White Liberals become 'anti-White' when situationally frustrated

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Abstract

North American Whites tend to evaluate members of their own race more positively than members of other races. One exception may be White Liberals, who appear politically motivated to evaluate members of (disadvantaged) racial outgroups more positively than members of their own racial group. We confirmed this claim presently, where 75 White Liberals, 95 White Conservatives, 49 Black Liberals and 71 Black Conservatives evaluated biracial faces using explicit and implicit evaluation tests. We instrumentally 'frustrated' half our participants to note whether incidental anger influenced ideologically-motivated racial attitudes. Evaluations towards racial outgroups were largely unaffected by negative mood induction -White Liberals were pro-Black relative to White Conservatives, and Black Conservatives were pro-White relative to Black Liberals, independent of mood. Negative mood induction selectively influenced own-race evaluations. Black Liberals and White Conservatives became respectively more pro-Black and pro-White when frustrated. Conversely, Black Conservatives and White Liberals became respectively less pro-Black and pro-White. Frustration significantly amplified negative own-race attitudes across explicit and implicit evaluation measures for White Liberals. We speculate on some social consequences that may follow from frustration-amplified 'anti-White' bias across White Liberals.

Keywords: racial attitudes, frustration, political ideology

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Introduction

Attitudes towards members of one's own race are typically expected to be more positive than attitudes held towards other races (Hehman et al., 2019). A positive own-race bias is expected to be the nominal case, given that perceptual and social experiences with exemplars from one's own race typically outnumber experiences with exemplars from other races (Anzures et al., 2013). Positive own-race biases can facilitate in-group coherence (Tajfel, 1978), protect social status (Sidanius et al., 2017) and promote overall inclusive fitness (Sidanius & Pratto, 1999, p. 27). Positive evaluations towards own-race exemplars can help explain why racially homogeneous communities report greater subjective well-being relative to racially heterogeneous communities, even when the latter are economically more prosperous (Okulicz-Kozaryn, 2019).

Not all social groups may exhibit a positive own-race bias. According to Goldberg (2019)'s analysis of the American National Election Studies 2018 dataset (*2018 Pilot Study*, 2018), White Liberals may be the only racially (and politically) homogeneous group that generate explicitly *negative* own-race biases. That report also claimed White Liberals evaluate racial outgroups more positively relative to how Blacks, Hispanics and Non-Liberal Whites evaluate racial outgroups, corroborating earlier works (Sparkman & Eidelman, 2016). Yet, the notion that White Liberals exhibit 'anti-White' bias counters decades of research which suggest that Whites (at least implicitly) are largely pro-White, independent of ideology (Mooney, 2014).

On balance, a disassociation between implicitly positive and explicitly negative own-race biases across White Liberals was indicated some years ago by Jost et al. (2004). That work demonstrated White Liberals evaluate Black (other-race) exemplars more positively than White (own-race) exemplars, but this pro-Black bias was restricted to explicitly provided racial attitudes (p. 904). When participants associated biracial targets with positive and negative attributes using implicit association tests (IATs - Karpinski & Hilton, 2001), pro-White biases were equally likely for White Liberals and White Conservatives (also see Coutts, 2020).

Jost conjectured the difference in racial attitudes between Liberals and Conservatives was motivated by their political ideology. Jost (2018) has claimed that politically liberal groups have been "fighting to change the (pro-White) status quo. . . to increase social, economic and political equality" whereas political conservatives, even those from "disadvantaged groups," have been "defending the legitimacy of the status quo" (p. 39). It follows that (White) Liberals' are ideologically motivated to (at least explicitly) display positive racial attitudes towards disadvantaged outgroups given their commitment towards achieving racial and economic equality[1]. On balance, because White Liberals and White Conservatives appear equally pro-White implicitly, ideologically motivated racial attitudes

may be constrained to explicit measures sensitive to demand characteristics.

Since Jost et al's work almost two decades ago, implicit and explicit pro-White attitudes across Whites have been on the decline (Hopkins & Washington, 2020; Sawyer & Gampa, 2018). Over the same period, pro-Black biases have largely equalized between Liberals and Conservatives (Axt et al., 2016). Goldberg's (2019) analysis suggest some groups of Whites (Liberals) may even be (at least explicitly) 'anti-White.' The present work aimed to investigate this claim using an experimental approach. In our study, biracial Liberals and Conservatives evaluated biracial faces using implicit and explicit measures. A key feature of our investigation was the induction of negative moods across approximately

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[1] For many Liberals, the commitment to equality can 'override' other social values (e.g., social order, prosperity) when values come in conflict (Kekes, 1996, pp. 201–203). This equalitarian commitment can bias appraisal of individuals based on whether the latter are perceived to be members of advantaged or disadvantaged social groups (Winegard et al., 2018). Alternatively, Conservatives are more likely to favor "law-abidingness and social solidarity" (Kekes, 1996, p. 208) over equality, which generally requires 'defending the status quo' (Jost, 2018).

half our participants. We based our decision on earlier works which suggested incidentally induced anger may "magnify implicit bias" towards racial outgroups associated with "aggressive and/or hostile tendencies" (Dasgupta, 2013, pp. 268–270; also see Banks, 2016). Accordingly, we expected any implicit racial attitudes that may be latent would be 'magnified' following reward omission.[2]

One goal of our study was to replicate earlier findings on politically motivated racial attitudes (Jost, 2018; e.g., Jost et al., 2004). We expected White Liberals would be pro-Black relative to White Conservatives across explicit tests, while exhibiting statistically equivalent pro-White bias across implicit tests. We tested whether parallel effects could be detected across Black Liberals and Black Conservatives. If ideology moderates racial attitudes, Black Liberals should be pro-Black relative to Black Conservatives (assuming Black targets represent a socially disadvantaged group). Relatedly, if political conservatives are motivated to 'defend the status quo,' Black (and White) Conservatives should be more pro-White compared to their Liberal counterparts. Our mood induction procedure extends earlier works by exploring whether becoming situationally frustrated influences ideologically-motivated racial attitudes.

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[2] Dasgupta et al. (2009) demonstrated that White participants were negatively biased towards Arab exemplars when incidentally angered through the recollection of negative memories. Contrary to Dasupta et al's autobiographical recall procedure, we 'unfairly' omitted rewards during an instrumental learning task to induce negative affect without specifying an attribution source (Amsel, 1992; Breuer & Elson, 2017; Miller et al., 1958). Our task was designed to mimic real-life frustrating circumstances which provide no clear attribution target (e.g., losing change to a vending machine - Killeen, 1994). An autobiographical task, on the other hand, is likely to include attribution targets (e.g., knowing 'who/what' is to blame), which can influence expressed racial attitudes if the source of the negative memory is associated with the target outgroup. While such confounds can be procedurally controlled for to a degree (e.g., through qualitative assessments of individual participant autobiographies to identify potentially confounding attribution targets - Dasgupta et al., 2009, p. 596), our reward omission strategy avoids this concern altogether.

Method

Participants

390 participants were recruited from the academic site www.prolific.co. 14 participants were removed for failing attention checks; 79 participants who identified with ethnic categories other than 'African-American/Black' or 'White' were also removed from analysis. We excluded 7 participants who identified as politically moderate. The remaining 290 participants consisted of 71 Black Conservatives (30.6 ± 7.1 years; 15 females), 49 Black Liberals (24.6 ± 7.7 years; 39 females), 95 White Conservatives (40.4 ± 13.1 years; 22 females) and 75 White Liberals (31.2 ± 9.2 years; 33 females). All inferential analyses were run on White and Black participant groups separately. Our aim was to investigate *within* each group whether induced mood (2) significantly interacted with ideological position (2). Sensitivity analyses for 2 x 2 ANOVAs indicated our samples of 120 Black participants and 170 White participants could respectively detect small-to-moderate effects of $\eta^2 > .06$ and $\eta^2 > .04$ with 80% power and a 5% a error rate. Participants took between 15 and 30 minutes to complete the task. All procedures reported were approved by the University IRB and adhere to the guidelines specified in the Declaration of Helsinki. The approval statement is included in the online materials.

Materials

All tasks were designed and implemented on the Gorilla platform (Anwyl-Irvine et al., 2019). Analyses were run on RStudio (RStudio Team, 2020) using the *tidyverse* (Wickham et al., 2019), *rstatix* (Kassambara, 2021), *effectsize* (Ben-Shachar et al., 2020), *forcats* (Wickham, 2021), *ggthemes* (Arnold, 2021) and *ggplot2* (Wickham, 2016) packages. The manuscript was rendered on RMarkdown (Baumer & Udwin, 2015) using the *papaja* (Aust & Barth, 2020) package. Data, analysis scripts and recorded task demonstrations are available at https://osf.io/w6rnz/.

Biracial categories consisted of four Black and four White emotionally neutral male faces from the Chicago Faces Database (CFD-IDs: BM-230, BM-224, BM-233, BM-213, WM-220, WM243, WM-010, WM-019 - Ma et al., 2015). Black and White face categories were practically equivalent along normative ratings of anger, attractiveness, happiness, sadness, and threat (see Figure 1). Prior to evaluation phases, all participants completed surveys measuring demographic characteristics. This included measures of religiosity, spirituality and ethnocentrism along ordinal scales. Participants also completed 10 items that correspond with the Big Five personality dimensions of extroversion, agreeableness, openness, conscientiousness and neuroticism (Rammstedt & John, 2007). Participants next evaluated 9 political statements that defended (4) or challenged (5) the status quo. Participants also indicated 'how they politically self-identify' on a slider scale before progressing to the main study.

Procedure

Study phases are described by their order of appearance. Pre-recorded task demos are available in the online materials.

Sample characteristics survey: Following informed consent, participants indicated their age, gender, income level, race and religion. Participants indicated how religious, spiritual and ethnocentric they were using 11-point visual analog scales. Participants next indicated how strongly they disagreed/agreed with 9 political statements. 5 statements challenged the status quo (e.g., *The world would be better without any organized religion*). 4 statements defended the status quo (e.g., *Society works best when men and women conform to traditional gender roles*). All political statements are illustrated in the top panel of 2. Participants next indicated how they politically 'self-identify' by moving a slider along a 11-point scale anchored by the labels *Very Liberal* and *Very Conservative* on the left and right sides of the scale respectively. The trial commenced with the slider at mid-point (5). The slider had to be interacted with for the trial to progress. Participants who moved the

slider at least 1 unit to the left (≤ 4) or right (≥ 6) of midpoint were respectively classified as Liberals or Conservatives[3]. Participants who returned the slider to mid-point were classified as Moderate and excluded from analysis. Across the final survey screen, participants completed 10 items corresponding to personality dimensions of extroversion, agreeableness, neuroticism, openness and conscientiousness (Rammstedt & John, 2007). Completion of the survey phase signaled onset of the main experiment.

Mood induction: All participants viewed onscreen instructions describing how to complete an upcoming conditional discrimination task. Participants were informed that "they could win (or lose) $$$ for some correct (or incorrect) response." Participants were also informed that there "may be deception involved during this task." During ensuing trials, participants viewed four colored squares along each screen quadrant, one of which was always light blue. Participants had 3 seconds to select the 'correct' square, which was always the blue square. Comparison squares varied between shades of grey, orange and green. Selecting the blue square produced a green checkmark - if any other square was selected, or no responses were detected within 3 seconds of target onset, a red x appeared. If participants produced accurate responses during the 4th/7th/9th trials , they viewed the statements *You have won $2 /$3 /$4!* after the green checkmark. Incorrect/slow responses during these trials produced a red x and the message *Wrong. Be careful.* For participants assigned to the frustrated condition, any response during the 11th trial was registered as incorrect, generating a red x and the message *Wrong. You have lost all your earnings.* For participants

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[3] The binary classification of Liberals and Conservatives did not permit exploring for differences within groups, such as (say) between 'Strong' and 'Weak' Liberals. Our classification system intended to represent the two-party political system in the United States, from which the current sample was recruited. Liberals and Conservatives typically vote along ideological lines, independent of the degree to which they identify with their respective ideologies (Fiorina & Abrams, 2008). On views of policy, the ideological divide between Liberals and Conservatives remains significant, even across self-identified Independents who 'lean' towards one ideological position over another (LaLoggia, 2019).

in the non-frustrated ('calm') condition, the 11th conditional discrimination trial progressed as normal and did not produce any message after a response. Participants were asked to evaluate their current moods (anger/frustration/happiness/optimism) using 11-point scales during the 8th and 12th trials. Completion of 12 trials produced the implicit evaluation phase.

Implicit evaluations: A brief implicit association test (*BIAT* - Sriram & Greenwald, 2009) with four 20-trial blocks was administered to all participants. Across any given *BIAT* trial, participants could view a White or Black face, or a positive (*GOOD, NICE, PLEASANT, APPEALING*) or negative (*BAD, DISGUSTING, UNPLEASANT, UGLY*) word, in the center of the screen. At the beginning of each block, participants were instructed to press the letter 'k' if a race-specific exemplar or a positive word appeared; otherwise to press the letter 'd' for negative words or the alternate racial category. Across two blocks, participants were instructed to press 'k' if Black faces or positive words appeared; across the two remaining blocks, participants were instructed to press 'k' if White faces or positive words appeared. A correct (incorrect) keypress within 3000 ms of stimulus onsets produced a green checkmark (red x) for 300 ms before the following trial. If no response was detected within 4000 ms, a message stating 'too slow' appeared for 300 ms before the next trial. Test block sequences were counter-balanced across participants. After 80 *BIAT* trials, participants progressed to the final explicit evaluation phase.

Explicit evaluations: Participants completed 32 evaluation trials (4 evaluations per face) in the final phase of the study, along with 2 attention check trials where participants had to provide a specific evaluation rating in the presence of an unknown face. During any given evaluation trial, participants viewed a single face with one of four questions, asking [1] how TRUSTWORTHY or [2] how SUSPICIOUS they found the displayed face, or their desire to [3] MEET or [4] AVOID the person associated with the displayed face. Face evaluation sequences were randomized between participants. All responses were made along 11 point scales (*0 – not at all* to *10 – very much*). Higher ratings across [1] and [3] corresponded with

positive target bias. Higher ratings across [2] and [4] corresponded with negative target bias. We have included pre-recorded demonstrations of all tasks described in the online materials.

Results

Sample characteristics: Recall that political ideology had been inferred from responses along a 11-point visual analog scale ranging from *Strongly Liberal* (0) to *Strongly Conservative* (10). We ran Spearman-rho (ρ) correlations between survey items and political ideology to explore the extent to which sample characteristics predict ideological position. Across demographic criteria, being Conservative was significantly associated with higher income, religiosity, spirituality, ethnocentrism, being male and older (all $\rho's > .2$, $p's < .001$ - Figure 2, bottom panel). Critical for our later analyses, participant race and political ideology were not correlated ($\rho = -.01$). Political ideology was not significantly associated with most personality dimensions, with the exception of Neuroticism, which was moderately ($\rho = -.35$) associated with being Liberal (Figure 2, middle panel). Across evaluations of 9 political statements, all 5 statements challenging the status quo were significantly associated with being Liberal ($-.45 < \rho's < -.24$). The remaining 4 statements defending the status quo were significantly associated with being Conservative ($.20 > \rho's > .67$).

Mood induction: Participants indicated their current levels of ANGER, FRUSTRATION, HAPPINESS and OPTIMISM at two time points during the frustration induction task (before and after reward omission). Ratings were collapsed under negative (ANGER, FRUSTRATION) and positive (HAPPINESS, OPTIMISM) mood categories during analysis. Mean mood evaluations with 95% CIs collected across frustrated and non-frustrated (calm) participants are illustrated in Figure 3, Panel A. A 2 x 2 Type-2 ANOVA revealed a significant two-way interaction between mood and group, $F(1, 576) = 139.45$, $p < .001$, $\eta_p^2 = .19$, with a main effect for mood, $F(1, 576) = 509.67$, $p < .001$, $\eta_p^2 = .47$. Two-sample Welch's tests confirmed frustrated participants were significantly more angry/frustrated, and significantly less happy/optimistic, relative to their non-frustrated

counterparts (all $p's$ < .001 - Figure 3, Panel B). All p-values were fdr-corrected to reduce false positives and minimize false negatives (Jafari & Ansari-Pour, 2018).

Implicit evaluations: We adopted the analysis strategy reported by Sriram and Greenwald (2009). *BIAT* test trials were parsed into two focal categories. Trials where Black faces/positive attributes and White faces/negative attributes respectively shared the focal responses 'k' and 'd' were classified under focal category 1 (FC1). Trials where White faces/positive attributes and Black faces/negative attributes respectively shared the focal responses 'k' and 'd' were classified as FC2. Focal responses (M_{Focal} = 951.8 ms) were significantly shorter than non-focal responses ($M_{NonFocal}$ = 1072.0 ms) following a Welch's two-sample test, $t(3472.5)$ = 8.33, p < .001. This implies focal category instructions had been attended to. Before analysis, the first four trials from each 20-trial block were dropped to control for practice effects. We also removed all non-focal/incorrect responses. Across the remaining FC1 and FC2 latencies, we estimated Greenwald's difference (D) scores for individual participants. This involved dividing the mean difference between FC2 and FC1 latencies with their inclusive standard deviation (Greenwald et al., 2003; Sriram & Greenwald, 2009). Positive (or negative) D scores with 95% confidence intervals that do not overlap the null can be directly 'read off' as significant evidence for pro-White (or pro-Black) bias (see Figure 4). Mean Greenwald's D scores with 95% CIs are provided in Table 3.

Two 2 x 2 Type-2 ANOVAs, with mood and ideology entered as independent factors, were run across Black and White participants independently. Levene's tests were not violated for either ANOVA (all $p's$ > .8). Across Black Participants, no significant interactions were found (p = .51). Only a main effect of mood was significant, $F(1, 76)$ = 4.24, p = .043, η^2 = .05. Black Liberals were significantly pro-Black when calm (g_p [95% CI] = -0.22 [-0.41 , -0.04]) and statistically egalitarian (produced no bias) when frustrated (0.1 [-0.15 , 0.34]). Black Conservatives were marginally pro-Black when calm (-0.28 [-0.6 , 0.04]) and significantly pro-White when frustrated (0.33 [0.15 , 0.52]). Across White participants, a significant

cross-over interaction was found, $F(1, 123) = 6.06$, $p = .015$, $\eta_p^2 = .05$. White Conservatives were significantly pro-Black when calm (-0.33 [-0.5 , -0.16]), and significantly pro-White when frustrated (0.23 [0.06 , 0.4]). White Liberals were statistically egalitarian when calm (0.05 [-0.11 , 0.22]), and significantly pro-Black when frustrated (-0.2 [-0.37 , -0.03]).

Explicit Evaluations: For each facial target, participants provided two positive (DESIRE-TO-MEET, TRUSTWORTHY) and two negative (DESIRE-TO-AVOID, SUSPICIOUS) evaluation ratings across independent trials. All ratings were transformed into standardized T-scores to facilitate comparison between the four scales. Inspection of T-score distributions indicated the majority of scores were within one standard deviation of the mean estimate (Figure 5, Panel A). We estimated Hedge's g scores across individual participants for White and Black target categories separately. This involved taking the mean difference between positive and negative evaluations for each target category and dividing the difference with their pooled standard deviation.[4] Positive or negative g-scores respectively indicated positive or negative biases towards a target category (Table 5). Estimates larger than .2 can be directly 'read off' as practically significant (Lakens, 2013). Unlike our *BIAT* analysis strategy, which combined (say) Black/Positive and White/Negative categorizations within the same focal category (FC1), our present strategy enabled evaluating differences *within* each target race category. We assessed whether ideology

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[4] We adopted the formula recommended by Lakens (2013), who suggested first estimating Cohen's difference score for samples following:

$$Cohen_d^s = \frac{\mu_{Pos} - \mu_{Neg}}{\sqrt{\frac{(\sigma_{Pos}^2)^2(n_{Pos}-1)+(\sigma_{Neg}^2)^2(n_{Neg}-1)}{n_{Pos}+n_{Neg}-2}}}$$

where μ_{Pos} and μ_{Neg} respectively indicate mean positive and negative target evaluations, with their respective standard deviations (σ) and sample sizes (n). Hedge's g can then be computed as:

$$Hedge's_g = Cohen_d^s \times \left(1 - \frac{3}{4(n_{Pos} + n_{Neg}) - 9}\right)$$

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and/or mood explained variance across own-race and other-race evaluations independently.

We ran four 2 x 2 Type-2 ANOVAs for each race and target category. Levene's tests confirmed variances were homogeneous across all ANOVAs (all p's > .054). All ANOVA test summaries are provided in Table 4. Across White participants, a significant two-way interaction was detected across evaluations of own-race/White targets, $F(1, 152) = 4.23$, $p = .041$, $\eta_p^2 = .03$. White Liberals (g [95% CI] = -0.544 [-0.76 to -0.33]) and White Conservatives (-0.58 [-0.77 to -0.39]) produced equivalent 'anti-White' evaluations when calm. When frustrated, White Conservatives were relatively egalitarian (-0.044 [-0.28 to 0.2]) while White Liberals were more anti-White (-0.88 [-1.07 to -0.69]). A two-sample Welch's test confirmed White Liberals were significantly anti-White relative to White Conservatives when frustrated, $\Delta M = -0.84$, 95% CI $[-1.44, -0.24]$, $t(74.48) = -2.77$, $p = .007$. We did not observe any interaction across White participants' evaluations of other-race targets, only a main effect for ideology, $F(1, 105) = 12.59$, $p < .001$, $\eta^2 = .11$. Post-hoc tests indicated White Liberals (0.829 [0.59 to 1.06]) were significantly more pro-Black relative to White Conservatives (0.067 [-0.17 to 0.31]) when participants were calm, $\Delta M = 0.76$, 95% CI $[0.10, 1.42]$, $t(71.77) = 2.29$, $p = .025$. When frustrated, White Liberals (1.041 [0.83 to 1.25]) and White Conservatives (0.649 [0.37 to 0.92]) were equally pro-Black, $t(69.89) = 1.15$, $p = .253$. See Table 5 for all difference score summaries.

Across Black participants, mood marginally interacted with ideology to explain variances across own-race evaluations, $F(1, 99) = 2.77$, $p = .099$, $\eta^2 = .03$, but not for other-race evaluations, $F(1, 145) = 0.58$, $p = .446$, $\eta^2 < .01$. A main effect for ideology approached significance across own-race evaluations, $F(1, 99) = 3.85$, $p = .053$, $\eta^2 = .04$. An effect for ideology was significant across other-race evaluations, $F(1, 145) = 5.67$, $p = .019$, $\eta^2 = .04$. Post hoc tests indicated Black Liberals (0.321 [0.12 to 0.52]) and Black Conservatives (0.315 [0.17 to 0.46]) produced equivalent pro-Black evaluations when calm, $t(38.07) = 0.02$, $p = .981$. When frustrated, Black Liberals (1.045 [0.64 to 1.45]) were

significantly more pro-Black relative to Black Conservatives (0.189 [-0.01 to 0.39]),

ΔM = 0.86, 95% CI [−0.04, 1.75], $t(28.88)$ = 1.96, p = .059. Black Conservatives were significantly more pro-White relative to Black Liberals when calm, ΔM = −1.23, 95% CI [−2.01, −0.46], $t(35.72)$ = −3.24, p = .003, and marginally so when frustrated, ΔM = −0.80, 95% CI [−1.63, 0.04], $t(30.27)$ = −1.95, p = .060.

Discussion

In our study, White Liberals, White Conservatives, Black Liberals and Black Conservatives evaluated biracial faces using implicit and explicit evaluation tests. Prior to evaluations, we induced negative mood for half our participants to note whether implicit racial attitudes would be magnified (Dasgupta, 2013). Across brief implicit association tests, White Liberals produced no evidence for pro-Black or pro-White biases when calm. All remaining participants, including White Conservatives, appeared implicitly pro-Black when calm. When frustrated, all Conservatives became significantly pro-White. Frustrated Black Liberals became statistically egalitarian (less pro-Black) and frustrated White Liberals became significantly pro-Black. A limitation of our *BIAT* analysis was that positive and negative target-attribute categorizations were combined within a single focal category. *BIAT* difference scores could thus not discriminate within focal categories. So, a statistical increase in 'pro-White' bias across frustrated Conservatives may have been due to faster White/Positive categorizations *or* Black/Negative categorizations, or both. Relatedly, increased pro-Black biases across frustrated White Liberals may have been due to faster Black/Positive categorizations *or* White/Negative categorizations, or both. Collapsing across focal categories does not tell us whether frustration had selectively influenced own-race evaluations over other-race evaluations, or the reverse.

This concern was mitigated for during analyses of explicit evaluations, which explored for effects across target racial categories independently. Across other-race evaluations, we found significant effects for political ideology across Black and White participants, with no

statistical effect of mood induction. White Liberals were explicitly more pro-Black relative to White Conservatives, and Black Conservatives were explicitly more pro-White relative to Black Liberals, independent of mood. Across own-race evaluations, mood significantly interacted with ideology for White participants. White Liberals and White Conservatives were equally biased towards Whites when calm - when frustrated, White Conservatives became more pro-White and White Liberals became more 'anti-White.' Across Black participants, a marginal interaction was observed between mood and ideology. When calm, Black Liberals and Black Conservatives produced equivalent evaluations of own-race targets - when frustrated, Black Conservatives became marginally less pro-Black and Black Liberals became significantly more pro-Black. Our findings highlight how negative affect, induced by arbitrary reward frustrations, significantly influences ideologically motivated racial attitudes.

If one assumes racial attitudes are ideologically motivated (Jost, 2018), pro-Black and pro-White biases would be expected across Liberals and Conservatives respectively, as was observed to be the case. Situational frustration significantly 'amplified' these biases, to the point of Black Conservatives and White Liberals exhibiting reduced own-race favoritism. Across the latter group, implicit and explicit evaluative performances suggested the induction of a *negative* own-race bias. Assuming incidental anger influences pre-existing biases (Dasgupta, 2013), Black Conservatives and White Liberals may have already held negative biases towards their own racial group, which were significantly 'amplified' by reward frustration, at least across White Liberals. Black Conservatives, on the other hand, became less pro-Black but did not produce parallel statistical evidence for becoming 'anti-Black.' We discuss some social consequences that may follow from frustration-amplified 'anti-White' bias after addressing some limitations of the current study.

First, our analyses are necessarily limited to biracial participants from the United States labeled as Liberal/Conservative. We noted earlier that our sample classification strategy was based on the US political system, where voting decisions (and even many

lifestyle choices - Shafer, 1986) manifest along clear partisan lines (Footnote 3). Because Whites and Blacks are the largest racial groups in the US and respectively hold the most political sway democratically, our analysis was constrained to politically-relevant voting blocs. This was why political Moderates were excluded from analysis, as they likely represent the minority of the voting population who are actually Independent (approximately 7% of eligible voters) and are less likely to generate consistent voting patterns (LaLoggia, 2019). Independents who merely 'lean' towards one ideology are functionally the same as those who strongly identify with either ideology in the voting booth, justifying the binary classification system applied presently.

A second limitation of our design may have been the brief (<1 minute) duration between mood induction and evaluation phases. It is possible that mood-induced effects are transitory, seeing how negative moods induced within an experimental context have been reported to extinguish as little as 10 minutes (Frost & Green, 1982). A future work could stagger the intervals between mood induction and evaluation phases to estimate the rate at which negative moods extinguish (Amd et al., 2019). That work could explore whether racial attitudes return to 'pre-frustration' levels of bias at similar or different rates (or if biases 'normalize' at all). Such a work would further extend our understanding of situational affect in the induction of latent racial attitudes (Dasgupta, 2013).

Finally, it remains presently unknown whether participants' subjective expectations of the experimenter's assumed ethnicity and/or ideological position may have confounded performances. Perhaps frustrated participants became biased against Whites because they may have (incorrectly) assumed the experimenter omitting rewards had been White. This would not explain why most participants, other than White Liberals, produced increased pro-White bias when frustrated. If we were to generalize from the present findings however, it may be the case that White Liberals assumed the experimenter was ethnically White *because* they were frustrated. This follows from White Liberals becoming negatively biased

towards their own racial-group when frustrated. A future work could explore this question in detail by (for example) asking frustrated participants to 'guess' the experimenter's ethnicity and comparing those performances with their non-frustrated counterparts. It would be interesting to investigate which groups are ideologically motivated to 'blame' racially-defined groups when negative moods are experienced without a clear attribution source (Footnote 2).

If White Conservatives and Black Liberals become positively biased towards own-race exemplars when angered, as described presently, both groups can be predicted to experience greater subjective well-being within their racially homogeneous communities (Okulicz-Kozaryn, 2019). Banks (2016) reported White Conservatives become more ethnocentric when angered, which contributes to increased own-group favoritism. Our investigation found parallel effects across Black Liberals who (at least explicitly) exhibited more positive own-group attitudes when frustrated. At the same time, White Liberals and Black Conservatives exhibited reduced own-group favoritism. It may be the case that Black Conservatives and White Liberals are *less* content within racially homogeneous communities, particularly when angry. This may, in turn, lead to aggressive behaviors towards racially defined groups.

Future works could investigate whether frustration-amplified bias can influence aggression towards racial groups. A future replication could replace our evaluative measures with a more 'direct' test of aggression, such as the allocation of hot sauce between racial groups (Lieberman et al., 1999). Extending the present effects, we would expect frustrated Black Liberals and White Conservatives would allocate more hot sauce to racial outgroups, whereas frustrated White Liberals and Black Conservatives allocate relatively more hot sauce to their own racial group. Other extensions could explore whether frustration influences biases across racial divides beyond Whites and Blacks across non-Western cultures (e.g., would ITaukei become more negatively biased towards Indo-Fijians when frustrated? - Johnson et al., 2020).

Conclusion

Racial attitudes across Whites and Blacks were significantly predicted by their political ideologies, supporting earlier claims (Engelhardt, 2021; Goldberg, 2019; Jost, 2018). Ideologically motivated racial attitudes were 'amplified' following reward frustration, despite specifying no clear attribution source (see Footnote 2). White Liberals and (to a lesser degree) Black Conservatives became negatively biased towards their own racial groups when frustrated. Our work suggests ideologically motivated intra-racial bias warrants closer research attention (McGriff, 1996). If situational frustrations common to daily life (Killeen, 1994) are sufficient to amplify negative own-race evaluations, decision-making processes may suffer. For example, Winegard et al. (2018) has demonstrated Liberals may be collectively resistant to positive information about advantaged groups, or negative information about disadvantaged groups, possibly due to their equalitarian tendencies (also see Kekes, 1996). Our findings build on that work by specifying White Liberals as arguably unique in their tendency to become significantly biased against their own racial group. Future works will explore the extent to which frustration-amplified racial attitudes co-vary with presumed attribution sources. It may be the case that White Liberals simply 'blame' the advantaged group (Whites) for any negative affect experienced, similar to how White Conservatives may blame disadvantaged groups (Banks, 2016).

Context

The frustrating circumstances surrounding George Floyd's horrific death may have amplified anti-White biases across the mostly Liberal city councilors of Minneapolis. The councilors advanced a motion to 'disband the police' in order to combat 'systems of white supremacy' (Fletcher, 2020), the latter being a recurring talking point across White Liberals (Schildkraut, 2019). In response to those councilors' motion, many police officers resigned (Eligon, 2021), anticipating the destruction of minority-owned businesses (Rao, 2020) and at least 13 deaths caused by protesters (including a 77-year old retired Black police captain -

Balk, 2020). With a reduced police force, the homicide rate in Minneapolis doubled, with most victims being Black (Mac Donald, 2021). Blowback from Minneapolis residents, who bore the averse consequences of the councilors' ideologically motivated decision, eventually led many council members to walk back on their positions and commence initiatives for replenishing their depleted police force (Fulkerson, 2020; Impelli, 2021). Perhaps the killing of 13, largely minority individuals, along with over a billion dollars in damages (Kingston, 2016), could have been mitigated had those councilors paid heed to the necessity of a police presence in high-crime neighborhoods (Lin, 2009) over a frustration-amplified tendency to blame 'systems of white supremacy' (Fletcher, 2020). The damage has been done however, and minority communities may end up bearing the brunt of the cost, paralleling the consequences following the 1960's race riots (Collins & Margo, 2007). We hope the present findings will generate further investigations and greater awareness on the social consequences of frustration-amplified racial biases.

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Table 1

Evaluations across negative and positive mood categories during mood induction.

Group	Race	Ideology	Mood	Mean evaluations with 95% CIs
Calm	Blacks	Conservative	Negative	2.78 [2.43 to 3.13]
Calm	Blacks	Conservative	Positive	7.32 [7 to 7.64]
Frustrated	Blacks	Conservative	Negative	4.1 [3.87 to 4.32]
Frustrated	Blacks	Conservative	Positive	5.91 [5.7 to 6.12]
Calm	Whites	Conservative	Negative	2.03 [1.88 to 2.17]
Calm	Whites	Conservative	Positive	7.08 [6.92 to 7.24]
Frustrated	Whites	Conservative	Negative	4.19 [3.97 to 4.41]
Frustrated	Whites	Conservative	Positive	5.34 [5.14 to 5.54]
Calm	Blacks	Liberal	Negative	2.13 [1.97 to 2.29]
Calm	Blacks	Liberal	Positive	6.58 [6.38 to 6.77]
Frustrated	Blacks	Liberal	Negative	3.77 [3.45 to 4.1]
Frustrated	Blacks	Liberal	Positive	5.6 [5.3 to 5.9]
Calm	Whites	Liberal	Negative	2.45 [2.25 to 2.64]
Calm	Whites	Liberal	Positive	6.6 [6.4 to 6.8]
Frustrated	Whites	Liberal	Negative	3.92 [3.69 to 4.16]
Frustrated	Whites	Liberal	Positive	4.79 [4.56 to 5.02]

Note. Higher values indicate greater mood intensity.

Table 2

Mean mood differences between frustrated and non-frustrated participants with 95% CIs.

Race	Ideology	Mood	Mean Difference with 95% CI's
Blacks	Conservative	Negative	1.32 [0.49 to 2.14]
Blacks	Liberal	Negative	1.64 [0.92 to 2.37]
Whites	Conservative	Negative	2.16 [1.63 to 2.7]
Whites	Liberal	Negative	1.48 [0.87 to 2.08]
Blacks	Conservative	Positive	-1.41 [-2.17 to -0.65]
Blacks	Liberal	Positive	-0.98 [-1.69 to -0.26]
Whites	Conservative	Positive	-1.74 [-2.25 to -1.23]
Whites	Liberal	Positive	-1.81 [-2.41 to -1.2]

Note. All mean differences were statistically significant (p's<.001) following two-sample Welch's tests.

Table 3

BIAT *effect summaries*

Group	Ideology	Participant Race	Mean Greenwald's difference scores with 95% CIs
Frustrated	Conservative	Blacks	0.33 [0.15 , 0.52] *
Frustrated	Liberal	Blacks	0.1 [-0.15 , 0.34]
Calm	Conservative	Blacks	-0.28 [-0.6 , 0.04]
Calm	Liberal	Blacks	-0.22 [-0.41 , -0.04] *
Frustrated	Conservative	Whites	0.23 [0.06 , 0.4] *
Frustrated	Liberal	Whites	-0.2 [-0.37 , -0.03] *
Calm	Conservative	Whites	-0.33 [-0.5 , -0.16] *
Calm	Liberal	Whites	0.05 [-0.11 , 0.22]

Note. Positive and negative scores indicate pro-White and pro-Black biases respectively. Asterisks (*) mark confidence intervals which did not overlap with the null. All difference scores were estimated as the mean latency difference across the two focal categories divided by their inclusive (not pooled) standard deviation, so $D = \frac{FC2_\mu - FC1_\mu}{\sigma_{inc}}$ where σ_{inc} is the combined deviation across both focal categories. See Greenwald et al. (2003) for details.

Table 4

Test summaries of 2 x 2 ANOVAs across explicit evaluations

Effect	Type-2 ANOVA summaries	Evaluation conditions
Group	$F(1, 99) = 1.17$, $p = .281$, $\eta_p^2 = .01$	Black Other-race evaluations
Ideology	$F(1, 99) = 3.85$, $p = .053$, $\eta_p^2 = .04$	Black Other-race evaluations
Group:Ideology	$F(1, 99) = 2.77$, $p = .099$, $\eta_p^2 = .03$	Black Other-race evaluations
Group	$F(1, 145) = 2.91$, $p = .090$, $\eta_p^2 = .02$	Black Own-race evaluations
Ideology	$F(1, 145) = 5.67$, $p = .019$, $\eta_p^2 = .04$	Black Own-race evaluations
Group:Ideology	$F(1, 145) = 0.58$, $p = .446$, $\eta_p^2 < .01$	Black Own-race evaluations
Group	$F(1, 105) = 1.11$, $p = .295$, $\eta_p^2 = .01$	White Other-race evaluations
Ideology	$F(1, 105) = 12.59$, $p < .001$, $\eta_p^2 = .11$	White Other-race evaluations
Group:Ideology	$F(1, 105) = 0.61$, $p = .438$, $\eta_p^2 < .01$	White Other-race evaluations
Group	$F(1, 152) = 0.40$, $p = .526$, $\eta^2 < .01$	White Own-race evaluations
Ideology	$F(1, 152) = 3.53$, $p = .062$, $\eta^2 = .02$	White Own-race evaluations
Group:Ideology	$F(1, 152) = 4.23$, $p = .041$, $\eta^2 = .03$	White Own-race evaluations

Note. ANOVAs were run across unbiased difference scores (g) estimated for each racial category (Footnote 4).

Table 5

Explicit own-race and other-race evaluations.

Mood	Ideology	Participant race	Target race	Mean difference [95% CIs]
Frustrated Conservative Blacks evaluating White Target categories	-0.254 [-0.44 to -0.07]
Frustrated Conservative Blacks evaluating Black Target categories	0.189 [-0.01 to 0.39]
Frustrated Conservative Whites evaluating White Target categories	-0.044 [-0.28 to 0.2]
Frustrated Conservative Whites evaluating Black Target categories	0.649 [0.37 to 0.92]
Frustrated Liberal Blacks evaluating White Target categories	-1.052 [-1.43 to -0.67]
Frustrated Liberal Blacks evaluating Black Target categories	1.045 [0.64 to 1.45]
Frustrated Liberal Whites evaluating White Target categories	-0.88 [-1.07 to -0.69]
Frustrated Liberal Whites evaluating Black Target categories	1.041 [0.83 to 1.25]
Calm Conservative Blacks evaluating White Target categories	-0.344 [-0.53 to -0.15]
Calm Conservative Blacks evaluating Black Target categories	0.315 [0.17 to 0.46]
Calm Conservative Whites evaluating White Target categories	-0.58 [-0.77 to -0.39]
Calm Conservative Whites evaluating Black Target categories	0.067 [-0.17 to 0.31]
Calm Liberal Blacks evaluating White Target categories	-1.578 [-1.92 to -1.23]
Calm Liberal Blacks evaluating Black Target categories	0.321 [0.12 to 0.52]
Calm Liberal Whites evaluating White Target categories	-0.544 [-0.76 to -0.33]
Calm Liberal Whites evaluating Black Target categories	0.829 [0.59 to 1.06]

Note. Positive (negative) scores imply higher positive (negative) evaluations for the target category. All values greater than .2 imply practical significance. Other than evaluations of Black Targets by White Conservatives, an overall positive bias was detected towards Black Targets (all *g*'s > .32) and an overall negative bias was detected towards White Targets (all *g*'s < -.25).
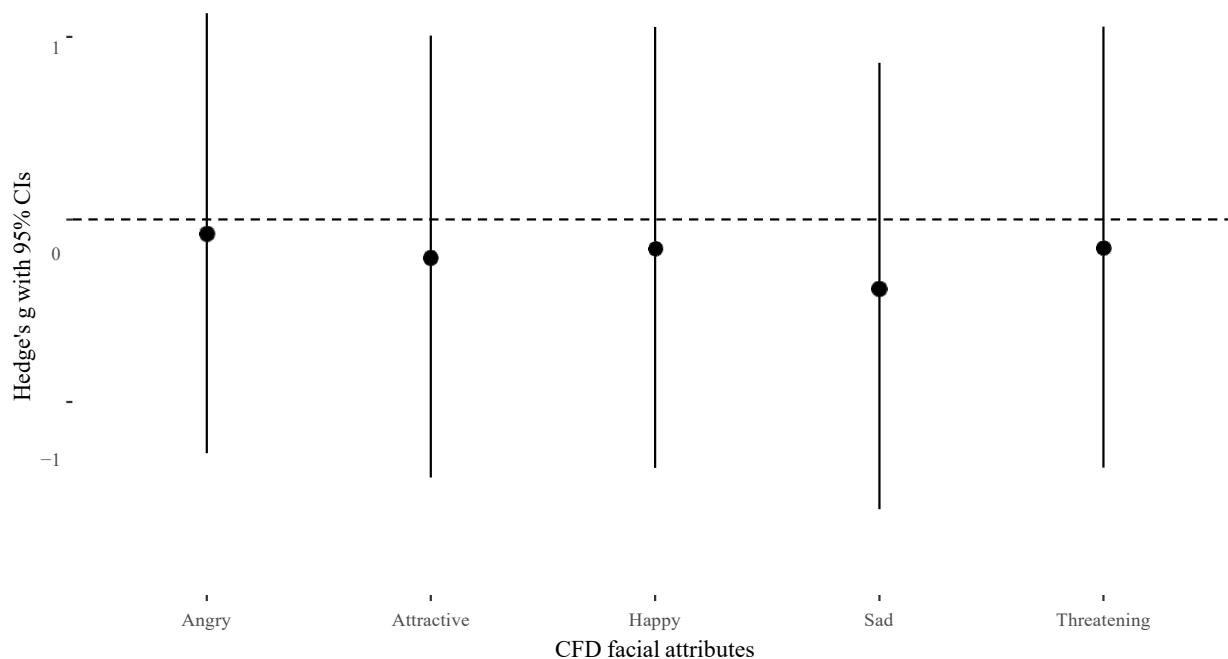
Figure 1

Black and White target categories were statistically equivalent along the displayed attributes. Attribute ratings are provided in Ma et al. (2015).
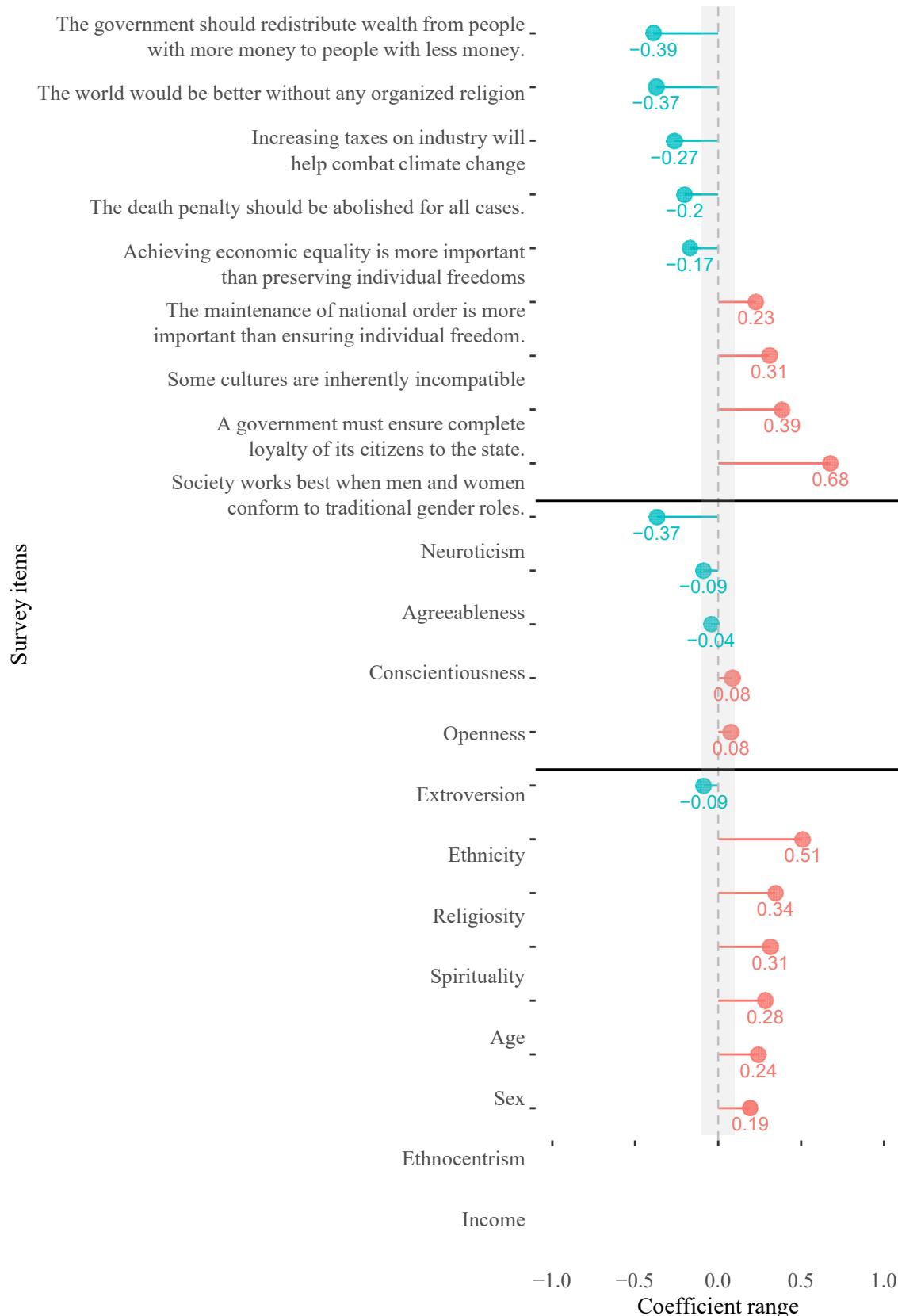
Figure 2

Spearman correlations of sample characteristics with political attitudes. All ρ's>.1 or <-

.1 were statistically significant (p's < .001). Negative and positive coefficients indicate correlations with Liberal and Conservative ideologies respectively.
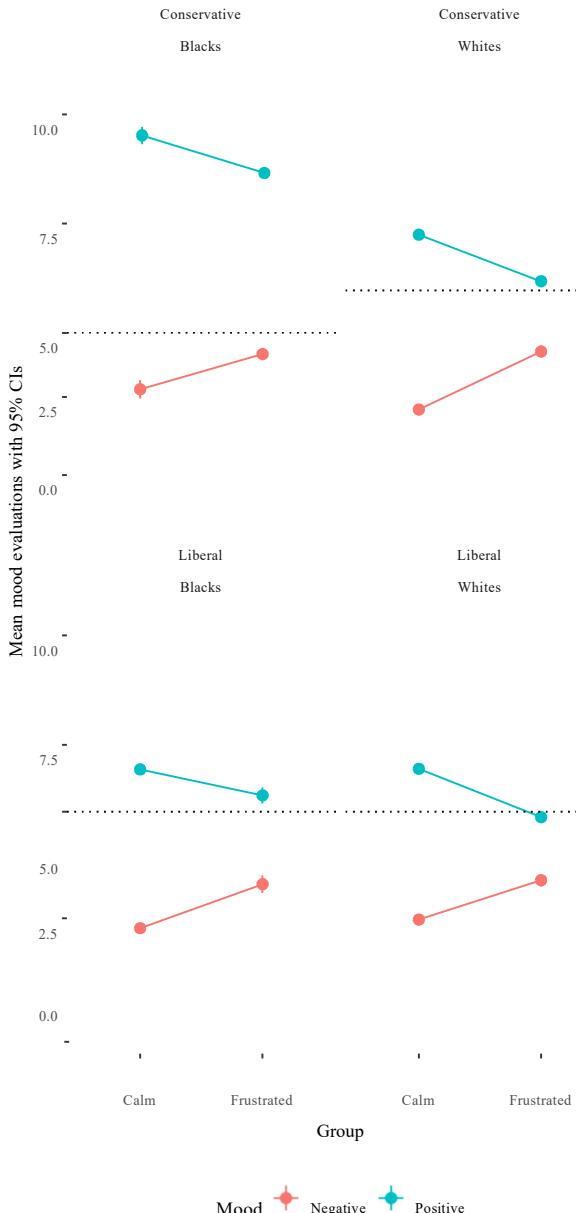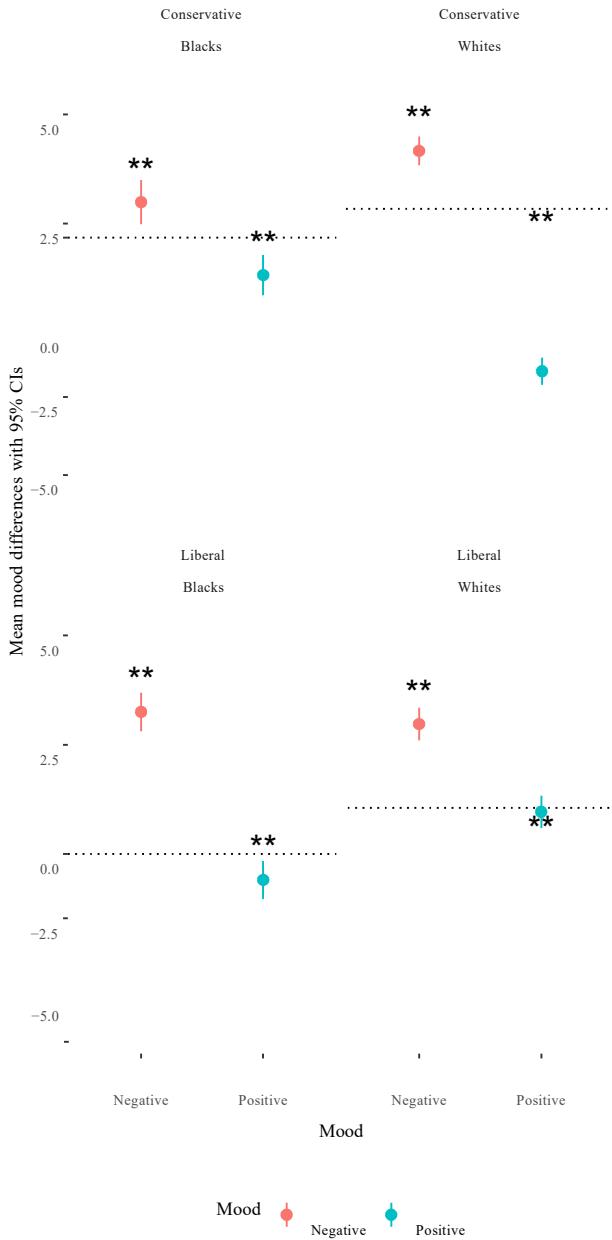
Figure 3

*Mean mood evaluations with 95% CIs across non-frustrated (calm) and frustrated participants are provided in Panel **A**. Pairwise tests between indicated frustrated participants reported significantly higher negative, and significantly lower positive, moods relative to non-frustrated/calm participants (all* p<'s .001 - *Panel **B**).*
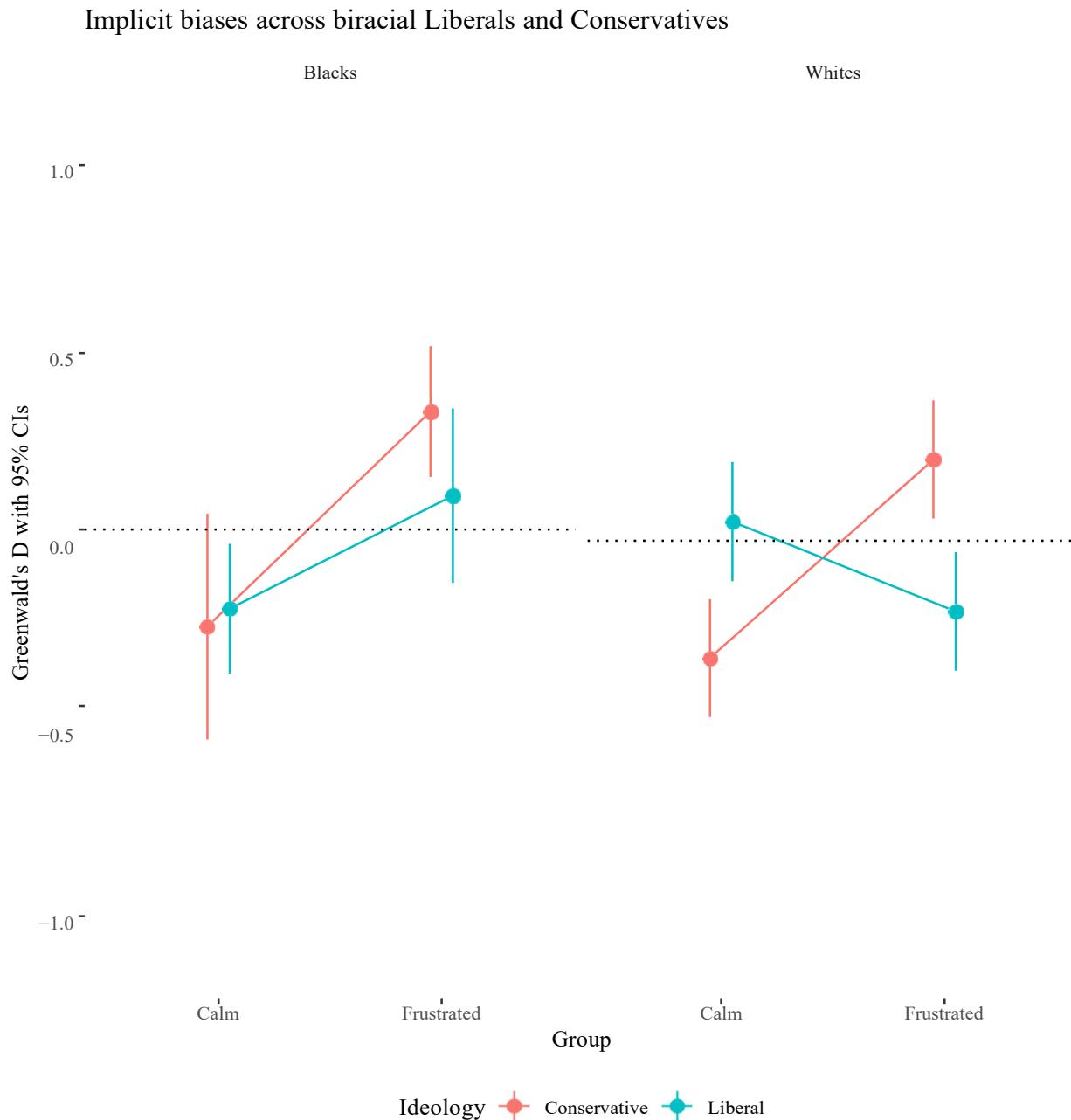
Figure 4

Mean difference scores with 95% CIs are indicated along the y-axis. Black Conservatives and White Conservatives were significantly pro-White (D>0) when frustrated. White Liberals were significantly pro-Black (D<0) when frustrated.
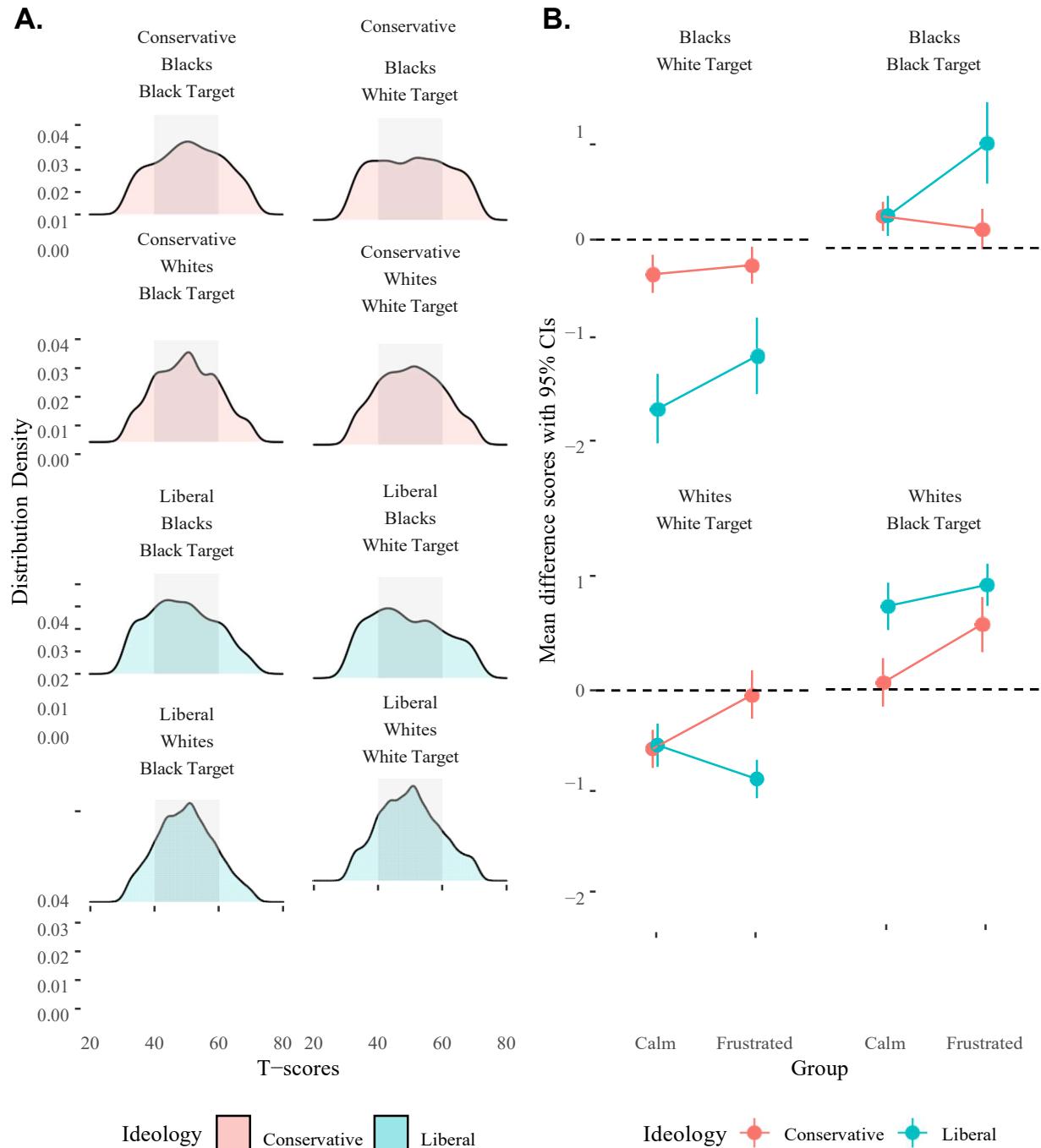
Figure 5

Panel A illustrates evaluation T-score densities. Panel B illustrates Hedge's g score estimates with 95% CIs. Estimates less than -.2 (greater than .2) indicate practically significant evidence for negative (positive) target bias.