037)	---	-.033 (.034)	.004 (.038)
Minority (=1)	---	-.045 (.050)	-.064 (.049)	---	-.059 (.042)	-.073 (.052)
Education level	---	-.006 (.017)	.002 (.017)	---	-.029 (.016)	-.018 (.015)
Cognitive Reappr. Score	---	---	-.047 (.017)**	---	---	-.028 (.019)
Expressive Suppress Score	---	---	.011 (.015)	---	---	.011 (.013)
News attention	---	---	-.057 (.026)*	---	---	-.034 (.024)
Enjoy news	---	---	.045 (.017)**	---	---	.040 (.018)*
Pol Ideology Strength	---	---	.0004 (.001)	---	---	-.001 (.001)
Felt Pol Discr (=1)	---	---	.005 (.011)	---	---	.006 (.010)
Kept quiet due to pol discr (=1)	---	---	-.015 (.010)	---	---	.001 (.010)
Daytime sleepiness	---	---	.005 (.006)	---	---	.005 (.005)
Last week sleep	---	---	-.029 (.018)	---	---	-.005 (.018)
Optimal sleep	---	---	.040 (.019)*	---	---	.001 (.020)
Pos Mood (baseline)	---	---	.061 (.030)*	---	---	.004 (.028)
Neg Mood (baseline)	---	---	-.040 (.021)	---	---	-.016 (.020)
Wald X^2 Stat (MODEL)	1255.83**	1566.53**	1962.48**	2865.34**	3463.94**	4712.25**
X^2 test *Diss Degree > Diss Degree*Big Prob* interaction	10.47**	10.98**	10.72**	4.33*	4.74*	4.49*

Notes: n=912 observations where baseline mood was more negative than positive (on n=76 clusters at level of participant). *p <.05, **p <.01 for the 1-tailed test of pre-registered H4b hypotheses (2-tailed tests for all other coefficient estimates). Given log transformation of issue ratings, ratings of 0 were replaced with a rating of 1 (on the 0-100 ratings scale) prior to taking natural logs. Coefficients shown with standard errors (clustered at participant level) in parenthesis. Models are random effects generalized least squares regressions.

Table A8: H4b test—Information impact on ***Preference Ratings*--BASELINE MORE POSITIVE mood state**

	Dep Var = Ln(post-Info *Perceived Problem* Rating)			**Dep Var = Ln(post-Info preferred *Resource Prioritization* Rating)**		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	.232 (.073)**	.260 (.081)**	.556 (.142)**	.154 (.050)**	.157 (.060)**	.439 (.132)**
Ln(pre-info *Perceived Problem* Rating)	.874 (.025)**	.872 (.025)**	.866 (.025)**	---	---	---
Ln(pre-info *Resource Prioritization* Rating)	---	---	---	.890 (.018)**	.889 (.018)**	.884 (.018)**
***Big Problem Info* (=1)**	.337 (.068)**	.343 (.067)**	.368 (.069)**	.349 (.059)**	.347 (.059)**	.367 (.060)**
***Degree of Dissonance* ∈ [0,100]**	.003 (.001)**	.003 (.001)**	.003 (.001)**	.003 (.001)**	.002 (.001)**	.003 (.001)**
***Dissonance * Big Problem* statement**	-.004 (.001)**	-.004 (.001)**	-.005 (.001)**	-.004 (.001)**	-.004 (.001)**	-.004 (.001)**
Age	---	-.001 (.001)	-.0003 (.001)	---	-.001 (.0005)*	-.001 (.001)
Female (=1)	---	-.028 (.016)	-.031 (.017)	---	-.017 (.016)	-.024 (.017)
Minority (=1)	---	.011 (.023)	.007 (.021)	---	.007 (.022)	-.001 (.021)
Education level	---	.005 (.006)	.008 (.006)	---	.011 (.006)	.013 (.006)*
Cognitive Reappr. Score	---	---	-.011 (.010)	---	---	.001 (.011)
Expressive Suppress Score	---	---	-.010 (.007)	---	---	-.011 (.007)
News attention	---	---	.019 (.014)	---	---	.012 (.014)
Enjoy news	---	---	-.017 (.009)	---	---	-.008 (.009)
Pol Ideology Strength	---	---	-.002 (.001)**	---	---	-.002 (.001)*
Felt Pol Discr (=1)	---	---	-.021 (.008)*	---	---	-.011 (.007)
Kept quiet due to pol discr (=1)	---	---	.008 (.006)	---	---	.002 (.006)
Daytime sleepiness	---	---	.002 (.002)	---	---	.001 (.003)
Last week sleep	---	---	-.006 (.008)	---	---	-.006 (.008)
Optimal sleep	---	---	-.006 (.008)	---	---	-.008 (.008)
Pos Mood (baseline)	---	---	.001 (.007)	---	---	-.006 (.008)
Neg Mood (baseline)	---	---	.027 (.009)**	---	---	.016 (.010)
Wald X^2 Stat (MODEL)	6475.56**	6764.87**	7925.63**	10108.31**	12287.31**	14259.80**
X^2 test *Diss Degree > Diss Degree*Big Prob* interaction	5.03*	5.51*	7.06**	4.92*	4.90*	6.39*

Notes: n=6,216 observations where baseline mood was more positive than negative (on n=518 clusters at level of participant). *p <.05, **p <.01 for the 1-tailed test of pre-registered H4b hypotheses (2-tailed tests for all other coefficient estimates). Given log transformation of issue ratings, ratings of 0 were replaced with a rating of 1 (on the 0-100 ratings scale) prior to taking natural logs. Coefficients shown with standard errors (clustered at participant level) in parenthesis. Models are random effects generalized least squares regressions.

Table A9: H4b test—Information impact on ***Preference Ratings*—Post-info MORE NEGATIVE mood**

	Dep Var = Ln(post-Info *Perceived Problem* Rating)			**Dep Var = Ln(post-Info preferred *Resource Prioritization* Rating)**		
	(1)	(1)	(3)	(4)	(5)	(6)
Constant	.487 (.128)**	.487 (.128)**	.607 (.179)**	.287 (.087)**	.288 (.092)**	.511 (.163)**
Ln(pre-info *Perceived Problem* Rating)	.859 (.036)**	.857 (.0326)**	.852 (.036)**	---	---	---
Ln(pre-info *Resource Prioritization* Rating)	---	---	---	.904 (.024)**	.901 (.024)**	.895 (.024)**
***Big Problem Info* (=1)**	.180 (.094)*	.187 (.094)*	.212 (.097)*	.158 (.076)*	.165 (.076)*	.191 (.081)*
***Degree of Dissonance* ∈ [0,100]**	.001 (.001)	.001 (.001)	.002 (.001)	.001 (.001)	.001 (.001)	.001 (.001)
***Dissonance * Big Problem* statement**	-.004 (.002)**	-.005 (.002)**	-.005 (.002)**	-.002 (.001)	-.002 (.001)*	-.003 (.001)*
Age	---	-.0003 (.001)	.0001 (.0007)	---	-.001 (.001)	-.001 (.001)
Female (=1)	---	-.033 (.020)	-.032 (.026)	---	-.047 (.021)*	-.049 (.023)*
Minority (=1)	---	.027 (.021)	.028 (.022)	---	.030 (.023)	.020 (.024)
Education level	---	-.009 (.009)	-.009 (.009)	---	.011 (.008)	.011 (.009)
Cognitive Reappr. Score	---	---	-.016 (.011)	---	---	-.005 (.013)
Expressive Suppress Score	---	---	-.013 (.011)	---	---	-.006 (.008)
News attention	---	---	.002 (.016)	---	---	-.009 (.016)
Enjoy news	---	---	-.0002 (.010)	---	---	.013 (.010)
Pol Ideology Strength	---	---	-.001 (.001)	---	---	-.001 (.001)
Felt Pol Discr (=1)	---	---	-.007 (.007)	---	---	.001 (.007)
Kept quiet due to pol discr (=1)	---	---	.005 (.006)	---	---	-.004 (.007)
Daytime sleepiness	---	---	-.0002 (.004)	---	---	-.003 (.003)
Last week sleep	---	---	-.002 (.010)	---	---	-.004 (.010)
Optimal sleep	---	---	.010 (.009)	---	---	-.003 (. 010)
Pos Mood (baseline)	---	---	.020 (.012)	---	---	.0002 (.012)
Neg Mood (baseline)	---	---	.019) (.012)	---	---	.002 (.010)
Wald X^2 Stat (MODEL)	3943.04**	4135.61**	4745.78**	5605.18	6088.73**	6393.22**
X^2 test *Diss Degree > Diss Degree*Big Prob* interaction	7.56**	8.01**	8.74**	2.45	2.77	3.62

Notes: n=3,349 trial-level observations where post-info mood was more negative than positive (on n=532 clusters at level of participant). *p <.05, **p <.01 for the 1-tailed test of pre-registered H4b hypotheses (2-tailed tests for all other coefficient estimates). Given log transformation of issue ratings, ratings of 0 were replaced with a rating of 1 (on the 0-100 ratings scale) prior to taking natural logs. Coefficients shown with standard errors (clustered at participant level) in parenthesis. Models are random effects generalized least squares regressions.

Table A10: H4b test—Information impact on ***Preference Ratings*-- Post-info MORE POSITIVE mood**

	Dep Var = Ln(post-Info *Perceived Problem* Rating)			**Dep Var = Ln(post-Info preferred *Resource Prioritization* Rating)**		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	.138 (.068)*	.149 (.092)	.608 (.189)**	.140 (.058)*	.158 (.087)	.447 (.175)*
Ln(pre-info *Perceived Problem* Rating)	.867 (.027)**	.865 (.028)**	.859 (.028)**	---	---	---
Ln(pre-info *Resource Prioritization* Rating)	---	---	---	.878 (.025)**	.877 (.025)**	.873 (.025)**
***Big Problem Info* (=1)**	.418 (.088)**	.425 (.089)**	.449 (.092)**	.376 (.085)**	.379 (.086)**	.391 (.087)**
***Degree of Dissonance* ∈ [0,100]**	.003 (.001)**	.003 (.001)**	.004 (.001)**	.003 (.001)**	.003 (.001)**	.003 (.001)**
***Dissonance * Big Problem* statement**	-.004 (.002)*	-.004 (.002)*	-.004 (.002)**	-.002 (.002)*	-.003 (.002)*	-.003 (.002)*
Age	---	-.001 (.001)	-.001 (.001)	---	-.001 (.001)	-.001 (.001)
Female (=1)	---	-.030 (.025)	-.033 (.027)	---	-.005 (.022)	-.012 (.023)
Minority (=1)	---	-.045 (.034)	-.065 (.034)	---	-.040 (.028)	-.054 (.028)
Education level	---	.015 (.009)	.023 (.010)*	---	.009 (.009)	.013 (.090)
Cognitive Reappr. Score	---	---	-.017 (.014)	---	---	-.0001 (.013)
Expressive Suppress Score	---	---	.001 (.010)	---	---	-.005 (.009)
News attention	---	---	-.020 (.018)	---	---	-.005 (.016)
Enjoy news	---	---	.005 (.011)	---	---	-.006 (.010)
Pol Ideology Strength	---	---	-.001 (.001)	---	---	-.001 (.001)
Felt Pol Discr (=1)	---	---	-.011 (.012)	---	---	-.009 (.010)
Kept quiet due to pol discr (=1)	---	---	-.002 (.090)	---	---	-.003 (.008)
Daytime sleepiness	---	---	.001 (.004)	---	---	.006 (.003)
Last week sleep	---	---	-.011 (.012)	---	---	.001 (.010)
Optimal sleep	---	---	-.016 (.013)	---	---	-.018 (.012)
Pos Mood (baseline)	---	---	-.009 (.011)	---	---	-.011 (.010)
Neg Mood (baseline)	---	---	-.0002 (.014)	---	---	-.005 (.013)
Wald X^2 Stat (MODEL)	4967.65**	5317.30**	6379.04**	6382.80**	7425.39**	9466.08**
X^2 test *Diss Degree > Diss Degree*Big Prob* interaction	0.20	0.31	0.69	0.06	0.08	0.22

Notes: n=3,219 trial-level observations where post-info mood was more positive than negative (on n=562 clusters at level of participant). *p <.05, **p <.01 for the 1-tailed test of pre-registered H4b hypotheses (2-tailed tests for all other coefficient estimates). Given log transformation of issue ratings, ratings of 0 were replaced with a rating of 1 (on the 0-100 ratings scale) prior to taking natural logs. Coefficients shown with standard errors (clustered at participant level) in parenthesis. Models are random effects generalized least squares regressions.

Table A11: H4c test—Information impact on ***Preference Ratings*—High Cognitive Reappraisal style**

	Dep Var = Ln(post-Info *Perceived Problem* Rating)			**Dep Var = Ln(post-Info preferred *Resource Prioritization* Rating)**		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	.150 (.081)	.169 (.084)*	.715 (.238)**	.143 (.061)*	.171 (.074)*	.713 (.240)**
Ln(pre-info *Perceived Problem* Rating)	.873 (.030)**	.870 (.030)**	.861 (.031)**	---	---	---
Ln(pre-info *Resource Prioritization* Rating)	---	---	---	.892 (.023)**	.891 (.023)	.882 (.024)**
***Big Problem Info* (=1)**	.418 (.093)**	.426 (.092)**	.457 (.100)**	.350 (.079)**	.352 (.079)**	.384 (.081)**
***Degree of Dissonance* ∈ [0,100]**	.004 (.001)**	.004 (.001)**	.004 (.001)**	.003 (.001)**	.003 (.001)**	.003 (.001)**
***Dissonance * Big Problem* statement**	-.005 (.002)**	-.005 (.002)**	-.006 (.002)**	-.004 (.001)**	-.004 (.001)**	-.005 (.001)**
Age	---	-.0001 (.001)	.0002 (.001)	---	-.001 (.001)	-.0005 (.001)
Female (=1)	---	-.038 (.021)	-.037 (.023)	---	-.028 (.021)	-.031 (.022)
Minority (=1)	---	.016 (.032)	.006 (.031)	---	.017 (.030)	.002 (.030)
Education level	---	.001 (.007)	.006 (.007)	---	.001 (.007)	.006 (.008)
Cognitive Reappr. Score	---	---	-.046 (.025)	---	---	-.027 (.027)
Expressive Suppress Score	---	---	-.004 (.009)	---	---	0.008 (.008)
News attention	---	---	.006 (.019)	---	---	.006 (.018)
Enjoy news	---	---	-.005 (.013)	---	---	.002 (.013)
Pol Ideology Strength	---	---	-.002 (.001)	---	---	-.002 (.001)
Felt Pol Discr (=1)	---	---	-.019 (.010)	---	---	-.013 (.009)
Kept quiet due to pol discr (=1)	---	---	.004 (.008)	---	---	.0000(.008)
Daytime sleepiness	---	---	.002 (.003)	---	---	.003 (.003)
Last week sleep	---	---	-.007 (.011)	---	---	.003 (.010)
Optimal sleep	---	---	-.007 (.012)	---	---	-.024 (.012)*
Pos Mood (baseline)	---	---	-.005 (.008)	---	---	-.015 (.009)
Neg Mood (baseline)	---	---	-.003 (.012)	---	---	0.001 (.011)
Wald X^2 Stat (MODEL)	6032.96**	4527.80**	3950**	6095.88**	7094.43**	9114.06**
X^2 test *Diss Degree > Diss Degree*Big Prob* interaction	4.14*	2.82	2.49	2.74	2.91	4.57*

Notes: n=3,984 trial-level observations where cognitive reappraisal style was above the median (High Cognitive Reappraisal: on n=332 participant clusters). *p <.05, **p <.01 for the 1-tailed test of pre-registered H4c hypotheses (2-tailed tests for all other coefficient estimates). Given log transformation of issue ratings, ratings of 0 were replaced with a rating of 1 (on the 0-100 ratings scale) prior to taking natural logs. Coefficients shown with standard errors (clustered at participant level) in parenthesis. Models are random effects generalized least squares regressions.

Table A12: H4c test—Information impact on ***Preference Ratings*—LOW Cognitive Reappraisal style**

	Dep Var = Ln(post-Info *Perceived Problem* Rating)			**Dep Var = Ln(post-Info preferred *Resource Prioritization* Rating)**		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	.334 (.105)**	.372 (.122)**	.526 (.161)**	.194 (.067)**	.217 (.084)**	.336 (.127)**
Ln(pre-info *Perceived Problem* Rating)	.851 (.033)**	.849 (.033)**	.840 (.033)**	---	---	---
Ln(pre-info *Resource Prioritization* Rating)	---	---	---	.881 (022)**	.880 (.022)**	.873 (.023)**
***Big Problem Info* (=1)**	.367 (.077)**	.371 (.077)**	.402 (.080)**	.360 (.071)**	.361 (.073)**	.386 (.078)**
***Degree of Dissonance* ∈ [0,100]**	.003 (.001)**	.003 (.001)**	.003 (001)**	.003 (.001)**	.003 (.008)**	.003 (.001)**
***Dissonance * Big Problem* statement**	-.006 (.002)**	-.006 (.002)**	-.007 (.002)**	-.005 (.001)**	-.005 (.001)**	-.005 (.001)**
Age	---	-.002 (.001)**	-.002 (.001)*	---	-.002 (.001)**	-.002 (.001)**
Female (=1)	---	-.002 (.020)	-.001 (.022)	---	-.003 (.021)	-.006 (.021)
Minority (=1)	---	-.025 (.024)	-.026 (.025)	---	-.038 (.023)	-.040 (.025)
Education level	---	.011 (.007)	.012 (.007)	---	.015 (.007)*	.015 (.007)*
Cognitive Reappr. Score	---	---	-.015 (.013)	---	---	.001 (.016)
Expressive Suppress Score	---	---	-.006 (.009)	---	---	-.006 (.008)
News attention	---	---	.012 (.016)	---	---	-.003 (.015)
Enjoy news	---	---	-.006 (.009)	---	---	.005 (.009)
Pol Ideology Strength	---	---	-.002 (.001)**	---	---	-.001 (.001)
Felt Pol Discr (=1)	---	---	-.016 (.009)	---	---	-.005 (.008)
Kept quiet due to pol discr (=1)	---	---	.006 (.006)	---	---	.003 (.007)
Daytime sleepiness	---	---	.001 (.003)	---	---	.0002 (.004)
Last week sleep	---	---	-.014 (.010)	---	---	-.017 (.011)
Optimal sleep	---	---	.008 (.008)	---	---	.008 (.009)
Pos Mood (baseline)	---	---	.019 (.008)*	---	---	.010 (.010)
Neg Mood (baseline)	---	---	.022 (.012)	---	---	.010 (.010)
Wald X^2 Stat (MODEL)	4310.69**	4763.86**	5255.16**	7029.17**	7403.54**	9149.92**
X^2 test *Diss Degree > Diss Degree*Big Prob* interaction	8.28**	8.62**	10.26**	5.64*	5.73*	6.91**

Notes: n=3,348 trial-level observations where cognitive reappraisal style was below the median (Low Cognitive Reappraisal: on n=279 clusters at level of participant). *p <.05, **p <.01 for the 1-tailed test of pre-registered H4c hypotheses (2-tailed tests for all other coefficient estimates). Given log transformation of issue ratings, ratings of 0 were replaced with a rating of 1 (on the 0-100 ratings scale) prior to taking natural logs. Coefficients shown with standard errors (clustered at participant level) in parenthesis. Models are random effects generalized least squares regressions.

STUDY 2: Supplemental Information and full estimation results

Statements and Sources used in decision task

Practice Statement (TRUE—benefits no one): "The average temperature on Mars, as a whole, is -81 degrees Fahrenheit."

> **Source Practice Statement:** National Oceanic and Atmospheric Administration https://www.weather.gov/fsd/mars

Statement 1 (TRUE—benefits Conservatives): "Median household incomes grew, and both the poverty rate and jobless rate of racial minorities fell from 2017 through 2019 while Donald Trump was president."

> **Sources Statement 1:**
>
> *Median incomes*: U.S., Census Bureau (see FRED economic data on real median household income https://fred.stlouisfed.org/series/MEHOINUSA672N) and Economic Policy Institute data (see https://www.epi.org/blog/racial-disparities-in-income-and-poverty-remain-largely-unchanged-amid-strong-income-growth-in-2019/)
>
> *Jobless rates*: Bureau of Labor Statistics (2019 seasonally adjusted jobless rate data, see https://www.cnbc.com/2019/10/04/black-and-hispanic-unemployment-is-at-a-record-low.html)
>
> Poverty data: U.S. Census Bureau https://www.census.gov/library/stories/2020/09/poverty-rates-for-blacks-and-hispanics-reached-historic-lows-in-2019.html (see also https://www.statista.com/statistics/200463/us-poverty-rate-since-1990/)

Statement 2 (FALSE—benefits Conservatives): "There were more U.S. COVID-19 deaths during the first 9 months of the pandemic when Donald Trump was president than there were in the first 9 months of the Joe Biden presidency."

> **Sources Statement 2**: Johns Hopkins Coronavirus Resource Center (see also https://www.washingtontimes.com/news/2021/oct/8/more-americans-have-died-covid-under-biden-trump-j/) and raw data on COVID deaths by day from CDC https://covid.cdc.gov/covid-data-tracker/#trends_dailydeaths

Statement 3 (TRUE—benefits Liberals): "A careful analysis of the 2020 U.S. Presidential election data found no evidence that systematic voter fraud harmed incumbent President Trump and helped elect Joe Biden to the presidency."

Sources Statement 3: Eggers, A. C., Garro, H., & Grimmer, J. (2021). No evidence for systematic voter fraud: A guide to statistical claims about the 2020 election. *Proceedings of the National Academy of Sciences*, *118*(45). https://www.pnas.org/content/118/45/e2103619118

Statement 4 (FALSE—benefits Liberals): "Between 2009 and 2016 when Barack Obama was president, European countries were less confident that the U.S. would do the right thing regarding world affairs than between 2001 and 2008 when George W. Bush was president."

Sources Statement 4: Spring 2016 Global Attitudes Survey (Pew Research Center: see https://www.pewresearch.org/2017/01/10/how-america-changed-during-barack-obamas-presidency/)

********** Additional estimation results (not shown in main text) **********

Table A13: Probit Estimation for Study 1 participant selection into Study 2.

Dependent Variable = Participated in Study 2 (0 or 1)
Conditional on having participated in the original Prolific survey wave of n=650 participants

Variable	Coefficient (SE)
Constant	-1.337 (.324)**
Age	.023 (.004)**
Female (=1)	.032 (.117)
Minority (=1)	-.020 (.127)
Education	.040 (.041)
Conservative (=1)	.131 (.121)
Political Discrimination	-.056 (.035)
ERQ style	-.049 (.034)
Political Ideology Strength	-.002 (.003)
CRT score	.038 (.026)
X^2 = 46.20**	

Notes: *p < .05, **p < .01 for the 2-tailed test. A total of n=650 completed Study 1. *Education* measure education level from 1-7, with 7 indicating the highest level. The variable *Conservative* is an indicator to distinguish conservative from liberal respondents (this was the indicator listed in the participant's Prolific profile and used for the custom sample screening). *Political Discrimination* is a self-report of whether one has felt discriminated against for one's political beliefs on a 1-7 Likert scale (1 = "Never", 7 = "All the time"). *ERQ Style* measure one's emotional response style based on the "emotional response questionnaire" (Gross and John, 2003). *Political Ideology Strength* is a self-report $\in$ [0 , 100] of the strength of one's political ideology. *CRT score* is the number of correct responses on the 6-item cognitive reflection task from Primi et al. (2016). From these estimates, we calculate the predicted probability that a participant from the original study wave will be a return participant for Study 2. The inverse of the probability weights (IPW) are then used in a weighted regression to control for potential sample selection of these original participants into Study 2.

TABLE A14: Negative mood impact by signal type-***Original Wave (return) participants***

Dependent Variable = Logit posterior belief—Relatively ***Negative Mood***				
	Subsample *Neg Mood* > 0 (trials with relatively **more negative reported mood**)		**Subsample *Neg Mood* > 0** (trials with relatively **more negative reported mood**)	
Regressor	(1) Simple	(2) Simple + IPW correction	(3) Controls	(4) Controls + IPW correction
Age	---	---	.001 (.004)	-.001 (.004)
Female (=1)	---	---	-.036 (.100)	.025 (.116)
Neg Mood (baseline)	---	---	.009 (.025)	.021 (.027)
Logit prior beliefs	.867 (.038)**	.866 (.046)**	.866 (.039)**	.863 (.048)**
Log-Likelihood * TRUE signal	.513 (.091)**	.523 (.104)**	.510 (.178)**	.562 (.203)**
Log-Likelihood * FALSE signal	.700 (.104)**	.694 (.104)**	.701 (.146)**	.658 (.150)**
Dissonant Signal * Log-Likelihood	-.268 (.122)*	-.267 (.129)*	-.269 (.122)*	-.265 (.127)*
Consonant Signal * Log-Likelihood	-.190 (.121)	-.169 (.129)	-.191 (.124)	-.181 (.130)
R-squared	0.758	0.740	0.758	0.740
Observations	800 (107 clusters)	800 (107 clusters)	800 (107 clusters)	800 (107 clusters)

Notes: *p < .05, **p < .01 for the preregistered 1-tailed test on the coefficient estimates of the signal type interaction variables (otherwise, 2-tailed tests). Consonant versus Dissonant signals are defined as those at odds when beliefs of a more clear conservative (*Liberal Score* < 4) or a clear liberal (*Liberal Score* > 6). Subsample groups defined by *Neg Mood*, which capture the net negative mood report of the participant after viewing the political statement (i.e., *Neg Mood* > 0 reflects relatively more negative than positive self-reported mood). Models are estimated by linear regression with no constant term (given specification with TRUE and FALSE signal indicators on Log-Likelihood) with robust standard errors clustered at the subject level (n=193 original wave subjects, who may appear in one or both samples of *Neg Mood* > 0 and *Neg Mood* < 0 depending on the political statement viewed for a given set of belief assessments).

TABLE A15: Positive mood impact by signal type-***Original Wave (return) participants***

Dependent Variable = Logit posterior belief—Relatively ***Positive Mood***				
	Subsample *Neg Mood* < 0 (trials with relatively **more positive reported mood**)		**Subsample *Neg Mood* < 0** (trials with relatively **more positive reported mood**)	
Regressor	(1) Simple	(2) Simple + IPW correction	(3) Controls	(4) Controls + IPW correction
Age	---	---	-.003 (.002)	-.003 (.002)
Female (=1)	---	---	.011 (.057)	.021 (.061)
Neg Mood (baseline)	---	---	-.023 (.020)	-.022 (.021)
Logit prior beliefs	.808 (.044)**	.798 (.045)**	.807 (.044)**	.797 (.044)**
Log-Likelihood * TRUE signal	.656 (.099)**	.758 (.113)**	.716 (.118)**	.805 (.123)**
Log-Likelihood * FALSE signal	.487 (.075)**	.542 (.094)**	.429 (.109)**	.498 (.127)**
Dissonant Signal * Log-Likelihood	.007 (.105)	-.135 (.120)	.004 (.105)	-.139 (.129)
Consonant Signal * Log-Likelihood	.249 (.118)*	.154 (.126)	.251 (.119)*	.155 (.126)
R-squared	0.762	0.750	0.763	0.750
Observations	1,764 (162 clusters)	1,764 (162 clusters)	1,764 (162 clusters)	1,764 (162 clusters)

Notes: *p < .05, **p < .01 for the preregistered 1-tailed test on the coefficient estimates of the signal type interaction variables (otherwise, 2-tailed tests). Consonant versus Dissonant signals are defined as those at odds when beliefs of a more clear conservative (*Liberal Score* < 4) or a clear liberal (*Liberal Score* > 6). Subsample groups defined by *Neg Mood*, which capture the net negative mood report of the participant after viewing the political statement (i.e., *Neg Mood* > 0 reflects relatively more negative than positive self-reported mood). Models are estimated by linear regression with no constant term (given specification with TRUE and FALSE signal indicators on Log-Likelihood) with robust standard errors clustered at the subject level (n=193 original wave subjects, who may appear in one or both samples of *Neg Mood* > 0 and *Neg Mood* < 0 depending on the political statement viewed for a given set of belief assessments).

TABLE A16: Mood impact by signal type—***New wave (only) participants***

Dependent Variable = Logit posterior belief				
	Subsample *Neg Mood* > 0 (trials with relatively **more negative reported mood**)		**Subsample *Neg Mood* < 0** (trials with relatively **more positive reported mood**)	
Regressor	(1) Simple	(2) Controls	(3) Simple	(4) Controls
Age	---	.006 (.003)*	---	.001 (.002)
Female (=1)	---	.016 (.076)	---	.038 (.040)
Neg Mood (baseline)	---	.046 (.023)*	---	.010 (.014)
Logit prior beliefs	.828 (.028)**	.826 (.028)**	.847 (.019)**	.847 (.019)**
Log-Likelihood * TRUE signal	.596 (.085)**	.448 (.133)**	.572 (.057)	.531 (.079)**
Log-Likelihood * FALSE signal	.718 (.087)**	.857 (.126)**	.558 (.053)**	.600 (.071)**
Dissonant Signal * Log-Likelihood	-.041 (.107)	-.031 (.106)	.017 (.076)	.017 (.076)
Consonant Signal * Log-Likelihood	.043 (.103)	.052 (.103)	.147 (.065)*	.146 (.066)*
R-squared	0.725	0.727	0.801	0.801
Observations	1,340 (173 clusters)	1,340 (173 clusters)	3,060 (278 clusters)	3,060 (278 clusters

Notes: *$p < .05$, **$p < .01$ for the preregistered 1-tailed test on the coefficient estimates of the signal type interaction variables (otherwise, 2-tailed tests). Consonant versus Dissonant signals are defined as those at odds when beliefs of a more clear conservative (*Liberal Score* < 4) or a clear liberal (*Liberal Score* > 6). Subsample groups defined by *Neg Mood*, which capture the net negative mood report of the participant after viewing the political statement (i.e., *Neg Mood* > 0 reflects relatively more negative than positive self-reported mood). Models are estimated by linear regression with no constant term (given specification with TRUE and FALSE signal indicators on Log-Likelihood) with robust standard errors clustered at the subject level (n=310 Study 2 subjects who were not follow-ups from the original wave, who may appear in one or both samples of *Neg Mood* > 0 and *Neg Mood* < 0 depending on the political statement viewed for a given set of belief assessments).

Supplementary Information Appendix B: Other pre-registered hypotheses and supporting results (not covered in paper)

STUDY 1: Supplemental Information and full estimation results

Our full set of preregistered hypotheses as ordered in the preregistration document. The study was preregistered on the Open Science Framework and can be found at DOI: 10.17605/OSF.IO/YHVSB

Highlighted hypotheses were discussed in the main text with numbering used in text given, and their supporting results are shown in Appendix A.

HYPOTHESES

Hypothesis: More liberal respondents will hold a position promotes gun control, while conservative respondents will hold positions that promote gun rights.

Hypothesis: More politically liberal (conservative) participants will voluntarily view a smaller (larger) number of pro-gun-rights information clips--the confirmation bias in information exposure.

Hypothesis: More liberal (conservative) participants will consider arguments promoting pro-gun-rights as more weak (strong)--the confirmation bias in perceived argument strength.

Hypothesis: More liberal respondents will have Emotional Regulation Questionnaire (ERQ) responses that indicate a different approach to emotion regulation compared to political conservatives.

Hypothesis: The confirmation bias will be stronger among issues viewed as higher priority

Hypothesis: When viewing arguments of opposing political beliefs (i.e., when required to view them), participants will self-report relatively more negative mood/affective states.
→**this was Hypothesis 1 in the paper's renumbering of covered hypotheses**

Hypothesis: Negative affective/mood states will predict a stronger confirmation bias in perceived argument strength.
→**this was Hypothesis 2a in the paper's renumbering of covered hypotheses**

Hypothesis: Cognitive reappraisal (assessed by the ERQ) will moderate the strength of the negative mood impact on the confirmation bias.
→**this was Hypothesis 2b in the paper's renumbering of covered hypotheses**

Hypothesis When viewing randomly presented information incongruent with one's policy viewpoints, participants will report relatively stronger negative mood/affective states
→**this was Hypothesis 3 in the paper's renumbering of covered hypotheses**

Hypothesis: New information will have a lesser impact on updating one's policy priority viewpoints if the information is incongruent with one's viewpoint.

→**this was Hypothesis 4a in the paper's renumbering of covered hypotheses**

Hypothesis: Negative affect will moderate the relationship between information and viewpoints (more negative mood states will mean a stronger discounting of the belief-opposing information.)

→**this was Hypothesis 4b in the paper's renumbering of covered hypotheses**

Hypothesis: A stronger cognitive reappraisal style of emotion regulation will moderate (lessen) the impact of negative mood states on the discounting of belief-dissonant information.

→**this was Hypothesis 4c in the paper's renumbering of covered hypotheses**

Hypothesis: the confirmation bias will be enhanced with deliberation. Deliberation will be proxied by: self-reported thought on the issue; a higher cognitive reflection style of thinking; a higher self-reported state-level of alertness (i.e., lower self-reported sleepiness); age.

Hypothesis: Confirmation bias and mood predictions will be stronger for more partisan political issues, with partisan nature of issue derived from objective measures on political issues.

Table B1: Participant and favorability ratings outcomes by *Liberal Scale*

Dependent Variables—simple binary regression results

Coefficients (Standard Errors)

UPPER PANEL--Liberal Scale effect on ***participant specific measures*** (see summary statistics table for variable definitions)

Dep Var	Female	Age	Minority	Education	ERQ Cog-R	ERQ Exp-S	Attention Politics	Enjoy News	Ideology Strength	Felt Discr	Shut Discr
	.04	-1.42	.03	.002	-.06	-.01	-.01	-.07	.39	-.09	-.12
	(.01)**	(.19)**	(.01)**	(.02)	(.02)**	(.02)	(.01)	(.02)**	(.26)	(.02)**	(.03)**
R^2	.042	.082	.034	.000	.021	.000	.001	.024	.004	.025	.033

Dep Var	Epworth Sleepiness	Last Week Sleep	Optimal Sleep	Pos Mood	Neg Mood
	.09	-.02	.05	-.16	.04
	(.06)	(.02)	(.02)**	(.02)**	(.02)**
R^2	.004	.002	.015	.113	.012

LOWER PANEL--Liberal Scale effect on ***favorability ratings***

Dep Var	Trump	Biden	Conservatives	Liberals	Wealthy Individuals	Middle Class Individuals	Poor Individuals	Individuals On Welfare
	-11.37	5.74	-10.76	8.31	-5.07	-1.54	1.30	3.17
	(.35)**	(.38)**	(.27)**	(.31)**	(.33)**	(.28)**	(.31)**	(.34)**
R^2	.636	.276	.730	.540	.278	.048	.027	.125

Notes: Observations=611 (passed attention check). *p<.05, **p<.01 for the 2-tailed test. Table show coefficient estimates on *Liberal Scale* $\in$*[1,9]* for each of the binary regressions (variable columns show dependent variable for each regression)

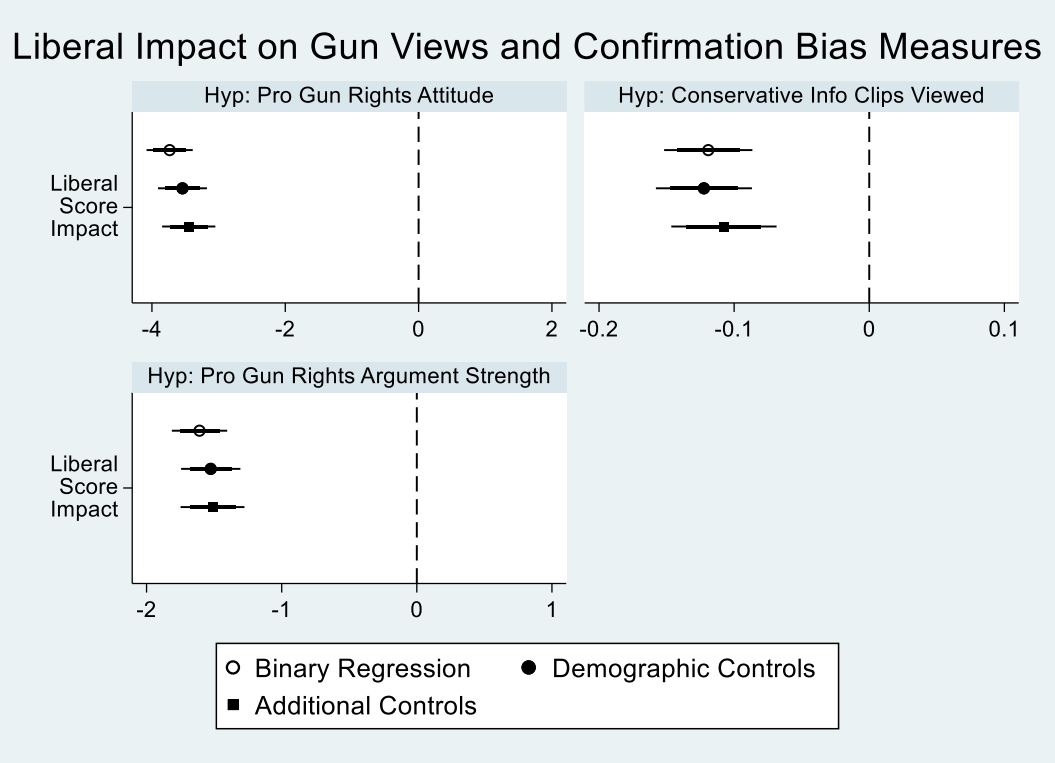
HYPOTHESES TESTED:

Hypothesis: More liberal respondents will hold a position promotes gun control, while conservative respondents will hold positions that promote gun rights.

Hypothesis: More politically liberal (conservative) participants will voluntarily view a smaller (larger) number of pro-gun-rights information clips--the confirmation bias in information exposure.

Hypothesis: More liberal (conservative) participants will consider arguments promoting pro-gun-rights as more weak (strong)--the confirmation bias in perceived argument strength.

Figure B1: Study 1 Hypotheses tests summary—Ideology, views on gun rights, and the confirmation bias (Tables B2-B4 below show full estimation results of each hypothesis, with shaded row highlighted *Liberal Score* coefficient estimates shown in this figure)



Notes: Thick (thin) lines shows the 95% (99%) confidence interval around the point estimates for the 1-tailed pre-registered hypotheses regarding the impact of one's Liberal ideology *on* one's *Gun Rights* position, the number of *conservative sourced* information clips selected and the perceived strength of pro gun-rights arguments. The negative coefficient estimates support the first Hypothesis (more liberal ideology *lowers* one's view regarding gun rights) and the confirmation bias Hypotheses (more liberal ideology leads to a selection away from ideologically opposed source material, and a perceived weaker strength of pro gun rights arguments). Views on gun rights are a composite measure derived from one's agreement level with each of six statements regarding gun control (statements both for and against included—see the Study 1 survey in Appendix C. The perceived strength of pro gun-rights arguments is derived from a composite set of argument-strength responses to 6 statements that contain a mix of arguments in favor of gun control and gun rights (See Appendix C, Study 1 details).

Table B2: Study 1 Hypothesis test: More liberal respondents will hold a position promotes gun control, while conservative respondents will hold positions that promote gun rights.

	DV=Pro Gun Rights Attitude		
	(1)	(2)	(3)
Constant	15.509 (.881)**	20.308 (1.901)**	13.436 (5.068)**
Liberal Score	-3.743 (.148)**	-3.542 (.157)**	-3.558 *(.171)**
Age	---	.056 (.032)	.087 (.034)*
Female (=1)	---	-2.157 (.829)**	-1.854 (.905)*
Minority (=1)	---	-1.017 (.935)	-.521 (.939)
Education level	---	-1.467 (.303)**	-1.322 (.310)**
Cognitive Reappr. Score	---	---	-.512 (.372)
Expressive Suppress Score	---	---	.436 (.328)
News attention	---	---	.103 (.590)
Enjoy news	---	---	-.306 (.408)
Pol Ideology Strength	---	---	.013 (.026)
Felt Pol Discr (=1)	---	---	.574 (.301)
Kept quiet due to pol discr (=1)	---	---	.876 (.250)**
Daytime sleepiness	---	---	-.044 (.103)
Last week sleep	---	---	-.015 (.377)
Optimal sleep	---	---	.122 (.423)
Pos Mood (baseline)	---	---	-.182 (.359)
Neg Mood (baseline)	---	---	.056 (.403)
R-squared	.5096	.5343	.5629

Notes: n=611 observations. *p <.05, **p <.01 for the 1-tailed test of the impact of *Liberal Score* on the dependent variable (asterisks indicate the 2-tailed test significance for all other coefficient estimates). Coefficients shown with standard errors in parenthesis.

Table B3: Study 1 Hypothesis test: More politically liberal (conservative) participants will voluntarily view a smaller (larger) number of pro-gun-rights information clips--the confirmation bias in information exposure.

	DV=# conservative sourced articles viewed		
	(1)	(2)	(3)
Constant	3.733 (.083)**	3.816 (.184)**	2.896 (.494)**
Liberal Score	-.119 (.014)**	-.122 (.015)**	-.108 (.017)**
Age	---	-.003 (.003)	.001 (.003)
Female (=1)	---	-.021 (.080)	.056 (.088)
Minority (=1)	---	.008 (.090)	.028 (.097)
Education level	---	.007 (.029)	-.013 (.030)
Cognitive Reappr. Score	---	---	-.009 (.036)
Expressive Suppress Score	---	---	.034 (.032)
News attention	---	---	-.025 (.058)
Enjoy news	---	---	-.003 (.040)
Pol Ideology Strength	---	---	-.002 (.005)
Felt Pol Discr (=1)	---	---	.060 (.029)*
Kept quiet due to pol discr (=1)	---	---	0.026 (.024)
Daytime sleepiness	---	---	-.010 (.010)
Last week sleep	---	---	.027 (.037)
Optimal sleep	---	---	.030 (.041)
Pos Mood (baseline)	---	---	.097 (.035)**
Neg Mood (baseline)	---	---	.106 (.039)**
R-squared	.1063	.1077	.1478

Notes: n=611 observations. *p <.05, **p <.01 for the 1-tailed test of the impact of *Liberal Score* on the dependent variable (asterisks indicate the 2-tailed test significance for all other coefficient estimates. Coefficients shown with standard errors in parenthesis.

Table B4: Study 1 Hypothesis test: More liberal (conservative) participants will consider arguments promoting pro-gun-rights as more weak (strong)--the confirmation bias in perceived argument strength.

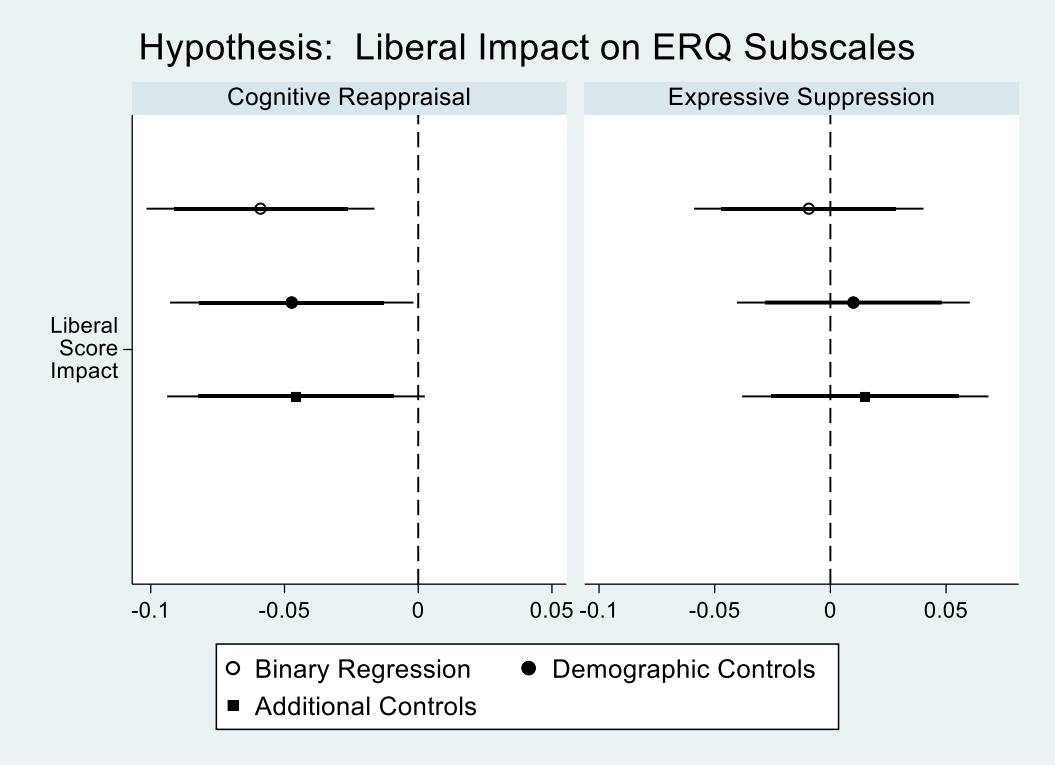
	DV=strength of pro-gun-rights arguments		
	(1)	(2)	(3)
Constant	13.798 (.521)**	15.437 (1.136)**	17.217 (2.999)**
Liberal Score	-1.608 (.088)**	-1.525 (.094)**	-1.512 (.101)**
Age	---	.031 (.019)	.029 (.020)
Female (=1)	---	-.047 (.495)	-.775 (.536)
Minority (=1)	---	-1.240 (.559)*	-1.390 (.556)*
Education level	---	-.636 (.181)**	-.469 (.183)*
Cognitive Reappr. Score	---	---	-.082 (.220)
Expressive Suppress Score	---	---	-.163 (.194)
News attention	---	---	-.539 (.349)
Enjoy news	---	---	.121 (.241)
Pol Ideology Strength	---	---	.006 (.015)
Felt Pol Discr (=1)	---	---	.135 (.178)
Kept quiet due to pol discr (=1)	---	---	.165 (.148)
Daytime sleepiness	---	---	-.103 (.061)
Last week sleep	---	---	.184 (.223)
Optimal sleep	---	---	.267 (.250)
Pos Mood (baseline)	---	---	-.562 (.212)**
Neg Mood (baseline)	---	---	-1.051 (.238)**
R-squared	.3553	.3751	.4244

Notes: n=611 observations. *p <.05, **p <.01 for the 1-tailed test of the impact of *Liberal Score* on the dependent variable (asterisks indicate the 2-tailed test significance for all other coefficient estimates. Coefficients shown with standard errors in parenthesis.

HYPOTHESIS TESTED:

Hypothesis: More liberal respondents will have Emotional Regulation Questionnaire (ERQ) responses that indicate a different approach to emotion regulation compared to political conservatives.

Figure B2: Study 1 Hypothesis test (see Table B5 below for full estimation results)



Notes: Thick (thin) lines shows the 95% (99%) confidence interval around the point estimates for the 2-tailed pre-registered hypotheses (no directional prediction made for this hypothesis) regarding the impact of *Liberal Score* in each instance. "Demographic Controls" regressions include additional covariates for age, gender, minority status, and education level. "Additional Controls" includes all variables shown in main text Table 1, except temporal mood measures, as covariates in addition to the key *Liberal Score* measure.

Table B5: Hypothesis test: Liberal Impact on ERQ Subscales

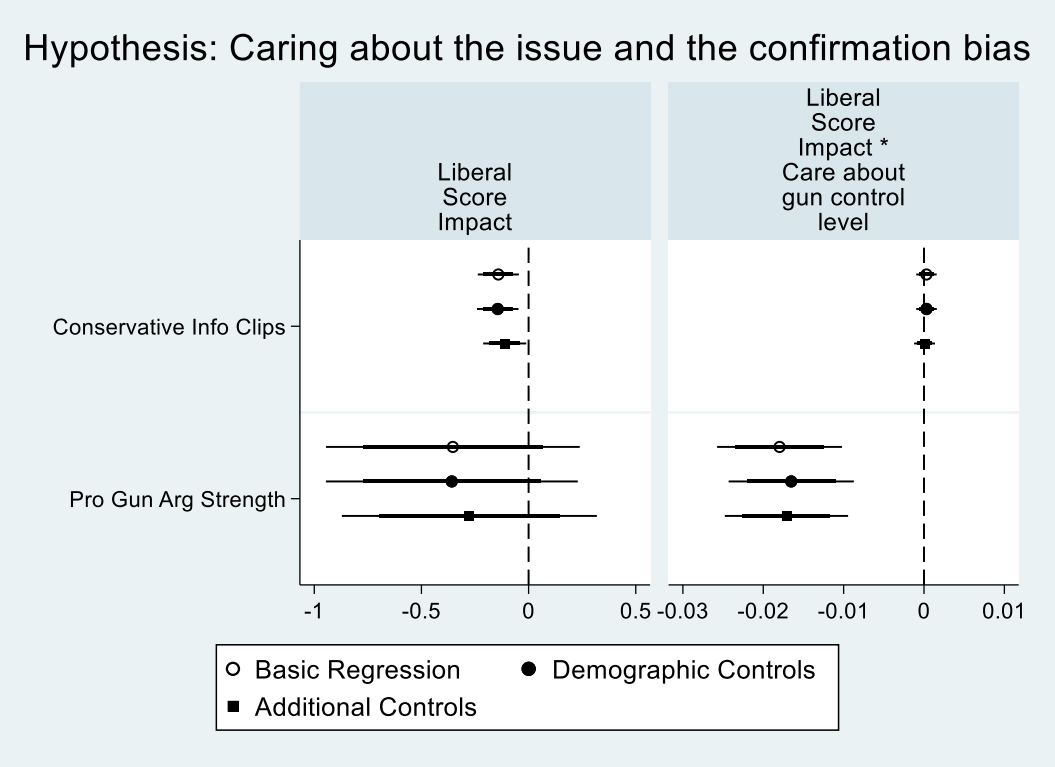
Estimating the determinants of ERQ subscales: Cognitive Reappraisal and Expressive Suppression (cognitive reappraisal is considered good, and expressive suppression bad, regarding healthy mood regulation strategies). Shaded cells represent those results highlighted in coefficient plots						
	Cognitive Reappraisal subscale (DV)			**Expressive Suppression subscale (DV)**		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	5.180 (.098)**	4.283 (.213)**	4.220 (.513)**	4.049 (.114)**	4.593 (.235)**	4.660 (.567)**
Liberal Score	-.059 (.016)**	-.047 (.018)**	-.046 (.019)*	-.009 (.019)	-.010 (.019)	.015 (.021)
Age	---	.010 (.004)**	.008 (.004)	---	-.006 (.004)	-.005 (.004)
Female (=1)	---	.049 (.093)	.074 (.007)	---	-.910 (.103)**	-.887 (.107)**
Minority (=1)	---	-.006 (.105)	.014 (.106)	---	.193 (.116)	.212 (.117)
Education level	---	.112 (.034)**	.108 (.035)**	---	-.007 (.038)	-.006 (.038)
News attention	---	---	.037 (.067)	---	---	.032 (.074)
Enjoy news	---	---	.029 (.046)	---	---	-.044 (.051)
Pol Ideology Strength	---	---	-.054 (.033)	---	---	-.001 (.003)
Felt Pol Discr (=1)	---	---	.052 (.028)	---	---	.053 (.037)
Kept quiet due to pol discr (=1)	---	---	.052 (.028)	---	---	.026 (.031)
Daytime sleepiness	---	---	.012 (.011)	---	---	.018 (.013)
Last week sleep	---	---	.034 (.043)	---	---	-.038 (.047)
Optimal sleep	---	---	-.082 (.048)	---	---	-.018 (.053)
R-squared	.0206	.0575	.0732	.0004	.1317	.1480

Notes: n=611 observations**.** *p <.05, **p <.01 for the 2-tailed test (pre-registered hypothesis did not specify a direction of effect). Coefficients shown with standard errors in parenthesis.

HYPOTHESIS TESTED:

Hypothesis: The confirmation bias will be stronger among issues viewed as higher priority

Figure B3: Study 1 Hypothesis test: confirmation bias will be stronger on higher priority issues (see Table B6 for full estimation results)



Notes: Thick (thin) lines shows the 95% (99%) confidence interval around the point estimates for the 1-tailed pre-registered hypotheses regarding the impact of *Liberal Score* and its interaction with one's level of caring about the issue of gun control, *CareGun* $\in$ [0 ,100], in each instance—*CareGun* serves as our proxy for how high a priority the issue is to that participant. "Basic" regression included only *Liberal Score*, *CareGun*, and their interaction term as regressors. Negative and significant coefficient estimates of the main *Liberal Score* impact on the number of conservative information clips viewed with no significant interaction effect reflect a common confirmation bias effect on information exposure across varied levels of caring about the issue of gun control. Thus, we fail to support hypothesis regarding selection information exposure. The estimates for the argument strength regressions ("Pro Gun Arg Strength") show the confirmation bias effect of a negative impact of *Liberal Score* (on perceived strength of pro gun rights arguments) is moderated by how much one cares about the issue. Those caring more about the issue display a stronger confirmation bias regarding perceived argument strength, which supports the preregistered hypothesis.

Table B6: Hypothesis test: Liberal and interaction effect on confirmation bias results

Estimating the confirmation bias as moderated by how much one cares about the issue (issue=gun control) Shaded cells represent those results highlighted in Fig 3b coefficient plots						
	# Pro-Gun-Control Statements Viewed (DV)			**Perceive strength of Pro-Gun-Control arguments (DV)**		
	(1)	(2)	(3)	(4)	(5)	(6)
Constant	3.870 (.249)**	3.941 (.305)**	2.897 (.545)**	7.008 (1.799)**	8.003 (1.845)**	9.930 (3.231)**
Liberal Score	-.141 (.041)**	-.143 (.042)**	-.111 (.043)**	-.353 (.254)	-.358 (.252)	-.276 (.255)
Care about gun control	-.002 (.003)	-.002 (.003)	.001 (.003)	.109 (.020)**	.099 (.020)**	.105 (.020)**
Lib Score*care gun control**	.0003 (.0005)	.0003 (.0006)	.0001 (.001)	-.018 (.003)**	-.017 (.003)**	-.017 (.003)**
Age	---	-.003 (.003)	.001 (.003)	---	.026 (.019)	.029 (.020)
Female (=1)	---	-.023 (.080)	.054 (.089)	---	.026 (.487)	-.639 (.525)
Minority (=1)	---	.004 (.091)	.031 (.092)	---	-.920 (.553)	-1.140 (.546)*
Education level	---	.006 (.030)	-.014 (.030)	---	-.551 (.179)**	-.373 (.180)*
Cognitive Reappr. Score	---	---	-.010 (.036)	---	---	-.133 (.216)
Expressive Suppress Score	---	---	.034 (.032)	---	---	-.112 (.190)
News attention	---	---	-.026 (.058)	---	---	-.714 (.343)*
Enjoy news	---	---	-.003 (.040)	---	---	.202 (.237)
Pol Ideology Strength	---	---	-.003 (.003)	---	---	-.006 (.016)
Felt Pol Discr (=1)	---	---	.061 (.030)*	---	---	.184 (.175)
Kept quiet due to pol discr (=1)	---	---	-.027 (.024)	---	---	.140 (.145)
Daytime sleepiness	---	---	-.011 (.010)	---	---	-.113 (.060)
Last week sleep	---	---	.027 (.037)	---	---	.145 (.219)
Optimal sleep	---	---	.028 (.041)	---	---	.316 (.245)
Pos Mood (baseline)	---	---	.096 (.035)**	---	---	-.482 (.208)*
Neg Mood (baseline)	---	---	.111 (.039)**	---	---	-1.050 (.234)**
Wald X^2 Stat	.1068	.1081	.1484	.3891	.4010	.4514

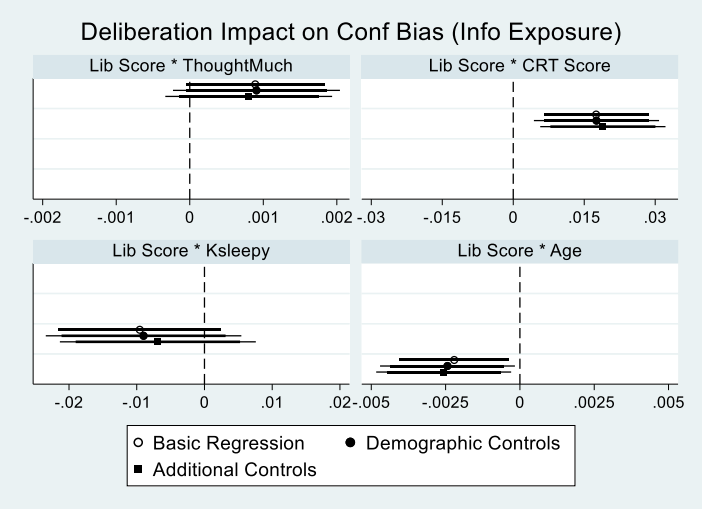
Notes: n=611 observations. *p <.05, **p <. 01 for the 1-tailed preregistered H4 tests (otherwise, 2-tailed test significance reported above). Coefficients shown with standard errors in parenthesis.

HYPOTHESIS TESTED

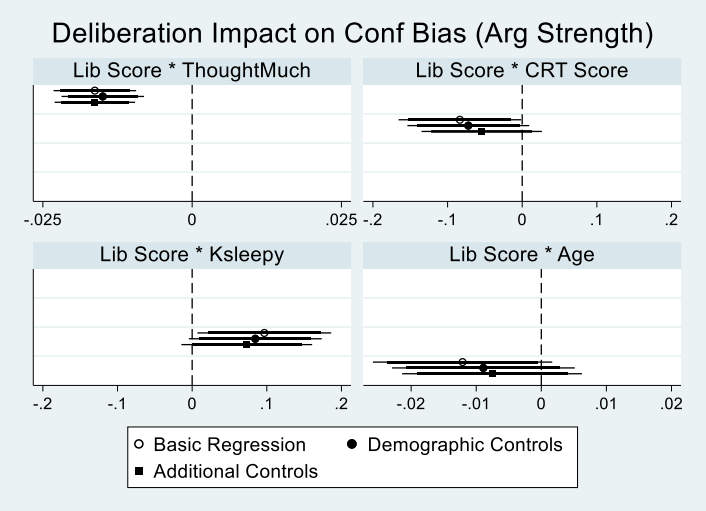
Hypothesis: the confirmation bias will be enhanced with deliberation. Deliberation will be proxied by: self-reported thought on the issue; a higher cognitive reflection style of thinking; a higher self-reported state-level of alertness (i.e., lower self-reported sleepiness); age.

Figure B4: Hypothesis test: Deliberation increases confirmation bias (see Tables B7 and B8 for full estimation results of "additional controls" specifications)

Panel A: Information Exposure



Panel B: Perceived Argument Strength



Notes: Observations = 611 (1 per participant). Thick (thin) lines shows the 95% (99%) confidence interval around the point estimates for the 1-tailed pre-registered hypotheses regarding the impact of the *Liberal Score* * *Deliberation Measure* interaction. Note the differing X-axis scales due to different range of independent variable of interest**. Negative coefficient estimates on the interaction terms with *ThoughtMuch, CRTscore,* and *Age* would support the deliberation hypothesis. A positive coefficient estimate on the interaction term with *Ksleepy* would support the hypothesis**. We find some limited support for the deliberation hypothesis regarding perceived argument strength using *Thought Much* (Panel B: however, all coefficient estimates on the interaction terms are in the hypothesized direction, but not precisely estimated). Only with respect to *Age* as a proxy for deliberation is the hypothesis supported with respect to selective information exposure (Panel A).

Table B7: Study 1 Hypothesis test: **Deliberation increases the confirmation bias in *Information Exposure*** *(# conservative sourced articles viewed on issue of gun control in classic confirmation* bias task). Key interaction terms shown in "Additional Controls" models in Figure B4 are highlighted with shaded cells.

***Models with full controls shown for brevity (results from other specifications, which are summarized in Figure B4 are available on request)**

	DV=# conservative sourced articles viewed			
	Deliberation Proxy = *Thought Much* (1)	Deliberation Proxy = CRT score (2)	Deliberation Proxy = *Sleepiness* (3)	Deliberation Proxy = *Age* (4)
Constant	3.224 (.548)**	3.210 (.511)**	2.797 (.524)**	2.405 (.540)**
Liberal Score	-.163 (.044)**	-.163 (.026)**	-.082 (.032)**	-.019 (.043)
***Thought Much* (on issue)**	-.004 (.004)	---	---	---
Thought Much * Lib Score	.001 (.001)	---	---	---
CRT score	---	-.092 (.041)*	---	---
CRT score * Lib Score	---	.019 (.007)**	---	---
Karolinska (state-level) sleepiness	---	---	.028 (.045)	---
Karolinska sleepy * Lib Score	---	---	-.007 (.007)	---
Age	.001 (.003)	.001 (.003)	.001 (.003)	.012 (.006)*
Age * *Lib Score*	---	---	---	-.003 (.001)*
Female (=1)	.052 (.088)	.062 (.089)	.056 (.088)	.036 (.088)
Minority (=1)	.023 (.092)	.035 (.091)	.027 (.092)	.013 (.092)
Education level	-.018 (.030)	-.022 (.030)	-.014 (.030)	.0001 (.031)
Cognitive Reappr. Score	-.004 (.037)	-.012 (.036)	-.010 (.036)	**-.008 (.036)**
Expressive Suppress Score	.033 (.032)	.031 (.032)	.034 (.032)	.031 (.032)
News attention	-.023 (.058)	-.033 (.057)	-.027 (.058)	-.026 (.057)
Enjoy news	-.005 (.040)	.004 (.040)	-.003 (.040)	.006 (.040)
Pol Ideology Strength	-.002 (.003)	.068 (.030)*	-.002 (.003)	-.002 (.003)
Felt Pol Discr (=1)	.059 (.029)*	-.024 (.024)	.060 (.029)*	.059 (.029)*
Kept quiet due to pol discr (=1)	-.026 (023)	-.011 (.010)	-.026 (.025)	-.022 (.024)
Daytime sleepiness	-.011 (.010)	.024 (.037)	-.010 (.010)	-.009 (.010)
Last week sleep	.023 (.037)	.024 (.037)	.022 (.037)	.023 (.037)
Optimal sleep	.029 (.041)	.032 (.041)	.033 (.042)	.031 (.041)
Pos Mood (baseline)	.095 (.035)**	.099 (.035)**	.093 (.036)**	.096 (.035)**
Neg Mood (baseline)	.112 (.039)**	.106 (.039)**	.113 (.041)**	.113 (.039)**
Deliberation Hypothesis supported by interaction term coefficient estimate	**No**	**No** (opposite expected sign)	**No**	**Yes**
R-squared	.1506	.1594	.1493	.1549

Notes: Linear regression estimates, n=611 observations**.** **p* <.05, ***p* <.01 for the 1-tailed test of the impact of *Liberal Score* and the key interaction term on the dependent variable (asterisks indicate the 2-tailed test significance for all other coefficient estimates. Coefficients shown with standard errors in parenthesis.

Table B8: Study 1 Hypothesis test: **Deliberation increases the confirmation bias in *Perceived Argument Strength*** of pro-gun arguments. Key interaction terms shown in "Additional Controls" models in Figure B4 are highlighted with shaded cells.

***Models with full controls shown for brevity (results from other specifications, which are summarized in Figure B4 are available on request)**

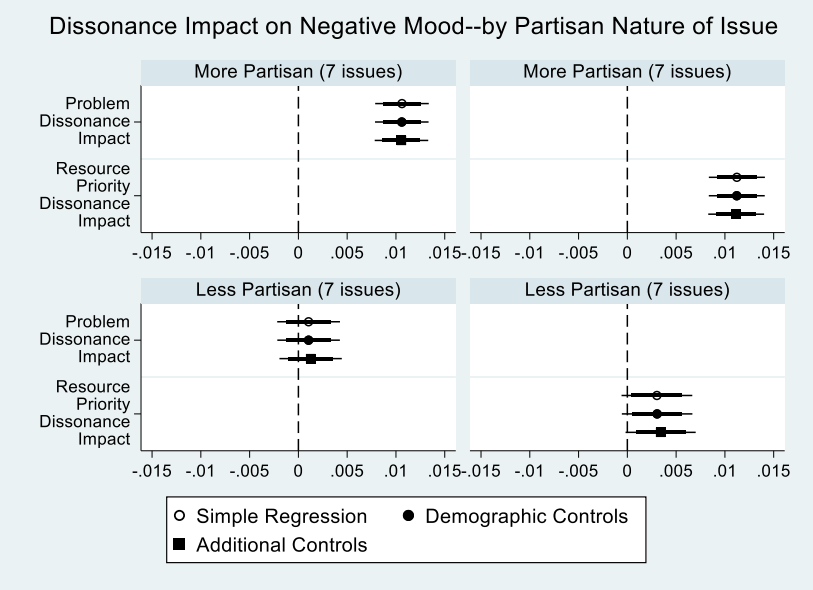
	DV=*Perceived Argument Strength* (of pro-gun arguments)			
	Deliberation Proxy = *Thought Much*	Deliberation Proxy = CRT score	Deliberation Proxy = *Sleepiness*	Deliberation Proxy = *Age*
	(1)	(2)	(3)	(4)
Constant	10.45 (3.25)**	15.77 (3.11)**	18.89 (3.17)**	15.77 (3.29)**
Liberal Score	-.358 (.258)	-1.364 (.157)**	-1.778 (.193)**	-1.250 (.264)**
***Thought Much* (on issue)**	.110 (.021)**	---	---	---
Thought Much * Lib Score	-.016 (.003)**	---	---	---
CRT score	---	.431 (.250)	---	---
CRT score * Lib Score	---	-.054 (.041)	---	---
Karolinska (state-level) sleepiness	---	---	-.447 (.275)	---
Karolinska sleepy * Lib Score	---	---	.073 (.045)	---
Age		.028 (.020)	.027 (.020)	.064 (.038)
Age * *Lib Score*	---	---	---	-.008 (.007)
Female (=1)	-.77 (.525)	-.680 (.541)	-.768 (.535)	-.833 (.538)
Minority (=1)	-1.167 (.547)*	-1.397 (.556)*	-1.373 (.556)*	-1.434 (.557)**
Education level	-.365 (.182)*	-.467 (.185)*	-.461 (.183)*	-.429 (.187)*
Cognitive Reappr. Score	-.207 (.217)	-.057 (.221)	-.076 (.220)	**-.079 (.220)**
Expressive Suppress Score	-.165 (.190)	-.168 (.194)	-.176 (.194)	-.170 (.194)
News attention	-.676 (.345)*	-.551 (.350)	-.558 (.351)	-.542 (.349)
Enjoy news	.170 (.237)	.114 (.242)	.118 (.241)	.148 (.243)
Pol Ideology Strength	-.009 (.017)	.007 (.015)	.003 (.016)	.005 (.015)
Felt Pol Discr (=1)	.169 (.175)	.146 (.180)	.139 (.178)	.132 (.178)
Kept quiet due to pol discr (=1)	.153 (.145)	.142 (.149)	.180 (.149)	.178 (.149)
Daytime sleepiness	-.094 (.060)	-.097 (.062)	-.096 (.062)	-.101 (.062)
Last week sleep	.229 (.218)	.194 (.223)	.187 (.226)	.177 (.223)
Optimal sleep	.269 (.245)	.249 (.250)	.273 (.253)	.271 (.250)
Pos Mood (baseline)	-.549 (.208)**	-.527 (.214)*	-.562 (.216)**	-.565 (.212)**
Neg Mood (baseline)	-1.087 (.234)**	-1.022 (.239)**	-1.022 (.245)**	-1.042 (.239)**
Deliberation Hypothesis supported by interaction term coefficient estimate	**Yes**	**No**	**Borderline (*p* =.051)**	**No**
R-squared	.4503	.4275	.4272	.4255

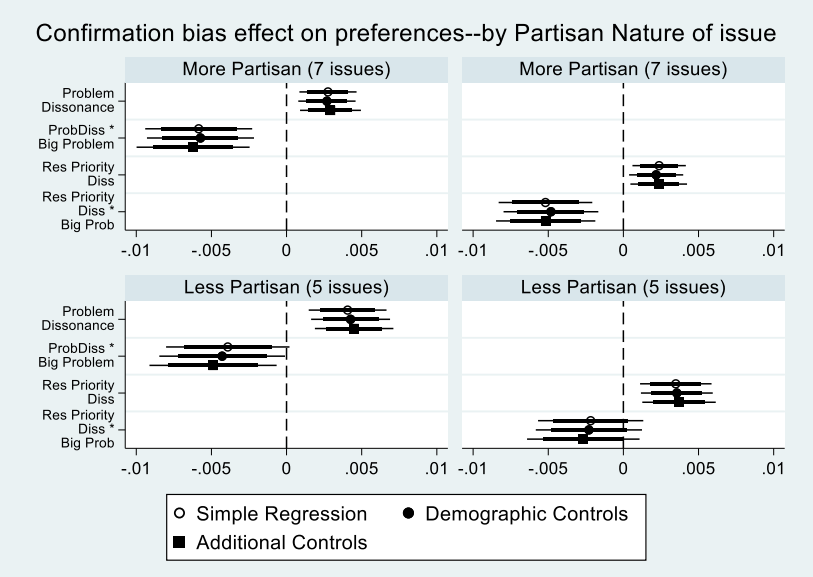
Notes: Linear regression estimates, n=611 observations**.** **p* <.05, ***p* <.01 for the 1-tailed test of the impact of *Liberal Score* and the key interaction term on the dependent variable (asterisks indicate the 2-tailed test significance for all other coefficient estimates. Coefficients shown with standard errors in parenthesis.

HYPOTHESIS TESTED

Hypothesis: Confirmation bias and mood predictions will be stronger for more partisan political issues, with partisan nature of issue derived from objective measures on political issues.

Figure B5: Hypothesis test: Stronger confirmation bias and mood prediction for partisan issues (see Tables B9 and B10 estimation results of "Additional Controls" specifications)





Notes: Thick (thin) lines shows the 95% (99%) confidence interval around the point estimates for the 1-tailed pre-registered hypotheses. The panel data set is comprised of 12 observations per participant capturing mood and preference measures on 12 distinct political issue, with 5 issues being classified as less partisan (n=3,055 total observations for these estimations) and 7 being classified as more partisan (n=4,277 total observations for these estimations). Robust standard errors clustered at the participant level for all estimations.

TABLE B9: Study 1 Hypotheses—the Mood impact of dissonant information will be stronger for more partisan issues (*Information Manipulation task)*

	DV=*Relative Negative Mood*			
	PERCEIVED PROBLEM RATING Dissonance		**RESOURCE PRIORITIZATION RATING Dissonance**	
	MORE PARTISAN *issues*	***LESS PARTISAN*** *issues*	***MORE PARTISAN*** *issues*	***LESS PARTISAN*** *issues*
	(1)	(2)	(3)	(4)
Constant	.210 (.786)	.075 (.741)	.197 (.790)	-.031 (.741)
***Degree of Dissonance* ∈ [0,100]**	.011 (.001)**	.001 (.001)	.011 (.001)**	.003 (.002)*
Age	-.006 (.004)	.008 (.004)	-.006 (.004)	.008 (.004)
Female (=1)	.364 (.131)**	.206 (.124)	.372 (.132)**	.205 (.123)
Minority (=1)	.389 (.132)**	.023 (.125)	.392 (.134)**	.030 (.125)
Education level	.076 (.040)	.004 (.039)	.077 (.040)	.003 (.039)
Cognitive Reappr. Score	-.037 (.056)	.009 (.049)	-.035 (.056)	.007 (.049)
Expressive Suppress Score	-.034 (.049)	-.056 (.046)	-.034 (.049)	-.057 (.046)
News attention	.131 (.083)	-.097 (.082)	.132 (.083)	-.099 (.082)
Enjoy news	-.134 (.059)*	-.012 (.053)	-.131 (.059)*	-.010 (.053)
Pol Ideology Strength	.011 (.004)**	.007 (.004)*	.010 (.004)**	.008 (.004)
Felt Pol Discr (=1)	-.052 (.040)	-.022 (.036)	-.052 (.040)	-.022 (.036)
Kept quiet due to pol discr (=1)	.034 (.034)	.094 (.032)**	.034 (.034)	.095 (.032)**
Daytime sleepiness	.003 (.016)	-.006 (.014)	.003 (.016)	-.007 (.014)
Last week sleep	-.151 (.049)**	-.115 (.046)**	-.153 (.049)**	-.116 (.046)*
Optimal sleep	-.007 (.063)	.015 (.057)	-.009 (.064)	.015 (.057)
Pos Mood (baseline)	-.287 (.060)**	-.198 (.057)**	-.289 (.060)**	-.197 (.057)**
Neg Mood (baseline)	.367 (.056)**	.254 (.052)	.367 (.056)**	.259 (.052)**
Wald X^2 Stat (MODEL)	269.74**	69.27**	271.50**	73.79**

Notes: Random effects GLS estimations, 3,055 observations on less partisan issues, 4,277 observations on more partisan issues. Errors clustered on n=611 participant cluster**.** *p <.05, **p <.01 for the 1-tailed test of the preregistered hypotheses (asterisks indicate the 2-tailed test significance for all other coefficient estimates). Coefficients shown with standard errors in parenthesis. More versus less partisan issues were defined by the size of the gap between Republican and Democratic support shown by Pew Research using January 2020 data.

TABLE B10: Study 1 Hypotheses—the confirmation bias effect will be stronger for more partisan issues (*Information Manipulation task)*

	Models shown are "additional controls" specifications for brevity (other results available on request)			
	Dep Var = Ln(post-Info *Perceived Problem* Rating)		**Dep Var = Ln(post-Info preferred *Resource Prioritization* Rating)**	
	MORE PARTISAN *issues*	***LESS PARTISAN*** *issues*	***MORE PARTISAN*** *issues*	***LESS PARTISAN*** *issues*
	(1)	(2)	(3)	(4)
Constant	.668 (.174)	.468 (.160)**	.591 (.161)**	.315 (.132)*
Ln(pre-info *Perceived Problem* Rating)	.849 (.027)**	.851 (.038)**	---	---
Ln(pre-info *Resource Prioritization* Rating)	---	---	.871 (.020)**	.896 (.027)**
***Big Problem Info* (=1)**	.357 (.083)**	.492 (.101)**	.340 (.075)**	.367 (.091)**
***Degree of Dissonance* ∈[0,100]**	.003 (.001)**	.004 (.001)**	.002 (.001)**	.004 (.001)**
***Dissonance * Big Problem* statement**	-.006 (.002)**	-.005 (.002)**	-.005 (.001)**	-.003 (.002)
Age	-.0003 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)
Female (=1)	-.022 (.021)	-.030 (.020)	-.007 (.019)	-.049 (.021)*
Minority (=1)	.005 (.023)	-.025 (.024)	-.023 (.025)	-.002 (.021)
Education level	.016 (.007)*	-.001 (.007)	.021 (.007)**	-.003 (.008)
Cognitive Reappr. Score	-.018 (.010)	-.015 (.010)	-.005 (.011)	**-.003 (.011)**
Expressive Suppress Score	-.013 (.009)	-.001 (.007)	-.016 (.009)	.0003 (.007)
News attention	.012 (.015)	-.003 (.014)	.008 (.016)	-.014 (.014)
Enjoy news	-.015 (.010)	.008 (.009)	-.008 (.010)	.017 (.010)
Pol Ideology Strength	-.002 (>001)*	-.002 (.001)*	-.002 (.001)*	-.001 (.001)
Felt Pol Discr (=1)	-.017 (.009)	-.016 (.008)*	-.013 (.008)	-.004 (.007)
Kept quiet due to pol discr (=1)	.002 (.007)	-.009 (.006)	.001 (.007)	.004 (.006)
Daytime sleepiness	.0002 (.003)	.003 (.003)	.002 (.002)	.001 (.003)
Last week sleep	-.016 (.010)	-.004 (.009)	-.003 (.009)	-.014 (.009)
Optimal sleep	.0003 (.010)	-.004 (.009)	-.013 (.010)	-.003 (.008)
Pos Mood (baseline)	.001 (.009)	.012 (.007)	-.011 (.009)	.008 (.007)
Neg Mood (baseline)	.030 (.011)**	-.018 (.011)	.024 (.010)*	-.017 (.009)
Wald χ^2 Stat (MODEL)	8320.45**	3504.03**	12698.87**	6032.83**
X^2 test: *Big Prob* > *Diss Degree*Big Prob* interaction	14.49**	0.18	14.44**	1.70

Notes: Random effects GLS estimations, 3,055 observations on less partisan issues, 4,277 observations on more partisan issues. Errors clustered on n=611 participant cluster**.** *p <.05, **p <.01 for the 1-tailed test of the preregistered hypotheses (asterisks indicate the 2-tailed test significance for all other coefficient estimates). Coefficients shown with standard errors in parenthesis. More versus less partisan issues were defined by the size of the gap between Republican and Democratic support shown by Pew Research using January 2020 data.

Supplemental Information: Appendix C

STUDY 1 SURVEY DETAILS

[spacing condensed in places for presentation, dotted lines indicate page breaks in survey, added commentary shaded in squared brackets]

Timing and basic information: The Wave 1 Survey was conducted between September 10 and September 15, 2020. The survey was administered on the Prolific platform (prolific.co) and custom screening was used to generate an initial sample that was roughly equally represented by political liberal and political conservative U.S. participants.

Information on participants used as control variables in the analysis was obtained in the survey. Specifically, survey questions generated baseline mood measures, favorability ratings in partisan individuals and groups of peoples, political position measures, the key independent measure of political ideology variable used in the analysis (*Liberal Score*), and responses on the Emotion Regulation Questionnaire (*ERQ*) and 6-item Cognitive Reflection Task (*CRT*). After initial demographic measures were elicited, the remainder of the Wave 1 survey administered a confirmation bias task and the information manipulation task reported in the manuscript.

SURVEY (Study 1)

(author/institution identifiers blanked out, page breaks indicated by dotted lines)

Informed Consent:
You are being asked to complete this online survey that includes demographic questions, mood/emotion questions, tasks involving political views and information, and a task assessing cognitive style. Participation in this online survey is completely voluntary, your responses to this survey will remain completely confidential, the data will be securely stored, your name will not be recorded anywhere on this survey. The only identifier we will record will be your Prolific ID, which we as researchers cannot link to personally identifiable data of yours. This survey is estimated to take 35 minutes to complete and your payment for successful survey completion will be $5.00. There are attention-check questions within the survey to ensure that you are being attentive and reading each

question prior to responding. Successful survey completion includes passing the attention check questions. **Failure to answer the attention-check questions correctly may jeopardize receiving your payment** for this Prolific study. There are no known risks associated with this study beyond those associated with everyday life. Although this study will not benefit you personally, its results will help our understanding of how people make decisions about politics.

For additional information related to this questionnaire, contact [redacted] at [redacted] The [redacted] Institutional Review Board has determined this study to be exempt from review by the IRB Administration.

- ○ **I Consent** and wish to continue with this study
- ○ **I do not consent** to participating and **do not wish to continue**

The following questions are **screener validation questions** to make sure we get the desired sample we advertised for this survey

What is your current age (in years)?

	18 23 29 34 40 45 50 56 61 67 72
Years of age	

What is your sex?

- ○ Female
- ○ Male

What is your ethnicity?

- ○ Hispanic or Latino
- ○ Not Hispanic or Latino

What is your racial category?

- ○ American Indian/Alaska Native
- ○ Asian
- ○ Native Hawaiian or other Pacific Islander
- ○ Black or African American
- ○ White (Caucasian)
- ○ Mixed
- ○ Other (please specify in text box _____

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

- ○ Did not complete High School
- ○ High School
- ○ some College
- ○ >1 year of College (but no degree)
- ○ Bachelor's Degree
- ○ Master's Degree
- ○ Terminal Degree beyond Master's level (e.g., Ph.D., J.D., Ed.D, etc)

Have you voted in a US Presidential election before?

- ○ Yes
- ○ No

Where would you place yourself along the political spectrum?

- ○ Conservative
- ○ Liberal
- ○ Other

Before you start, please switch off phone/ e-mail/ music so that you can focus on this study. Thank you!

Please carefully enter your Prolific ID (**or double check if it has auto-filled**) _____

How closely do you pay attention to information about what's going on in **government and politics**?

- ○ Not closely at all
- ○ Slightly closely
- ○ Moderately closely
- ○ Very closely
- ○ Extremely closely

In general, how much do you **enjoy keeping up with the news**?

- ○ Not at all
- ○ Not much
- ○ Neutral
- ○ Some
- ○ Alot

[*LIBERAL SCORE* measure (the key independent variable in the analysis)]

In terms of politics, do you consider yourself conservative, liberal, or middle-of-the-road?

- ○ **VERY CONSERVATIVE**
- ○ Quite conservative
- ○ Conservative
- ○ Somewhat conservative
- ○ **MIDDLE OF THE ROAD**
- ○ Somewhat liberal
- ○ Liberal
- ○ Quite liberal
- ○ **VERY LIBERAL**

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

- ○ Republican
- ○ Democrat
- ○ Independent
- ○ Something else (please specify in the text box) _____

Have you ever felt **discriminated against** this past year **because of your political views**? We are not asking about whether others have expressed to you different political views from yours, but ***whether you have felt unjust or unfair treatment as a result of your political viewpoints***.

Please respond on the point system below that ranks the perceived political views discrimination you have felt from low (1) to high (7).

- ○ (1) **Never**
- ○ (2) Rarely
- ○ (3) Occasionally (more than "rarely")
- ○ (4) **Somewhat regularly**
- ○ (5) Quite regularly (more than "somewhat regularly")
- ○ (6) Frequently
- ○ (7) **All the time**

How often do you choose *not* to share your political views **as a direct result of fear of discrimination or unjust treatment** because of your political views?

- ○ (1) **Never**
- ○ (2) Rarely
- ○ (3) Occasionally (more than "rarely")
- ○ (4) **Somewhat regularly**
- ○ (5) Quite regularly (more than "somewhat regularly")
- ○ (6) Frequently
- ○ (7) **All the time**

How do you rank these political issues?

Below is a list of 12 topic areas that are important to many voters. Please rank these policy issues from 1-12 to reflect which you view as more or less important. The issue you feel is most important should get the #1 rank (the #12 rank is for the issue you feel is least important among this list).

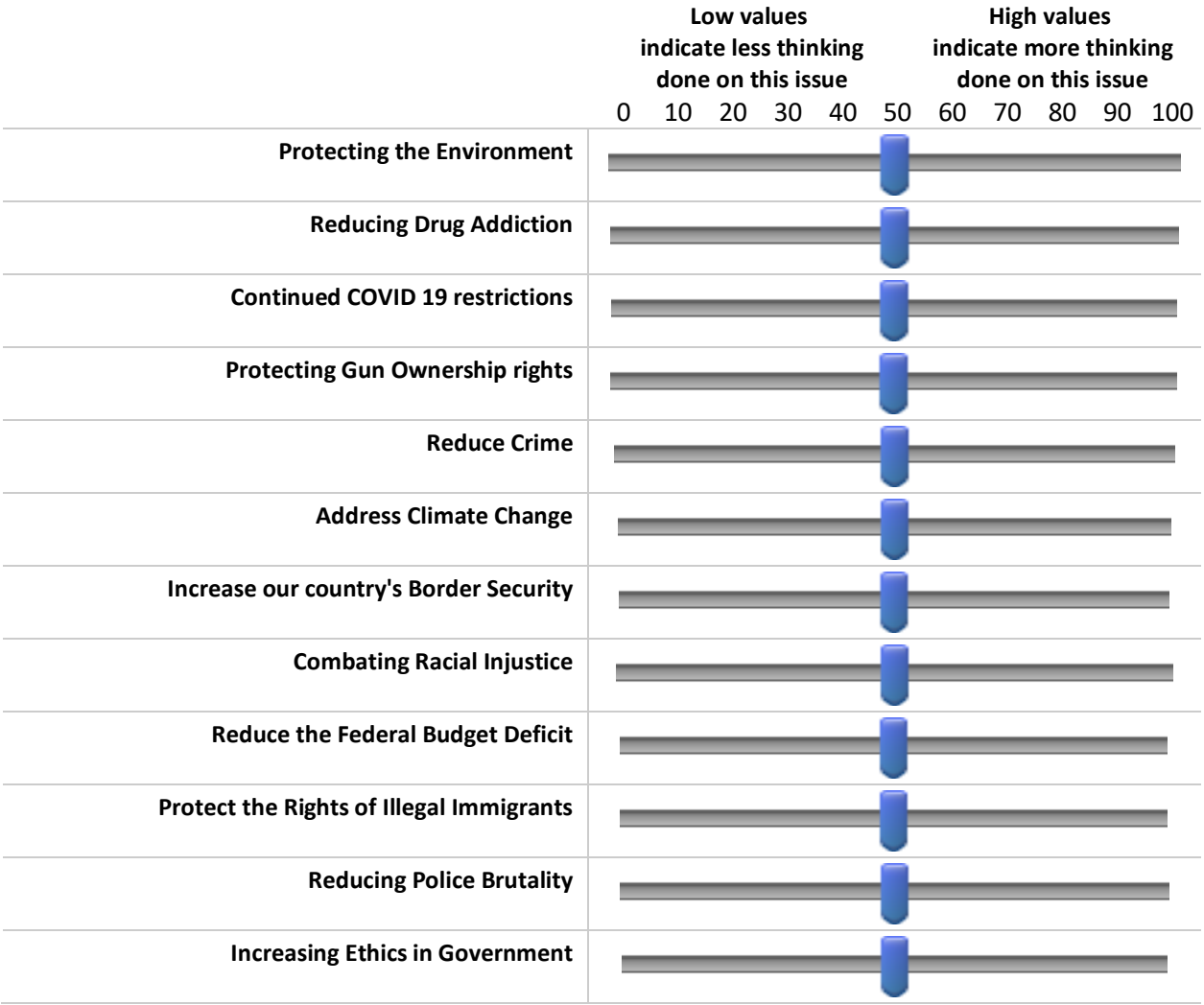
(just click and drag to set each issue in your preferred order).

[*listing of these 12 items allows respondent to click and drag into a preference ordering]*

Protecting the environment; Reduce drug addiction in America; Continued COVID-19 restrictions to protect public health (social distancing, travel restrictions, mask wearing); Protecting gun ownership rights; Reduce crime (violent and non-violent); Addressing climate change; Increasing our country's border security; Combating racial injustice; Reduce/eliminate the Federal budget deficit; Protecting

rights of illegal immigrants; Reforms to reduce police brutality; Increase ethics in government (among those holding a public office)

People have told us they have thought a lot about some issues and haven't thought at all about some other issues. How would you rate **the amount of thinking you have done on the following issues**? (0 = I have not really thought at all about this issue, 100 = I have thought a lot about this issue)



[This set of questions is the Emotion Response Questionnaire (ERQ) instrument]

How do you deal with your emotions?

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your ***emotional experience***, or what you feel like inside. The other is your ***emotional expression***, or how you show your emotions in the way you talk, gesture, or behave.

Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using 7-point scale given (i.e., the slider bar):

Please indicate how much you disagree or agree with each of the following statements below.

[each item response was given on a 1-7 scale with 1="Strongly Disagree", 4="Neutral", and 7="Strongly Agree"]

-- When I want to feel more ***positive*** emotion (such as joy or amusement), I ***change what I'm thinking about.***

-- I keep my emotions to myself

-- When I want to feel less ***negative*** emotion (such as sadness or anger), *I* ***change what I'm thinking about****.*

-- When I am feeling ***positive*** emotions, I am careful not to express them.

-- When I'm faced with a stressful situation, I make myself ***think about it*** in a way that helps me stay calm.

-- I control my emotions by ***not expressing them.***

-- When I want to feel more ***positive emotion***, I ***change the way I'm thinking*** about the situation.

-- I control my emotions by ***changing the way I think*** about the situation I'm in.

-- When I am feeling ***negative*** emotions, I make sure not to express them.

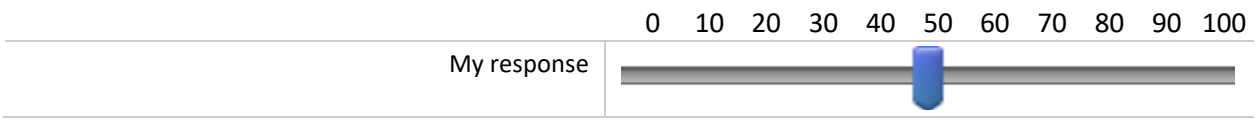
-- When I want to feel less ***negative*** emotion, I ***change the way I'm thinking*** about the situation

---

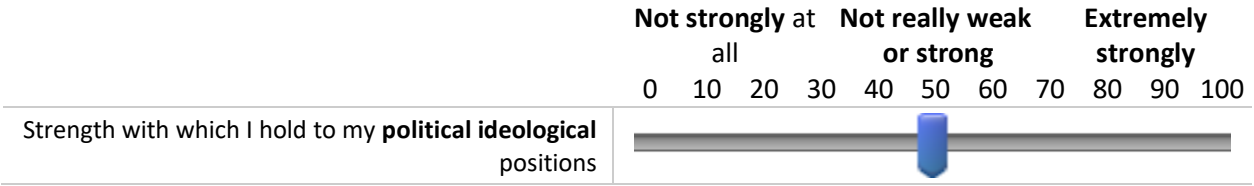
[Comprehension check]

As described earlier, we are interested in factors that influence the decisions you might make. In order for the results of this survey to be valid, **it is essential that you read all the instructions and questions carefully**. So we know that you have read these instructions, please place the slider below on the number corresponding to the sum of 34 and 25. Thank you for taking the time to read these instructions.

(note: this will **not** be the *only* "attention check" in this survey, so please stay attentive)

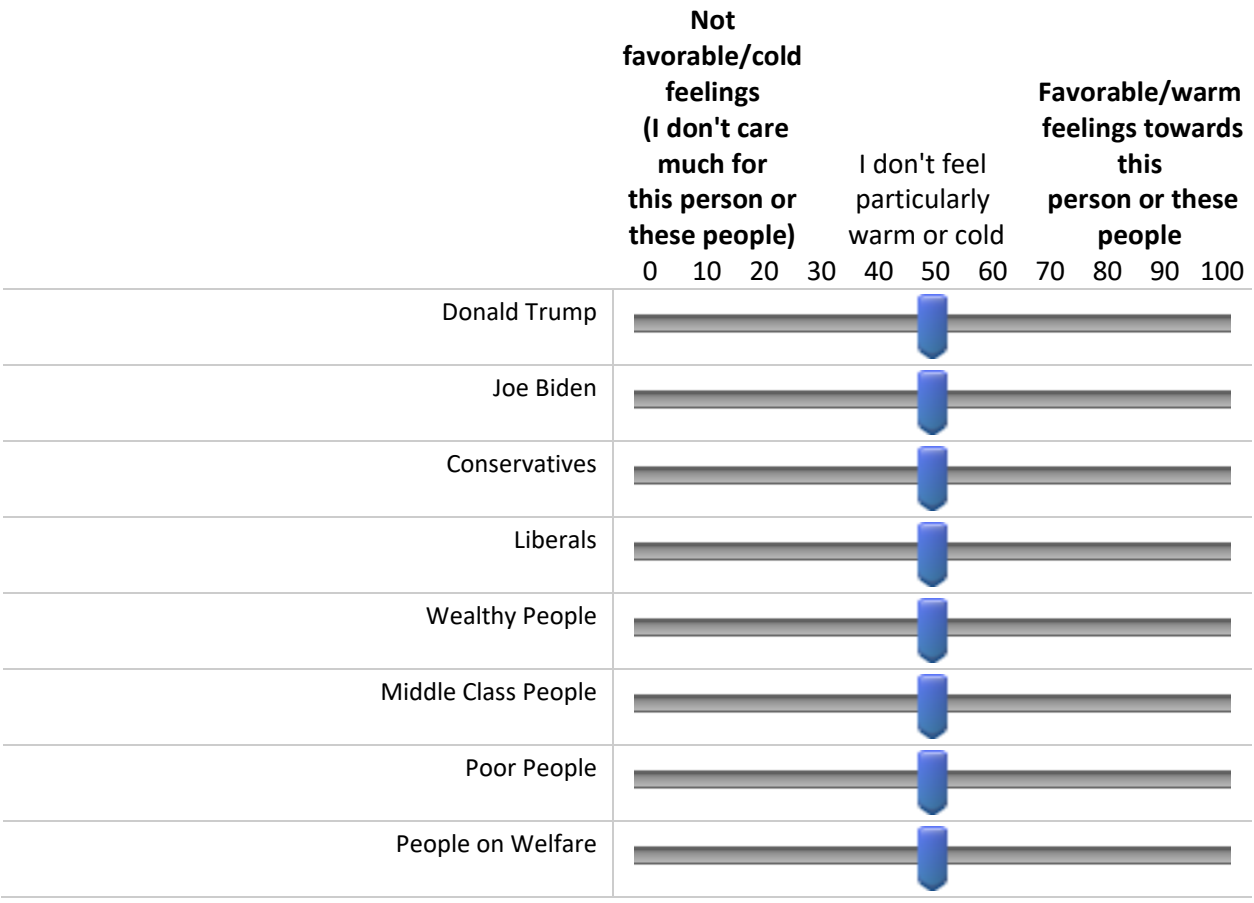


How strongly do you hold to your **political** ideological positions?



We'd like to get your feelings toward some of our political leaders and other people/groups who are in the news these days. We'll do this using something we call the feeling thermometer. Ratings between 50 degrees and 100 degrees mean that you feel favorable and warm toward the person. Ratings between 0 degrees and 50 degrees mean that you don't feel favorable toward the person and that you don't care too much for that person. You would rate the person at the 50 degree mark if you don't feel particularly warm or cold toward the person.

How would you rate your feelings towards the following political leaders and people/groups?



Here's a few short questions about sleep and sleepiness.

[This is the Karolinska Sleepiness Score measure]

Please mark the number that best corresponds to how sleepy you feel **right now**. You may mark any number, but mark only one number.

- ○ 1. Extremely alert
- ○ 2.
- ○ 3. Alert
- ○ 4.
- ○ 5. Neither alert nor sleepy
- ○ 6.
- ○ 7. Sleepy--but no difficulty remaining awake
- ○ 8.
- ○ 9. Extremely sleepy--fighting sleep

Over the last 7 nights, what is the average amount of sleep you obtained each night?

	0 1 2 3 4 5 6 7 8 9 10 11 12
Average nightly sleep over the LAST WEEK	

What do you consider **the optimal amount of nightly sleep for *you personally*?** (optimal in terms of performance, alertness, and mood).

	0 1 2 3 4 5 6 7 8 9 10 11 12
Nightly hours of sleep I personally need for optimal performance, alertness, and mood.	

[This is the Epworth Sleepiness Scale measure]

How likely are you to doze off or fall asleep in the following situations, in contrast to just feeling tired? This refers to your usual way of life in recent times. Even if you have not done some of these things recently, try to work out how they would have affected you.

	would NEVER doze or fall asleep	SLIGHT chance of dozing or falling asleep	MODERATE chance of dozing or falling asleep	HIGH chance of dozing or falling asleep
Sitting and reading	○	○	○	○
Watching TV	○	○	○	○
Sitting, inactive in a public place (e.g., a theater or a meeting)	○	○	○	○
As a passenger in a car for an hour	○	○	○	○
Lying down to rest in the afternoon when circumstances permit	○	○	○	○
Sitting and talking to someone	○	○	○	○
Sitting quietly after lunch without alcohol	○	○	○	○
In a car, while stopped for a few minutes in traffic	○	○	○	○

Now, we'd like to get your baseline ratings on some mood/emotion states.

Please rate how strongly you feel each of these emotions ***right now***.
Right now I feel.....

--Happy --Excited --Surprised --Satisfied

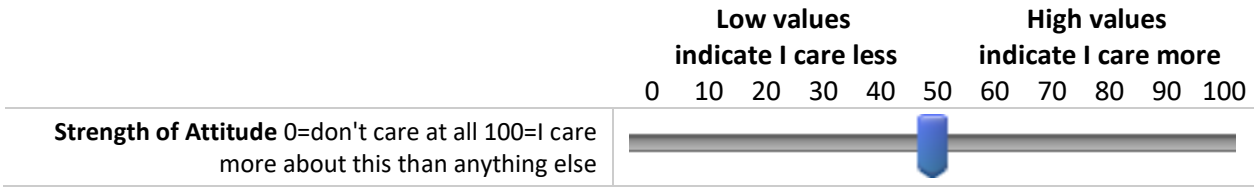
--Angry --Irritated --Confused --Regret --Disgust

[each item response was given on a 1-7 scale with 1="Zero level of this emotion", 4="Mid-Range level of this emotion", and 7="Maximum level of this emotion"]

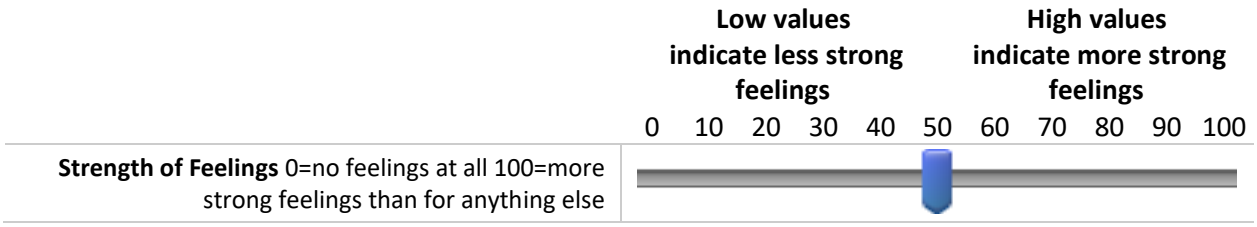
[These items measure one's position on gun control along several dimensions]

The next several question ask you about your political attitudes and positions regarding **the issue of gun control.**

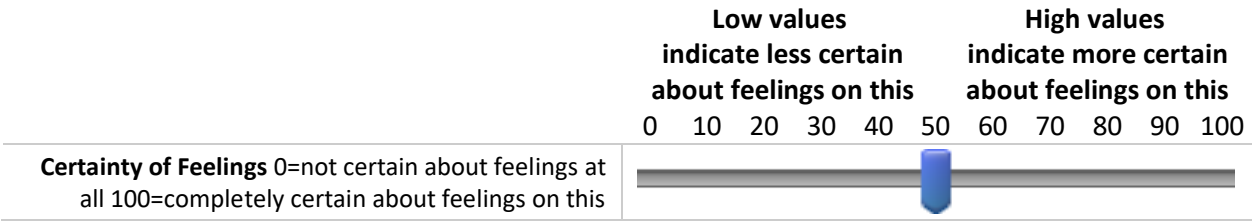
How much do you **personally care** about **the issue of gun control**?



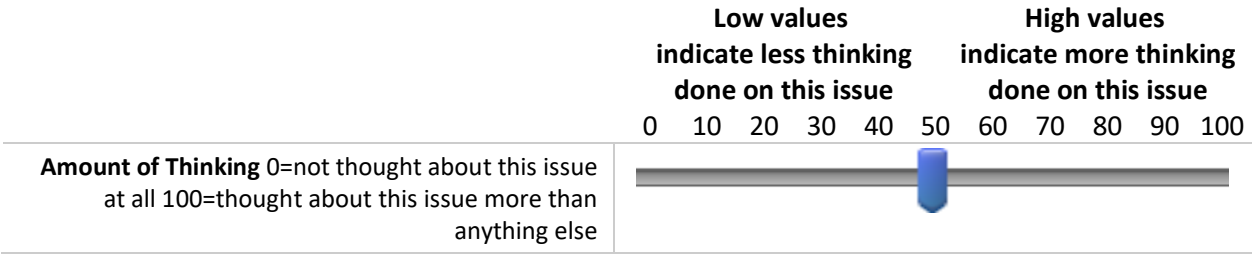
Compared to how you feel about other public issues, **how strong are your feelings regarding the issue of gun control?**



Some people report that they are very certain of their feelings on the issue of gun control. Others say they are not certain at all. **How certain are you of your feelings on the issue of gun control**?



People have told us they have thought a lot about some issues and haven't thought at all about some other issues. How would you rate **the amount of thinking you have done about the issue of gun control**?



[This question generates the *Pro-Gun-Views* baseline attitude metric]

For each of the statements below *regarding gun control*, please indicate how much you Agree or Disagree with the statement.

[each item below was assessed on a 9-point scale from "STRONGLY DISAGREE" to STRONGLY AGREE". Scale is centered at "0" to range from -4 to +4 on each item with reverse scoring of gun control

statements. This creates a composite score that ranges from -24 (strongly anti-gun) to +24 (strongly pro-gun) as one's baseline attitude measure]

-- Curbing gun violence is very important, but limiting the right to bear arms is not really an effective way to do this.

-- Everyone's rights and freedoms are important, but sometimes, as with gun control, it is necessary to limit freedom for the greater public good

-- Guns, like cars, should only be used by responsible citizens. Gun control laws just insure that responsible people are using guns in a responsible manner

-- Over the past few years our right to bear arms has been eroding. This encroachment on our rights must be stopped

-- There should be no limits on the number of guns someone can own.

-- It is not the government's job to pick and choose the types of weapons it finds acceptable for citizens to own.

[Selective Information Exposure task—see end of Appendix for library of arguments used]

In what follows, you will be given the opportunity to be shown short arguments either against or for "gun control." The sources of the arguments are either: the National Rifle Association, the Brady Campaign to Prevent Gun Violence, the Democratic Party, the Republican Party. As you may be aware, **the arguments in favor of gun control are generally from the Democratic Party and the Brady Campaign to Prevent Gun** Violence, whereas **the arguments against gun control are generally from the Republican Party and the National Rifle Association**.

Please view these arguments in an even-handed way, as if you were charged with explaining the issue to another individual.

You have to view 6 arguments in total, although it is entirely up to you to select the source of each argument. Of course, you are not able to view all the arguments we have compiled from these sources, but just 6 arguments in total.

From which source would you like to read the 1st argument on the issue of gun control?

- ○ Republican Party
- ○ National Rifle Association
- ○ Democratic Party
- ○ the Brady Campaign to Prevent Gun Violence

[Question repeated for each of 6 arguments with respondent selecting the source of each of the six information clips, followed by viewing the clip on a separate page. See end of Appendix for arguments/clips used]

[Argument Strength Elicitation measure]

[for each individual item, a response ∈ [-4 , +4] indicates how "incredibly weak" (-4) to how "incredibly strong" (+4) one finds the argument. Responses on all 6 arguments are combined using positive and reverse scoring to create a singular metric ∈ [-24 , +24] with positive scores indicating pro-gun-rights arguments were found relatively more strong than pro-gun-control arguments.]

BASIC INSTRUCTIONS: In this section, you are asked to read a set of arguments on gun control and **tell us how WEAK or STRONG you believe each argument is**. These arguments may be useful if you need to explain the gun control debate to someone. Please note: **We want to know how WEAK or STRONG you believe the argument is, NOT WHETHER YOU AGREE OR DISAGREE WITH THE ARGUMENT.** Please try to leave your feelings about gun control aside and indicate how strong or weak you feel the argument is. Please be as objective as possible.

After each argument, you will be asked to give your mood/emotion ratings again (they may or may not change relatively to earlier in the survey).

REMEMBER: whether you agree or disagree with the conclusion of an argument is not the same thing as whether you think the argument is weak or strong.

The next page presents the first argument for you to rate. Please read each argument careful before giving your rating.

Argument #1: Self-defense arguments for the need of guns are silly: guns only become necessary for self-defense because there are so many guns out there. Thus, guns should be outlawed outright--then we won't need to worry about self-defense

Argument #2: The liberal media distorts gun issues: they only talk about tragedies involving guns. Yet guns were used defensively 2.5 million times last year. The real tragedy would be to outlaw guns--crime would spiral out of control.

Argument #3: Recent trials against gun manufacturers have consistently found them guilty, and have forced the gun industry to pay out huge sums of money. If the courts can find

good reason to rein in the gun industry, then it is high time for Congress to follow suit.

Argument #4: Most privately-owned guns in America are owned by sportsmen and are used for completely peaceful purposes. These guns pose no risk to society, but they are unfairly targeted by gun control legislation.

Argument #5: The United States has the highest murder rate of all industrialized nations. It is also the only industrialized country that has lenient gun laws. We therefore say: bring down the number of guns, bring down the murder rate.

Argument #6: Gun control legislation can only regulate guns sold through legal outlets. But these days, many criminals buy their guns illegally. Gun control legislation therefore cannot regulate the most dangerous guns in society.

[Mood elicitation--after each argument, the respondent is posed with the following question]

Please rate how strongly you feel each of these emotions ***right now***.
Right now I feel.....

--Happy --Excited --Surprised --Satisfied

--Angry --Irritated --Confused --Regret --Disgust

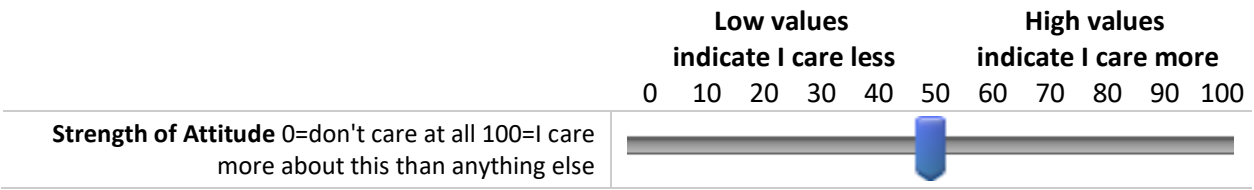
[each item response was given on a 1-7 scale with 1="Zero level of this emotion", 4="Mid-Range level of this emotion", and 7="Maximum level of this emotion"]

[**These items re-assess one's position on gun control along several dimensions]**

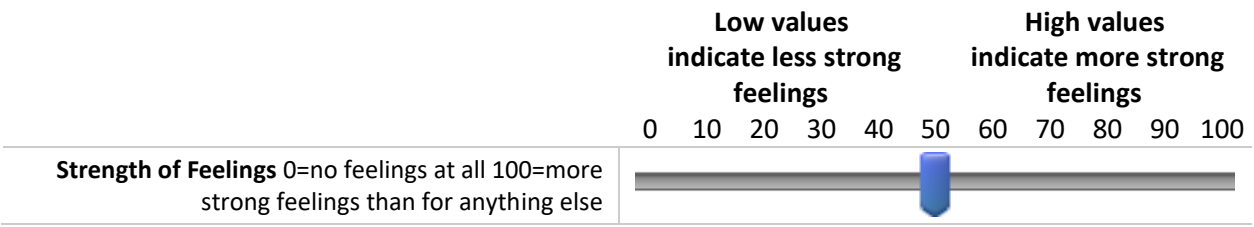
Earlier in the survey you were previously asked to rate your attitudes and positions regarding the issue of gun control. Now that you have viewed some information and rated various arguments both for and against this issue, **we would like to ask you to rate your attitudes on gun control once again**. Your ratings of your attitudes and positions on the issue of gun control may be similar or different than they were earlier in the survey (i.e., there are no "correct" answers, we just wish to know of your ratings).

The next several questions ask you about your political attitudes and positions regarding **the issue of gun control.**

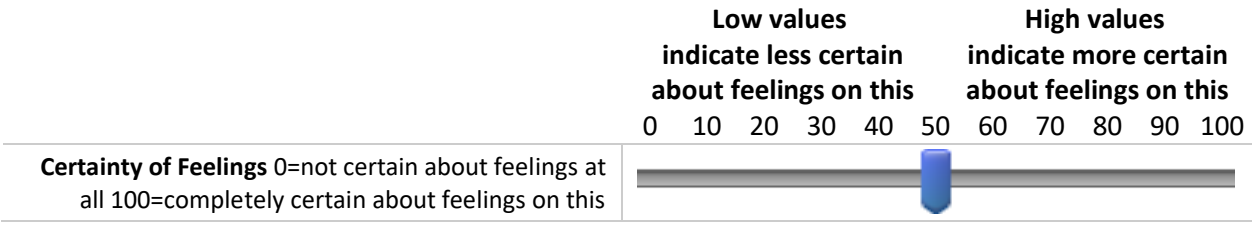
How much do you **personally care** about **the issue of gun control**?



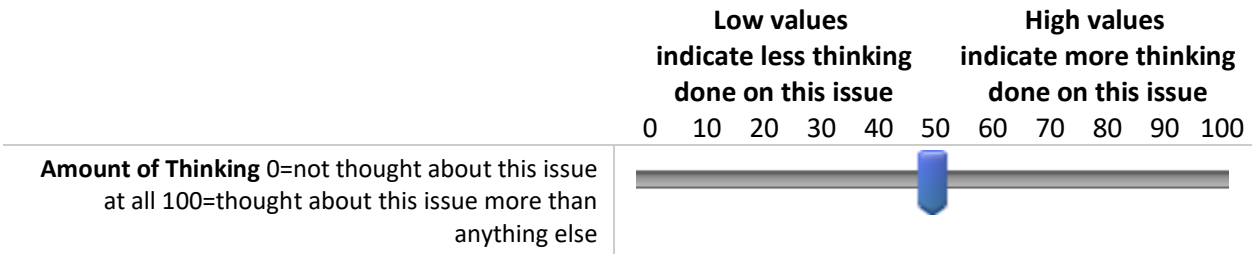
Compared to how you feel about other public issues, **how strong are your feelings regarding the issue of gun control?**



Some people report that they are very certain of their feelings on the issue of gun control. Others say they are not certain at all. **How certain are you of your feelings on the issue of gun control**?



People have told us they have thought a lot about some issues and haven't thought at all about some other issues. How would you rate **the amount of thinking you have done about the issue of gun control**?



For each of the statements below *regarding gun control*, please indicate how much you Agree or Disagree with the statement.

[each item below was assessed on a 9-point scale from "STRONGLY DISAGREE" to STRONGLY AGREE"]

-- Curbing gun violence is very important, but limiting the right to bear arms is not really an effective way to do this.

-- Everyone's rights and freedoms are important, but sometimes, as with gun control, it is necessary to limit freedom for the greater public good

-- Guns, like cars, should only be used by responsible citizens. Gun control laws just insure that responsible people are using guns in a responsible manner

-- Over the past few years our right to bear arms has been eroding. This encroachment on our rights must be stopped

-- There should be no limits on the number of guns someone can own.

-- It is not the government's job to pick and choose the types of weapons it finds acceptable for citizens to own.

[Final attention check question]

Hang in there.....getting close to finished.
Take a few deep breaths and please remain attentive for the remainder of the survey.
To show us you are still paying attention, please respond by clicking "D" from the list below

- ○ A
- ○ B
- ○ C
- ○ D
- ○ E

[What follows is the information manipulation experiment]

For this task, we are going to ask for your perceptions of how important certain U.S. policy issues are right now (in the present). **After assessing each issue you will be shown a piece of information giving some extra detail on that particular policy issue** (we gathered the information from a variety of recent sources identified from Internet searches)**.**

After you read the information, we will assess your mood states and then re-assess your perceptions on

that policy issue once again (they may or may not have been influenced by the information you were shown).

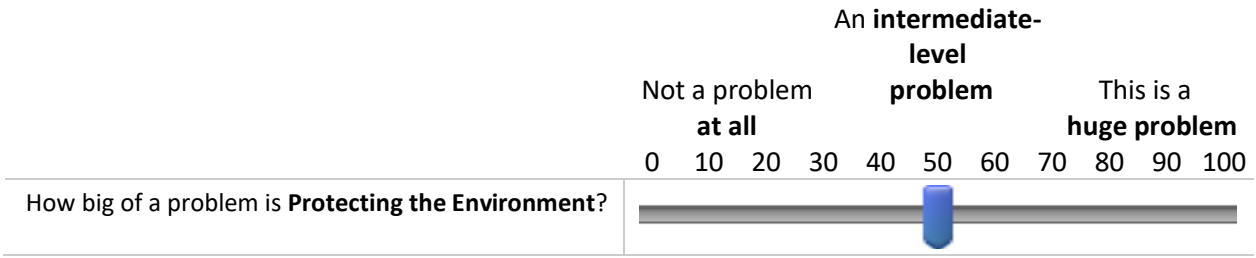
This process will be repeated for a total of 12 distinct policy issues.

There is no right or wrong answer as to your views on these issues. We simply ask that you give us your honest views, not what you feel others may think or what you think we wish to hear. What you truly perceive about these issues is what will help us the most for our study.

[example below is on one issue, but these two measures were elicited on each of the following 12 issue: Protecting the Environment, Reducing Drug Addiction, Continued COVID 19 restrictions, Protecting Gun Ownership rights, Reduce Crime, Address Climate Change, Increase our country's Border Security, Combating Racial Injustice, Reduce the Federal Budget Deficit, Protect the Rights of Illegal Immigrants, Reducing Police Brutality, Increasing Ethics in Government]

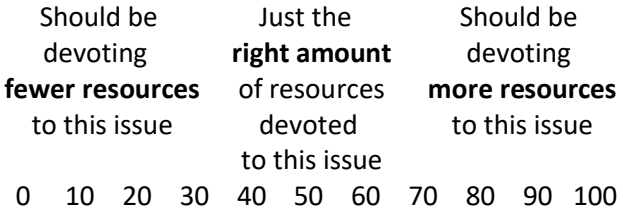
On a scale of 0-100, please tell us your view of how big of a problem *Protecting the Environment* **is**

(0 means not a problem at all, 100 means huge problem, in your opinion).



On a scale of 0-100, please tell us your view of *how many resources the Federal Government should be devoting, out of its limited resources (people, budget funds), compared to what it is devoting* to address this problem of **Protecting the Environment**

(0 means the government ***should*** be devoting a lot fewer, and 100 means the government ***should*** be devoting a lot more resources, in your opinion).



Should government be spending more or less resources on the issue of **Protecting the Environment**?	

[This statement followed after elicitation of these two measures on each issue]

The next page will present you with some additional information on this policy issue.

[The next page presents a randomly drawn statement designed to either promote the importance and priority of the issue (High Info) or minimize it (Low Info). See the end of the Appendix for the full set of information treatment statements used.]

[After presentation of the random information statement, mood ratings are elicited (some set of mood states as elicited previously), and the two items (importance and resource priority) are elicited once again to obtain a pre- and post-information measures of the participant's preferences on each issue.]

Are you registered to vote?

- ○ No
- ○ Yes

On this scale of 0-100 below, **how likely is it that you will be voting in the November 2020 U.S. Presidential Election?**

0 = No Chance that I will be voting in Nov 2020 Election

100 = Definitely will be voting in Nov 2020 Election

0 10 20 30 40 50 60 70 80 90 100

Chances I will be voting	

[images that follow (Trump and Biden) were presented in random order to participants at the end of the survey. Several pages of a distinct decision task were administered in between the initial and the post-image mood elicitation. Mood responses were compared to baseline mood elicited earlier in the survey to generate measures of the *Trump Mood Effect* and the *Biden Mood Effect*]

Take a look at this image of **Donald Trump** and tell us how you would rate your emotion/mood states below.

Right now (after looking at the image above) I feel…….

--Happy --Excited --Surprised --Satisfied

--Angry --Irritated --Confused --Regret --Disgust

[each item response was given on a 1-7 scale with 1=”Zero level of this emotion”, 4=”Mid-Range level of this emotion”, and 7=”Maximum level of this emotion”]

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*Take a look at this image of **Joe Biden** and tell us how you would rate your emotion/mood states below. Right now (after looking at the image above) I feel.....*

--Happy --Excited --Surprised --Satisfied

--Angry --Irritated --Confused --Regret --Disgust

[each item response was given on a 1-7 scale with 1="Zero level of this emotion", 4="Mid-Range level of this emotion", and 7="Maximum level of this emotion"]

[This set of questions is the 6-Item CRT instrument]

A bat and a ball cost $1.10 in total. The bat costs $1.00 more than the ball. How much does the ball cost?
(please indicate your numeric answer **in cents.** For example, 30 cents would be "30", not ".30", 1 cents would be "1" and not ".01", etc)_____

If it takes 5 minutes for 5 machines to make 5 widgets, how long would it take for 100 machines to make 100 widgets?
(please indicate your numeric answer **in minutes)**_____

In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover **half** of the lake? (please indicate your numeric answer **in days**)_____

If 3 elves can wrap 3 toys in 1 hour, how many elves are needed to wrap 6 toys in 2 hours?
(please give your numeric answer in **# of elves**)_____

Jerry received both the 15th highest and the 15th lowest mark in the class. How many students are there in the class?
(please give your numeric answer in **# of students)**_____

In an athletics team, tall members are **three** times more likely to win a medal than short members. This year the team has won 60 medals so far. How many of these have been won by short athletes? (please give your numeric answer in **# of medals**)_____

Are you possibly interested in a follow-up study after the Nov 2020 election?
(I would include your Prolific ID in a special list for follow up).
Your response of "yes" below does not commit you to participating in any follow-up study, but if you respond "no" then I will not include your Prolific ID in my list for follow up study. Ultimately, you can choose later to participate or not if a follow up study is offered (of course it would be a new study with its own compensation).

- ○ No
- ○ Yes

[BELOW ARE THE LIBRARIES OF INFORMATION CLIPS USED IN THE SELECTIVE INFORMATION EXPOSURE COMPONENT OF THE CLASSIC CONFIRMATION BIAS TASK (RE: assessing one dimension of the confirmation bias regarding gun control)]

Republican Party arguments library:

Lawful gun ownership enables Americans to exercise their God-given right of self-defense for the safety of their homes, their loved ones, and their communities.

A smaller government with less regulation is the most efficient means to run a country. The same holds true with gun rights: more interference by the government will lead to more gun deaths, not less.

Gun ownership is responsible citizenship, enabling Americans to defend their homes and communities.

Frivolous lawsuits against gun manufacturers are harmful to the safety of the American people.

It's wrong to impose federal licensing or registration of law-abiding gun owners.

Increasing access to hunting clinics and safety programs for children and adults will improve gun safety.

Democratic Party arguments library:

In order to make our communities safer, we should expand and strengthen background checks and close dangerous loopholes in our current gun laws.

It is immoral and wrong to provide gun makers and sellers with legal immunity protections.

In order to make our communities safer, we should ban assault weapons and large capacity ammunition magazines. We must get these off our streets.

In order to reduce gun violence, we should focus on effective enforcement of existing laws, especially strengthening our background check system.

In order to reduce gun violence, we can work together to enact commonsense improvements--like reinstating the assault weapons ban and closing the gun show loophole--so that guns do not fall into the hands of those irresponsible, law-breaking few.

The right to own firearms is subject to reasonable regulation, but what works in Chicago may not work in Cheyenne.

***National Rifle Association arguments library**:*

We (the NRA) oppose legislation to ban gun accessories, like bump stocks. Bills that propose doing so are intentionally violating our Constitutional right to bear arms.

Background check systems are ineffective because they don't stop criminals from getting firearms. After all, people who commit firearm crimes usually get their firearms through theft, the black market, or family members or friends

Assault weapons bans are completely ineffective. They violate our Constitutional right to defend ourselves, our families and our communities

The NRA opposes expansion of the background check system, because criminals easily get guns by other means and because expanding the background check requirement would be a step toward transforming the background check system into a national gun registry.

Self-defense is a fundamental right, and the right to use firearms for self-defense is recognized by the Constitution of the United States

The NRA does not want terrorists or dangerous people to have firearms. The NRA's only objective is to ensure that Americans who are wrongly on the terrorist watch list are afforded their constitutional right to due process.

The Brady Campaign to Prevent Gun Violence arguments library:

Many children and teens live in homes with firearms, including ones that are loaded and unlocked. This endangers the most vulnerable members of our communities.

Congress should renew the assault weapons ban. Until they do so, we are at risk for more tragic mass shootings.

The decisions by bad actors in the gun industry to engage in reckless and dangerous practices is one of the primary drivers of gun violence in America.

The evidence is clear: background checks work. They keep our communities safer and protect us from having guns fall into the hands of those who would seek to harm our children and our communities.

Experts estimate that 1 out of 5 gun sales occur in "no questions asked" transactions that often take place over the Internet or at gun shows where, in most states, background checks are not required. This dangerous loophole puts thousands and thousands of guns in the hands of dangerous people like domestic abusers, felons and the dangerously mentally ill.

Gun accessories, like bump stocks, that convert semiautomatic weapons into the functional equivalent of machine guns are dangerous and irresponsible. Congress should act to ban these devices.

[Below are the HIGH and LOW Information (promoting importance or minimizing it, respsectively) statements that were randomly assigned to each participant for each of the itemized issues, followed by which is a reassessment of perceived importance and resource prioritization for that issue]

Environmental Protection

[High Info]
The U.S. spends just 0.2% of its budget on the Environmental Protection Agency (EPA). Its percentage of total electrical output from renewable energy sources is lower than that of many countries (like Canada, Austria, and even Venezuela). Natural gas is somewhat more clean than alternative energy sources but, as of 2015, 67% of our natural gas was produced using hydraulic fracturing ("fracking"). The U.S. can do better than this and **our future depends on an increased focus on environmental protection.**

[Low Info]
When the economy is struggling and Americans are out of work, not surprisingly people tend to de-emphasize environmental protection, which is ok (there are always trade-offs). ***Increased*** **emphasis on the environment *should not be a priority* because with current policies we are already a global leader in environmental protections.** For example, according to the World Health Organization, the U.S. fine particulate matter levels are *six times below* global averages (and even below that of countries like France and Germany). And, 93% of America's community water systems meet health standards (in the early 1970s it was less than 60%).

Drug Addiction

[High Info]
In 2017, almost 1 million adolescents suffered from an illicit drug use disorder. Also, over 5 million young adults (almost 15% of the 18-25 year old age group) battled a substance use disorder. Even the elderly are at risk with over 1 million adults over 65 having a substance use disorder (in 2017). Some of the trends are not encouraging either, with heroine use having *doubled* in 18-25 year olds in the last decade. As a whole, these statistics show that **drug addiction is a larger problem then we may have thought and it deserves more attention.**

[Low Info]
There are many positive signs regarding decreased use of prescription amphetamines and other stimulants by teens (the 2nd most widely used class of elicit drugs by teens). Recent data shown that 3.5%-6.7% of 8th-12th graders used such drugs in the prior year, compared to 9%-11% in the 1990s (marijuana use is down among younger teens also). Alcohol and tobacco use are also down in teens.

Long term behavioral trends start in teen years and so these encouraging statistics show that **our current policies are working and the drug addiction problem is not destined to get worse**.

COVID 19 Protections

[High Info]
Recent new cases of COVID 19 infection are concerning. Evidence from the 1918 flu epidemic shows that easing social distancing too early will lead to a spike in deaths (the death rate only fell again after social distancing measures were put back into place). A new study commissioned by the World Health Organization also showed that masks give the wearer more protection than previously thought. Travel restrictions also help slow the spread of a contagious disease. **So, COVID 19 protections remains a serious problem and maintaining these protective policies is vital for public health.**

[Low Info]
Evidence has shown that lockdowns, business closures, and social isolation from COVID 19 protection policies may seemingly save lives (of those who may not contact the COVID 19 virus), but it is *killing* many in other ways. Mental health is suffering greatly from these policies and lockdowns have also made many postpone preventative screenings (including cancer screening). History shows that such negative economic disruption also increases suicide, depression, and drug abuse. If we care about *all* health impacts, then we would see that **current COVID 19 protection policies are too restrictive and the overall problem of COVID 19 is not as bad as some would have us think.**

Gun Rights Protections

[High Info]
Data show that defensive gun use occurs 500,000 to 3 million times a year. Some try to use statistics to say that many unjustifiable deaths occur for each justifiable defensive gun use death. However, an armed civilian does not have to kill a criminal in order to save an innocent life. The value of law-abiding citizen ownership of guns should be in terms of lives saved or crimes prevented, not criminals killed. **So, the importance of protecting citizen's constitutional right to legally own firearms is greater than ever.**

[Low Info]
The United States has 4% of the world's total population, but yet it accounts for 35% of global suicides by firearms and 9% of the world's firearm homocides. Tens of thousands of lives are lost each year in this country due to gun violence and so those claiming 2nd amendment rights are missing the real issue. **We need to limit the right to own firearms in this country in order to stop this cycle.**

Crime

[High Info]

In a recent 2018 survey, the Bureau of Justice Statistics found that less than half of all violent crimes they track were reported to police, and an even lower percentage of property crimes were reported. Also, most crimes reported to the police were not "solved" (did not result in arrest, charging, or a referral for prosecution). **Thus, it is clear that crime is a bigger problem in this country than we may have thought.**

[Low Info]
Recent data have shown consistent decreases in the violent crime rate in the U.S. And, recent data published by the Federal Bureau of Investigation from 2018 has shown an even larger drop in property crime. These drops in crime rates have been part of a 25 year trend now, and so **the magnitude of the crime problem in the U.S. is not as bad as one might think.**

Climate Change

[High Info]
According to government agencies, land and ocean temperatures since have risen at a faster rate in the last 25 years compared to before. Global sea levels are also rising more recently, which threatens coastal areas. Finally, extreme weather, such as intense rainfall events, has also been on the rise recently. **Climate change is clearly a bigger problem than many realize and we need an increased focus on addressing climate change.**

[Low Info]
We are actually in a *long-term warming trend* and carbon dioxide (CO2) has little to do with it. In the geological record, we see that CO2 does *not* trigger climate changes. Some argue that things are different in our post-industrialization world, but even recently (1970s) we were told the earth was headed towards "global cooling" (the 1970s) by experts. **Climate change is not as big of a problem as many are trying to make it out to be, and spending more on climate change initiatives would be a waste of money.**

Border Security

[High Info]
Thousands of illegal border crossings happen each year across our southern border, our northern border, and coastal boarders. In addition, an even larger number of illegal migrants are in the U.S. due to illegally overstaying their visas. ln 2016 over 700,000 migrants illegally overstayed their visas and over 500,000 illegal border crossings. In total it is estimated that over 10 million unauthorized immigrants live in the U.S. While a much smaller number, the White House recently stated that 3,755 known or suspected terrorists were stopped from entering the U.S. in 2017. We cannot be expected to have

resources for those in the country illegally, and **these data show that a stronger border security policy is needed** to help prevent terrorism as well.

[Low Info]
In a recent year, approximately 40% of apprehended migrants at our southern border were children and family members (in 2012 this proportion had reached 10% for the first time ever, which shows how much this has increased). And, the estimated cost of our border security measures has increased dramatically. In fact, the U.S. Border Patrol budget of $4.8 billion is more than 10 times higher than it was in 1995 (and more than double what it was more recently in 2008). Not only is this budget huge and not effectively spent, but the U.S. has lost sight of how we were built on welcoming immigrants. As a whole, it seems that **we would be better off reducing our current focus on border security.**

Racial Injustice

[High Info]
In 2016 black Americans made up about 13-14% of the total population but 27% of all individuals arrested in the U.S. The poverty rate of black Americans in 2018 was about 20%, which was more than double that of white Americans (about 8%). The black American unemployment rate is higher than the white American unemployment rate. And finally, the infant mortality rate is more than double for black Americans compared to white Americans. These statistics all highlight the racial disparity that exists between black and white Americans and highlight **how important we need to treat the issue of racial injustice.**

[Low Info]
During the current Trump administration, and prior to the COVID 19 outbreak, over 1 million new jobs had been created for African Americans. And the black unemployment rate was at an all time low of 5.5% (even lower or black women). In the last 3 years "Opportunity Zones" were created that would inject billions of dollars of new private investment into underdeveloped communities around the country. And, the current administration signed a $360 million grant to support Historically Black Colleges and Universities as well (more than *any* other administration). COVID 19 caused a big set back for everyone, but **these statistics highlight how racial injustice can be addressed and may not even be as bad as some portray it to be**, because jobs and investment are occurring that reduce differences in opportunity.

The Federal Budget Deficit

[High Info]
Due in part to the COVID 19 event, the government is estimated to run a budget deficit in fiscal year 2020 of about $3.7 trillion, which is the higher *ever*. But even before COVID 19 U.S. deficit spending was going to be over $1 trillion in 2020. The government simply cannot keep spending more than its revenues. Deficit spending contributes to the U.S. overall debt, which is currently more than our annual

Gross Domestic Product. This will cause many to be worried that the U.S. will not pay back its debt, and that can raise interest rates and hurt everyone. **The Federal Budget Deficit should therefore be a much bigger concern in current policy discussions.**

[Low Info]
Budget deficits are not as bad as many will have you think. Annual deficit spending as a percentage of GDP in recent years has been lower than during other peak years, outside of the unexpected COVID 19 event no one could have anticipated. In fact, stock market returns help show that budget surpluses are not an optimistic sign too many investors. Average stock market returns after budget surplus peaks are -1.2% after 12 months and just 8.8% cumulative after 3 years--after a budget deficit peak average market returns are 16.7% after 12 months and 29.2% cumulative after 3 years. Just like most individuals need some debt to manage major purchases or education expenses, the government needs debt and this spending contributes to economic activity. **The Federal Budget Deficit should not be as big of a concern as many make it to be.**

The Rights of Illegal Immigrants

[High Info]
Illegal immigrants work and pay taxes, many have been in the country for decades, married U.S. citizens and raised U.S.-citizen children. Non-citizens have been given the right to vote in some local elections. Many provisions in the Constitution provide rights to all, such as the right against unreasonable search and seizure, the right to education (for children), the right to legal counsel, and even the right to vote (and constitution only says who cannot be denied the right to vote, not who can be allowed to vote). **Granting additional rights to illegal immigrants should be a higher priority**, because they are in our country, they contribute to our economy, and they have families and children. After all, this country was built by immigrants!

[Low Info]
Granting rights to immigrants who broke our laws to get here will only encourage more illegal immigration. At some point, no country can continue to accept and grant privileges to everyone without exception. A natural dividing line should be drawn between those who came here legally versus illegally. Illegal migration costs taxpayers in the U.S. billions and billions of dollars annually, and illegal immigration is *not* a victimless crime (drain on public funds and natural resources, take jobs from American workers, undermine national security). **This move to grant additional rights to illegal immigrants is a bad idea** and it will hurt our country overall.

Police Brutality

[High Info]
There is plenty of evidence to tell us that something must be done about the use of excessive force by police. Such brutality is always wrong, but it also tends to happen disproportionately against

minorities. Administrative records from police agencies and officers not tell the whole picture either, because data submission is sometimes voluntary. Recent analysis of 911 calls found that White officers were much more likely to use a gun when dispatched to a Black neighborhood compared to a Black officer dispatched to the same neighborhood. And, use of tactics such as choke-holds are another example of excessive force used in law enforcement. Carrying our disciplinary action against officers who use excessive force is also difficult in the U.S. **The issue of police brutality as a whole must be given more weight in current policy**.

[Low Info]
Arguments about rampant police brutality are unfounded. Yes, there are some bad police just like there are bad teachers, bad doctors, bad lawyers, bad mechanics, etc. There is an over-focus on these exceptional cases, which are not the norm. In fact, police fatally shot African-Americans at a rate that is *lower* than what would predict given the black crime rate. in 2019, police fatally shot *more* unarmed whites than unarmed blacks. Sometimes force is necessary, of course, but there has recently been policy change in recent years that help limit the exceptional instance of excessive force. Body cameras are now widely used by law enforcement, many of the largest US law-enforcement agencies have changed use-of-force policies and added de-escalation training. Officer-involved shootings dropping during these same years. **The issue of police brutality is not that widespread and should not be blown out of proportion.**

Ethics in Government

[High Info]
Ethics is a problem among public officials. Public officials routinely use their position to benefit themselves (and, at times, their families). They are not always honest and seem to have no problem trying to smear an opposing candidate to get elected. We've also all heard of the example of sexual misconduct among public officials. There are new scandals and instances of corruption in government every year. Furthermore, members of Congress have a special immunity that exempts them from arrest or interrogation in certain instances. **There should be an increased emphasis on ethics and accountability in our public officials.**

[Low Info]
While ethical dilemmas abound in modern life, this is true for everyone and not just government officials. Because the government has power to do certain things, this will inevitably attract private interests that try to influence how the government works or its outcomes. However, just because the temptation to be unethical may exist at times does not mean the government is corrupt in general. The spotlight on public officials and extra attention that draws makes it seem like the problem is rampant because some scandal breaks out every year. The government is really no more or less ethical than the average person that is part of it and so **this should not be considered a big issue**.

STUDY 2 SURVEY DETAILS

[spacing condensed in places for presentation, dotted lines indicate page breaks in survey, added commentary shaded in squared brackets]

Timing and basic information: The Wave 1 Survey was conducted between December 16-20, 2021. The survey was administered on the Prolific platform (prolific.co) and custom screening was used to first recruit from the original set of participants in Study 1. As per our preregistration plan, because only n=193 of the original participants enrolled in Study 2 we achieve our final sample of approximately n=500 by then recruiting new U.S. participants custom screened in Prolific to be roughly equally balanced by self-identified republicans and democrats.

Because the intent was to draw from our Study 1 sample, for whom we had a more robust set of demographic characteristics, Study 2 did not elicit demographics within the survey (only liberal ideology on the 1-9 scale as done also in Study 1). Because implies a limited set of information on the new participants who were not part of the Study 1 sample, we extracted basic demographic information on sex and age from the Prolific database to use as controls in the analysis. Study 2 elicited only baseline mood measures, liberal ideology (1-9 scale), and then the Bayes decision task followed by mood reports after viewing the Donald Trump and Joe Biden image (as in Study 1). The Bayes task portion of below has been condensed to show one example of the signal and belief elicitation, which was repeated 4 times for each of the 4 distinct factual political statements.

SURVEY (Study 2)

(author/institution identifiers blanked out, page breaks indicated by dotted lines)

Politics (follow-up short survey) Informed Consent:

You are being asked to complete this online survey that includes some mood/emotion questions and an incentivized decision task examining your beliefs in the midst of uncertainty. Participation in this online survey is completely voluntary, your responses to this survey will remain completely confidential, the data will be securely stored, your name will not be recorded anywhere on this survey. The only identifier we will record will be your Prolific ID, which we as researchers cannot link to personally identifiable data of yours. This survey is estimated to take 15 minutes to complete and your payment for successful survey completion will be $2.25. Plus, **you will have the chance to earn a bonus of up to an additional $1.00 based** on your responses in the incentivized decision task within the survey. There may be multiple attention-check questions within the survey to ensure that you are being attentive and reading

each question prior to responding. Successful survey completion includes passing the attention check question. **Failure to answer attention-check questions correctly may jeopardize receiving your payment** for this Prolific study. There are no known risks associated with this study beyond those associated with everyday life. Although this study will not benefit you personally, its results will help our understanding of how people make decisions about politics.

For additional information related to this questionnaire, contact [redacted].

○ **I Consent** and wish to continue with this study

○ **I do not consent** to participating and **do not wish to continue**

Before you start, please switch off phone/ e-mail/ music so that you can focus on this study. Thank you!

Please carefully enter your Prolific ID (**or double check if it has auto-filled**)

_____

Now, we'd like to get your baseline ratings on some mood/emotion states.
Please rate how strongly you feel each of these emotions ***right now***.

--Happy --Excited --Surprised --Satisfied

--Angry --Irritated --Confused --Regret --Disgust

[each item response was given on a 1-7 scale with 1="Zero level of this emotion", 4="Mid-Range level of this emotion", and 7="Maximum level of this emotion"]

[*LIBERAL SCORE* measure (the key independent variable in the analysis)]

In terms of politics, do you consider yourself conservative, liberal, or middle-of-the-road?

- ○ **VERY CONSERVATIVE**
- ○ Quite conservative
- ○ Conservative
- ○ Somewhat conservative
- ○ **MIDDLE OF THE ROAD**
- ○ Somewhat liberal
- ○ Liberal
- ○ Quite liberal
- ○ **VERY LIBERAL**

INSTRUCTIONS FOR THE DECISION TASK

In this task, we will ask you to evaluate the truthfulness of 4 different factual statements over the course of 20 rounds (5 rounds per statement). "Factual" does not mean the statement is necessarily true, rather it means it is objectively either "TRUE" or "FALSE" as a matter of fact. **You will have a chance to earn up to $1.00 in bonus payments (5 cents per round) based on your responses in this task.**

Here's how the task works

We will first present to you a statement that may be true or false. We will then ask you to indicate how likely you believe the statement is true on a scale of 0 to 100. On this scale, "0" means you are certain the statement is *false* but "100" means you are certain the statement is *true*. A response of "50" means you are totally uncertain about the statement's truth. If you believe a statement is likely true but you are less certain, then a response like "65" or "83" (as examples) can be entered--the closer to "100" meaning you believe more strongly the statement is true. On the other hand, if you believe a statement is likely false (not true) but you are not totally sure, then a response like "14" or "41" (as examples) can be entered--the closer to "0" meaning you believe more strongly the statement is false.

We ask that you please not look up the answer to the question during the task. In some rounds, we will also ask you to self-rate several different mood measures.

The next page will tell you about how your response in each round determines whether or not you win that round.

INSTRUCTIONS FOR THE DECISION TASK (continued)

Winning a $0.05 bonus in each round depends on your response.

At the most basic level, in each round the goal is to give your best guess about whether or not the statement is true. The task is designed so that your chances of winning a bonus that round are highest if your response is an accurate reflection of how likely you believe the statement is true versus false.

You will *maximize* your chance of the highest bonus by being as accurate as possible in each round.

Here is how your response generates a bonus in each round of this task.

(*you can skip these shaded details if you are not interested in the underlying process*).

In each round, the computer will draw a random number from 0 to 100. Each number from 0 to 100 is equally likely to be drawn by the computer. We'll call this number Draw 1. How you win or lose that round of the task depends on what number the computer draws for Draw 1 and your response:

1) If Draw 1 is less than your response, you win if the statement is true and do not win if the statement is false. For example, if you enter a response of 99, you are very likely to win a bonus if the statement is true and very likely to not win if the statement is false. The higher your response, the more likely you win if the statement is true. Similarly, the lower your responses, the more likely you win if the statement if false.

2) If Draw 1 is greater than your response, then the computer will draw a second random number from 0 to 100. As before, each number from 0 to 100 is equally likely to be drawn by the computer. We'll call this random number Draw 2. If Draw 2 is less than Draw 1, then you win the bonus for that round. If Draw 2 is greater than Draw 1, then you do not win the round.

Again, **the contest payment process is designed so that *<u>you have the best chance for earning a 5 cent bonus each round by being as accurate as possible with your response</u>*** **(which can earn you up to a total bonus payment of 20 rounds times 5 cents, or $1.00).** The random numbers and payment calculations will happen behind the scenes after you have finished the study. You will not see the draws in any round.

Finally, **<u>you will have a time limit on each page to submit your responses</u>** (45 seconds on a page that asks for your belief response and mood reports, and 20 seconds on a page that only asks for your belief response).

INSTRUCTIONS FOR THE DECISION TASK (continued)

We will ask for your belief whether a statement is true for each of 20 rounds. Each factual statement is presented more than once.

When we repeat a statement, the computer will provide you with a signal about whether the correct answer is "TRUE" or "FALSE" for that statement. The computer will present you a signal "TRUE" or "FALSE." Part of the task is that three out of every four signals are correct, on average. That is, if the statement is factually true, the computer will signal "TRUE" three out of four times and "FALSE" one out of four times. If the statement is factually false, the computer will signal "FALSE" three out of four times and "TRUE" one out of four times. A new independent signal is produced every time you are presented with the same statement in a new round. You will not know, however, whether or not the signal you see in any given round is correct.

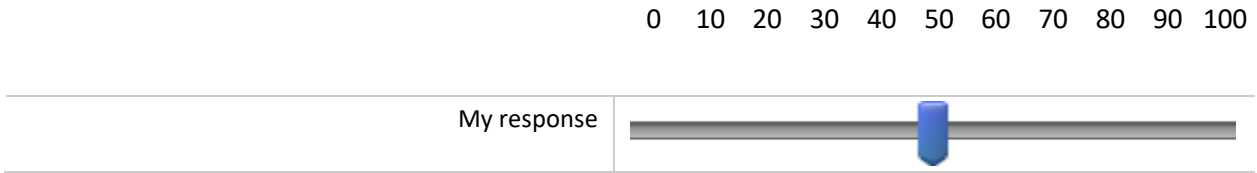
There is NO DECEPTION in this study. The signals you receive will be accurate three out of four times, on average.

You may use the information from the signal to change your response (i.e., your belief about whether the statement is true) in that round from what you had said earlier.

When we give you more than one signal about the same question, and when each new signal is presented, we will store and remind you of your belief response regarding the truthfulness of that statement from the previous round so that you do not have to keep track in your head. After you have completed the survey, we will calculate how many rounds you won the bonus and pay you your total bonus payment separately from your main Prolific compensation for this task. We anticipate bonus payments to be paid within 4 working days of you completing the study.

[Attention Check—set so that one could not continue without passing]

As described earlier, we are interested in factors that influence the decisions you might make. In order for the results of this survey to be valid, **it is essential that you read all the instructions and questions carefully**. So we know that you have read these instructions, please place the slider below on the answer to (33+12)=? Thank you for taking the time to read these instructions.



The next pages involve a practice statement for the belief-task you will perform, and responses for this practice set of rounds will not count towards bonus earnings. The practice will help you get familiar

with the decision making environment you will face asking about several other factual statements. We will include a timer on the practice pages for you to get used to the timed nature of your task each round, but these practice rounds are actually not timed (i.e., the practice rounds will let you go longer without automatically moving you to the next page, unlike in the real rounds)

READY to evaluate the practice statement?

FACTUAL (True or False) STATEMENT:

The average temperature on Mars, as a whole, is -81 degrees Fahrenheit.

[Response to each mood was given on a 1-7 scale, as with baseline mood]

Please rate how strongly you feel each of these emotions right now after reviewing the statement above.

--Happy --Excited --Surprised --Satisfied

--Angry --Irritated --Confused --Regret --Disgust

How likely do you believe that the statement is true?

	0 = CERTAINLY FALSE	**Likely FALSE**	**50 = I'm not sure**	**Likely TRUE**	**100 = CERTAINLY TRUE**
	0 10 20 30 40 50 60 70 80 90 100				
My belief regarding whether the statement is true					

FACTUAL (True or False) STATEMENT:

The average temperature on Mars, as a whole, is -81 degrees Fahrenheit.

[Previous belief response piped in here]

Your last response was a XXX **belief** the statement is true

---

Computer Signal:

The computer has produced a signal for you. Remember, three out of four times this signal will be accurate and one out of four times it will be inaccurate, on average.

[here, either a TRUE or FALSE signal presented, with ¾ signal strength]

--The signal from the computer this round is that the statement is ["TRUE."] or [“FALSE”]

How likely do you believe that the statement is true?

	0 = CERTAINLY FALSE	**Likely FALSE**	**50 = I'm not sure**	**Likely TRUE**	**100 = CERTAINLY TRUE**
	0 10 20 30 40 50 60 70 80 90 100				
My belief regarding whether the statement is true					

Please rate how strongly you feel each of these emotions after several rounds of evaluating the statement and receiving signals regarding its truthfulness.

--Happy --Excited --Surprised --Satisfied

--Angry --Irritated --Confused --Regret --Disgust

[This process (i.e., remind of last belief, present newly drawn signal, re-elicit probabilistic belief) is repeated for a total of 4 times for each statement, followed by a re-elicitation of one’s mood reports]

This concludes your practice.

The statements and rounds that come on the next page will count towards the calculation of your bonus earnings.

Instructions Quick Summary: F**irst Round for each new Statement**: You will presented with a factual statement, and we'll ask your belief regarding its truthfulness along with some self-reports on your mood. F**ollow-up Rounds that repeat the same statement:** You will be provided a signal from the computer whether the statement is "TRUE" or "FALSE". These signals are designed to be accurate 3 out of 4 times, on average. You are then asked to again submit your belief regarding the statement's truthfulness. **Bonus payments on the task are maximized when you response what your actual belief is** in each round (which may or may not change after seeing computer signals regarding the statement's truthfulness) **Rounds are timed**, so please submit answers before the timer runs down for each round.

(advance past this page when you are ready to start the real rounds)

READY to evaluate a new statement?

(pages are timed after this and so you should be ready and attentive because your responses impact the bonus you'll receive from this task.....and ***remember, you stand to earn the most in this task by submitting a response each round that reflects your true belief of how likely the statement is true on the [0,100] scale***)

[The same procedure as shown for the test statement was done for each of the four factual statements below, which generated a baseline probabilistic belief regarding the statement's perceived truthfulness, a baseline indication of mood after viewing the statement, a total of four probabilistic beliefs updates after the presentation of a randomly drawn noisy signal, and a final set of mood reports. The participant is then prompted that a new statement will appear on the next screen after this sequence for the previous statement]

FACTUAL (True or False) STATEMENTS:

Median household incomes grew, and both the poverty rate and jobless rate of racial minorities fell from 2017 through 2019, while Donald Trump was president.

There were more U.S. COVID-19 deaths during the first 9 months of the pandemic in 2020 when Donald Trump was president than there were in the first 9 months of the Joe Biden presidency in 2021.

A careful analysis of the 2020 U.S. Presidential election data found no evidence that systematic voter fraud harmed incumbent President Trump and helped elect Joe Biden to the presidency.

Between 2009 and 2016 when Barack Obama was president, European countries were less confident that the U.S. would do the right thing regarding world affairs than between 2001 and 2008 when George W. Bush was president.

[images that follow (Trump and Biden) were presented in random order to participants at the end of the survey. Several pages of a distinct decision task were administered in between the initial and the post-image mood elicitation. Mood responses were compared to baseline mood elicited earlier in the survey to generate measures of the *Trump Mood Effect* and the *Biden Mood Effect*]

Take a look at this image of **Donald Trump** and tell us how you would rate your emotion/mood states below.

Right now (after looking at the image above) I feel.....

--Happy --Excited --Surprised --Satisfied

--Angry --Irritated --Confused --Regret --Disgust

---

*Take a look at this image of **Joe Biden** and tell us how you would rate your emotion/mood states below.*
Right now (after looking at the image above) I feel.....

--Happy --Excited --Surprised --Satisfied

--Angry --Irritated --Confused --Regret --Disgust