Equalitarianism: A source of liberal bias

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Abstract

Recent scholarship has challenged the long-held assumption in the social sciences that Conservatives are more biased than Liberals, yet little work deliberately explores domains of liberal bias. Here, we demonstrate that Liberals are particularly prone to bias about victims' groups (e.g. Blacks, women) and identify a set of beliefs that consistently predict this bias, termed *Equalitarianism*. *Equalitarianism*, we believe, stems from an aversion to inequality and a desire to protect relatively low status groups, and includes three interrelated beliefs: (1) demographic groups do not differ biologically; (2) prejudice is ubiquitous and explains existing group disparities; (3) society can, and should, make all groups equal in society. This leads to bias *against* information that portrays a perceived privileged group more favorably than a perceived victims' group. Eight studies (n=3,274) support this theory. Liberalism was associated with perceiving certain groups as victims (Studies 1a-1b). In Studies 2-7 and meta-analyses, Liberals evaluated the same study as less credible when the results concluded that a privileged group (men and Whites) had a more desirable quality relative to a victims' group (women and Blacks) than vice versa. Ruling out alternative explanations of Bayesian (or other normative) reasoning, significant order effects in within-subjects designs in Studies 6 and 7 suggest that Liberals believe they should not evaluate identical information differently depending on which group is portrayed more favorably, yet do so. In all studies, higher equalitarianism mediated the relationship between more liberal ideology and lower credibility ratings when privileged groups were said to score higher on a socially valuable trait. Although not predicted *a priori*, meta-analyses also revealed Moderates to be the most balanced in their judgments. These findings indicate nothing about whether this bias is morally justifiable, only that it exists.

Keywords: political psychology, liberal bias, motivated cognition, egalitarianism, prejudice

Equalitarianism: A Source of Liberal Bias

A recent meta-analysis found that both Liberals and Conservatives were roughly equally biased when evaluating information with conclusions that were more or less congenial with their preferred beliefs (Ditto et al., 2019a, 2019b). Although many scholars continue to dispute the possibility of roughly *symmetrical* bias among Liberals and Conservatives, even the most skeptical scholars agree that Liberals likely *are* biased on some issues (e.g., Baron & Jost, 2019; Van Bavel et al., 2020). Indeed, it has been argued that bias is a natural human tendency that evolved at least partially to facilitate group cooperation and status attainment within social groups (e.g., Clark et al., 2019; Clark & Winegard, 2020; Winegard & Clark, 2020), and thus Liberals, as humans, likely are biased in at least some domains. Despite widespread agreement that Liberals are susceptible to biases, little work has explored domains in which Liberals display biases. Here we explore one such domain: low status groups. We contend that Liberals are biased in their evaluations of information that portray low status groups unfavorably (relative to high status groups). We also find evidence that this bias is at least partially explained by a set of interrelated beliefs about low status groups that are endorsed more strongly by modern Liberals than modern Conservatives.

Bias: The Dark Matter of Psychology

Bias is an important concept in social and cognitive psychology. Unfortunately, it is exceedingly difficult to define or measure. As we will discuss in greater detail later, there are, to our knowledge, no empirical studies of bias that entirely escape reasonable objections (usually from a Bayesian perspective). However, broadly conceived, bias is fairly straightforward: It is a preference or commitment that shapes and distorts cognition away from the truth or from impartiality in a predictable, preference congruent manner (Ditto et al., 2019a; Kahan & Braman,

2006; Taber & Lodge, 2006). If someone, for example, is a devoted fan of the New York Yankees (a major-league baseball team) and allows her team preference to influence her opinion of balls and strikes (smaller strike zone for Yankees batters than for the other team's batters), then we would say that she is biased. If, on the other hand, she assessed balls and strikes in a similar manner across teams, then we would say that she is not biased or that she is impartial.

Bias can infect the cognitive process from beginning to end and anywhere between (e.g., Ditto & Lopez, 1992; Frenda, Knowles, Saletan, & Loftus, 2013; Iyengar and Hahn, 2009; Taber & Lodge, 2006). As many scholars have noted, all reasoning is motivated and most people are prone to bias (Kunda, 1990). Some reasoning is motivated by a concern for the truth, and therefore is not prone to bias (although it might still lead to incorrect conclusions); and some is motivated by extraneous concerns such as tribal identity or esteem needs, and therefore is prone to bias (Taber & Lodge, 2006). As a general rule, bias increases as the strength of one's preferences increases (Skitka, 2010; Taber & Lodge, 2006). The fervid Yankees fan is much more likely than the casual fan to have a biased strike zone. Furthermore, preferences that form an important part of one's identity are more likely to impel bias than preferences that do not (Haidt, 2012; Tajfel, 1974). For example, most people have a strong preference for sunshine over clouds, but this preference probably does not cause significant bias because it is not an important component of people's identities. On the other hand, a preference for one's home team or sibling might very well cause significant bias because it could comprise one crucial part of a person's social identity. Morally valenced identity preferences generally cause the strongest biases (Skitka, 2010; Tetlock, 2003). Last, the clearness of the facts/data affects bias (see Felson, 1981; Kruger & Dunning, 2011 for similar discussions about ambiguity and bias). Generally speaking, people are not biased about things that are undeniable and obvious (i.e., that have high clarity).

The less clear, the more ambiguous, facts/data become, the more biased people can be. Balls and strikes in baseball are less clear than runs, and are therefore a more fertile source of bias.

On whole, then, bias is a function of clarity, accuracy concerns, and extraneous concerns, such that extraneous concerns increase bias, and accuracy concerns and clarity decrease bias. This likely explains why partisan bias is such a potent form of bias. First, clarity is often low. Experts have studied tax policy for many years, and they still don't have a clear answer about the optimal marginal rates. Even something such as anthropogenic global warming that compels near scientific consensus is difficult to predict and measure and therefore unclear to most people. And second, extraneous concerns are often high. Many people highly value their moral and political identities and want to protect them from potential threats (Haidt, 2012; Kahan & Braman, 2006; Skitka, 2010). Often moral and political commitments become *sacred values* or values that "a moral community treats as possessing transcendental significance" and that cannot be sacrificed for other values, even, perhaps, the pursuit of truth (Tetlock, 2003, p. 320; also, Atran, Axelrod, & Davis, 2007). The intensity of these extraneous values can easily cloud out accuracy concerns especially when clarity is low, creating a climate extremely conducive to bias. It is worth noting that from an evolutionary perspective, tribal biases are almost certainly not irrational (Van Bavel & Pereira, 2018). Group membership and status are probably more important for survival and reproduction than is the truth about abstruse or abstract questions (Baumeister, Maranges, & Vohs, 2017).

Political bias. For many people, political (and/or moral) preferences are powerful and comprise a narrative (often not conscious) that is important to one's identity (Haidt, 2012; Huddy, 2001). Therefore, political commitments are very likely to give rise to bias. Indeed, for many years now, social scientists have examined political personality types and prejudices, often

creating scales to capture certain traits that are thought to lead to bias, rigidity, and unpleasant perhaps even deleterious social consequences (Adorno, Frenkel-Brunswik, Levinson, Sandord, 1950; Altmeyer, 1981; 1996; Jost, Glaser, Kruglanski, Sulloway, 2003; Pratto, Sidanius, Stallworth, Malle, 1994).

One thing many of these studies and theories share is that they depict political conservatism as potentially malignant, full of bias, and less explicable than liberalism, which is often assumed to be "normal" or simply correct and therefore without need of explanation (Haidt, 2012; Tetlock, 1994). (We will call this, in line with other researchers, the asymmetry hypothesis, which is the belief that Conservatives are *more* biased than Liberals; see Ditto et al., 2019a.) For example, a highly influential paper that has been cited several thousand times in the literature was entitled "Political conservatism as *motivated social cognition*" (Jost et al., 2003; italics added). Although the article briefly acknowledged the possibility that there could be biased cognition among liberals, its main thrust was to depict conservatives as rigid, fearful, and biased. Many scales in social science reflect this view. That is, they appear to assume that liberalism or cosmopolitanism (closely related to liberalism) is correct or preferable to conservatism and therefore measure traits that deviate from liberalism, describe the traits in pejorative ways, and label the traits pejorative names (see Crawford & Jussim, 2017 for discussion of political bias in social psychology).

However, throughout the history of the study of political bias, some researchers have charged that the asymmetry hypothesis is wrong and possibly irresponsible (Rokeach, 1956; Taylor, 1960). More recently, many social scientists have contended that the asymmetry hypothesis might be an unfortunate outgrowth of a liberally biased field (Duarte, Crawford, Stern, Haidt, Jussim, & Tetlock, 2015; Haidt, 2011; Clark & Winegard, 2020). This argument

suggests that just as Europeans in the 1300s did not notice "Christian bias" because they simply accepted Christian doctrine as truth, so social scientists do not notice liberal bias because most of them assume its principles are correct and require no further explanation. Inbar and Lammers (2012) and von Hippel and Buss (2017) have quantified political beliefs in social psychology and have confirmed suspicions that the field is dominated by social liberals. This provides at least *prima facie* support to the argument that the field's liberal bias may have contributed to the asymmetry hypothesis and to the generally unsavory depiction of political conservatives that dominates social psychology.

Recently, many scholars have worked to correct politically motivated shortcomings in social science, finding that liberals are often just as biased as conservatives if one scrutinizes in the correct places (Crawford, 2012; 2014; Graham et al., 2013). In 2019, Ditto and colleagues reported a meta-analysis on partisan bias and found strong support for a symmetry hypothesis, noting that the overall effect size for conservative bias was not significantly greater than for liberal bias (conservative r = .255; liberal r = .235).

However, there is reason to believe that this meta-analysis may have underestimated the size of liberal bias because it only included a few studies that measured what we will argue is one of the most potent sources of liberal bias: perceived victims' groups. And in fact, the one included study that had the most obvious relevance to victims' groups (a study regarding affirmative action and same-sex marriage) found one of the largest effects of liberal bias (r = .54), and a reverse bias for Conservatives such that they also demonstrated a preference for affirmative action and same-sex marriage (r = -.20), just to a lesser degree (Crawford, Jussim, Cain, & Cohen, 2013). In this article, we want to help rectify this problem by directly examining

liberal bias as related to perceived victims' groups and by exploring a possible explanation for this bias, a set of interrelated beliefs about low status groups that we call *equalitarianism*.

Liberal Bias and Equalitarianism

The present experimental work expands on work by Winegard and colleagues (Winegard, Winegard & Geary, 2015; Winegard & Winegard, 2015; 2017; see also Clark & Winegard, 2020), which contends that Liberals are particularly disturbed by extant inequalities among demographic groups and want to ameliorate all such disparities. Liberals, more than conservatives, are egalitarian (Jost, Nosek, & Gosling, 2008) and empathize more with others (e.g., Hasson, Tamir, Brahms, Cohrs, & Halperin, 2018), particularly disadvantaged others (Lucas & Kteily, 2018; see, also, Jeffries, Hornsey, Sutton, Douglas, & Bain, 2012), than do Conservatives. Inequalities among demographic groups lead Liberals to empathize with groups that are relatively low-status or experiencing relatively poor outcomes. Although Liberals' concern for victims' groups likely stems from admirable compassion, this can lead to ironic effects, such as patronizing behaviors (Dupree & Fiske, 2018), and double standards that favor groups that they perceive as victims. For example, one study found that Liberals were more likely than Conservatives to amplify the successes of women and Blacks than men and Whites, whereas Conservatives treated the successes of groups more similarly (Kteily, Rocklage, McClanahan, & Ho, 2019). Another (as yet unpublished) study found that Liberals were more censorious of information that portrayed women, Blacks, and Muslims unfavorably than identical information that portrayed men, Whites, and Christian unfavorably, whereas Conservatives were more equally censorious of information regardless of which groups were portrayed unfavorably (Winegard, Clark, & Bunnel, 2019). And similarly, a study found that people more positively evaluated research on female-favoring sex differences than male-favoring

sex differences, and that more left-leaning participants were increasingly negative toward male-favoring sex difference research findings (Stewart-Williams, Thomas, Blackburn, & Chan, 2020).

Liberals (more than Conservatives) appear to believe that women and minorities comprise a victims' group category that needs to be protected from oppression, exploitation, and other social harms. This suggests that Liberals will be biased when evaluating information about perceived victims' groups in predictable ways. Most broadly, Liberals will be especially motivated to reject information that appears to pose potential threats to victims' groups. Thus we hypothesized that low status groups are a domain of bias for Liberals such that they will more negatively evaluate information that portrays low status groups unfavorably than information that portrays high status groups unfavorably.

Whenever group disparities exist, there are at least two potential explanations. One is that groups differ for predominantly genetic reasons. Another is that society mistreats certain groups, stunting their potential and inhibiting their success. For those disturbed by inequality, the latter explanation is probably more appealing because it suggests that social disparities are caused by injustice, not by difficult to alter genetic processes. If, for example, women's underrepresentation among Fields medalists (an award for achievement in mathematics) is due to genetically caused differences in interests and ability, then it would require massive (and procedurally unfair) interventions to equalize the representation. But if this disparity is due to social processes, stereotypes, and sexism, then equality can be achieved in a meritocratic and unbiased society—one just has to eradicate the sexism. Thus, Liberals may believe that most socially consequential demographic differences (e.g., in median income, representation in various fields, criminality) are caused by discrimination and other environmental forces, not by characterological

differences. Indeed, recent research suggests that Liberals are more inclined to impute motives to researchers who present results suggesting that intrinsic factors such as genetics, hormones, and neurochemistry influence outcomes such as intelligence, mating strategy, and violence than to researchers who provide more extrinsic explanations, such as education, nutrition, socialization and culture, and parenting and development (Hannikainen, 2018).

We call the commitment that might explain liberal bias about perceived victims' groups *equalitarianism*. *Equalitarianism* is composed of three interrelated beliefs: (1) demographic groups do not differ biologically on socially valued traits, (2) society is rife with sexism and racism and that disparate demographic outcomes are likely caused by oppression and prejudice, (3) people in society should work together to combat pervasive racism and sexism, and that if successful, no group differences in life outcomes (e.g., educational attainment, imprisonment, socioeconomic status) would remain. We hypothesized that Liberals would endorse these beliefs more than Conservatives and that these beliefs might at least partially explain the predicted bias against information that portrays low status groups unfavorably. Note that these beliefs themselves are not necessarily a sort of bias, rather we expect that they will partially explain the relationship between higher self-reported liberalism and biased responding in upcoming studies. We contend that Liberals have concerns about protecting victims' groups (e.g., women, Blacks; see Study 1a for a list of perceived victims' groups), which leads Liberals to evince bias when evaluating information about perceived victims' groups and about potential demographic differences on socially valued traits (Bawer, 2012; Winegard & Winegard, 2015). Specifically, we contend that Liberals will more negatively evaluate information that contends that perceived victims' groups are *lower on average* on socially valued traits than perceived privileged groups than identical information that supports the opposite conclusion. We support this argument with

eight studies that show that Liberals were consistently biased against information that portrayed privileged groups more favorably than victims' groups (small to medium effects across all studies). In all studies, this bias was predicted by higher support for equalitarianism.

But is it bias?

Most bias studies, including ours, rely upon the principle of invariance: Decision irrelevant information (extraneous information) should not affect judgments; therefore, the degree of a person's bias is reflected by the degree to which the extraneous information affects his or her judgments (Ditto et al. 2019a; Kahneman & Tversky, 1984). In psychology, the standard methods for testing bias involve matching as much information as possible, changing only the conclusions of a vignette or other supposedly extraneous information (such as the race or sex of an actor), and then having participants evaluate the *matched* information rather than the manipulated information. If participants evaluate identical information differently depending on the extraneous information, this is considered bias. For example, in a famous study on bias, Lord, Ross, and Lepper (1979) gave participants identical methodology descriptions of studies testing the deterrent efficacy of the death penalty. The only information that varied in the conditions was the conclusion: the study found that the death penalty did or did not deter crime. Then they had the participants rate the quality of the studies' methods (which again, were identical). Participants who supported the death penalty rated the methods as worse when the conclusion contradicted their prior attitude (death penalty deters crime) than when it buttressed it.

However, it is not clear that this paradigm allows a researcher to isolate bias unambiguously. In methods matching studies, for example, it might be rational to assess methods differently depending upon the outcomes of those methods. Imagine, for example, a description of methods that appeared sound but generated results that showed that eating purple muffins

allows people to see the future. People cannot see the future (but see Bem, 2011); therefore, one should be very skeptical of the results; and if one is skeptical of the results, then one should probably be skeptical of the methods that led to them. We call this "the proof of the recipe is in the eating" or PRE principle. A recipe might look good or bad on paper, but its final value depends upon the food it produces. If one follows the recipe and gets bad food, it is not irrational to update one's assessment of the recipe. More broadly, the results of a process (methods, recipe, blueprint) provide information about the soundness of the process, and a good Bayesian should update his or her priors about the process after getting the results (see Kahan, 2016, for a discussion of Bayesian reasoning and bias).

The same criticism applies to matched vignettes that change the demographic characteristics of described individuals. Suppose, for example, that a researcher believes that liberals are biased *against* White people. She designs a study that includes a vignette describing a cop shooting a person who was found to be holding a piece of silverware (not a weapon). The vignette is altered such that in one condition the cop's victim is White and in the other he is Black. She then finds that liberals rate the cop as less wrong when the victim was White than when he is Black and contends that this is due to liberal bias against White people. One might object, however, that the demographic characteristics Black and White provide information. Perhaps one believes, for example, that Blacks are unfairly targeted by police officers more often than Whites. One might believe, then, that in the White condition the spoon must have looked quite menacing because otherwise the cop would not have shot; whereas, in the Black condition, one might just think "yeah, cops wrongly shoot Black people all the time… this is very wrong."

There are a couple of ways to mitigate the force of the Bayesian (normative rationality) objection. First, one can choose examples in which base rates go in the opposite direction from

the predicted bias. Suppose, for example, that a researcher thinks that Conservatives are biased against women. He could use a vignette in which either a man or a woman sexually propositions a subordinate in a crass way and ask participants if the (identical) behavior is sexual harassment. In this way, the demographic information is going, if anything, against the direction of the hypothesis because most people believe that men are more likely than women to sexually harass others. Thus, if Conservatives rate the identical behavior as harassment only when performed by a woman (and not when performed by a man), it would be reasonably compelling evidence that Conservatives are biased against women in this domain.

Second, one could observe order effects in a within-subjects design (for example, see Uhlmann, Pizarro, Tannenbaum, & Ditto, 2009, which, incidentally, found that Liberals were more willing to sacrifice a White man to save 100 others than to sacrifice a Black man to save 100 others, whereas race had no influence on Conservatives' willingness to sacrifice one life to save 100, somewhat consistent with our predictions here). That is, one could give both vignettes to participants and manipulate the order of presentation. If participants believe that their answers in the two conditions *should be* the same and therefore anchor their second response to their first, that suggests that people at least believe it is irrational (and biased) to answer them differently. If an order effect is observed such that both vignettes are evaluated more favorably when the preference consistent one is presented first than when the preference inconsistent one is presented first, this would indicate that participants are biased despite their apparent belief that it is irrational to treat the two conditions differently. In our experiments, we tried to use both principles to counter possible objections. We still believe that objections are possible; ultimately, it might not be possible to demonstrate bias in an experiment without putting participants through timely experiments that allow researchers to rule out Bayesian updating explanations.

Nevertheless, current methods allow us to glean valuable information about potential bias, which, when combined with theory, *should* cause us to update our priors about sources of bias.

Research Overview and General Predictions

Across eight studies, we tested the equalitarian theory of liberal bias. We used a novel measure of equalitarianism, which had an excellent alpha (.88-.93; see appendix for full scale). Studies 1a-1b did not test for bias, but rather were equalitarianism validation studies, which simply tested whether liberalism was associated with perceiving certain groups (e.g., women, Blacks, Hispanics) as victims, a variety of pro-victims' group attitudes, and intolerance of putative real world events in which victims' groups were harmed (e.g., cop shooting an unarmed Black person), and whether equalitarianism mediated all of these relationships. The remaining studies tested our main hypotheses regarding liberal bias. In Studies 2-3, participants read vignettes, which suggested that either a privileged group (men or Whites) or a victims' group (women or Blacks) scored higher on a socially valued trait (intelligence) and evaluated the credibility of the arguments. Studies 4-5 included conditions in which both groups were said to be equal. Studies 6-7 were conducted within-subjects to test for order effects to increase confidence that the obtained results indeed reflect bias. Across all studies, we expected that Liberals would rate the arguments as less credible when the privileged group was said to be more intelligent than the victim's group than vice versa, and that Liberals would rate the arguments that stated that the privileged group was more intelligent as less credible than Conservatives. However, we expected that Liberals would rate the argument that stated that both groups are equal as the most credible. We further predicted that higher equalitarianism would mediate the influence of more liberal ideology on lower credibility ratings when privileged groups were said to be more intelligent. Table 13 toward the end summarizes all main results.

Note the present work only made a priori predictions about Liberals because Liberals are a relatively understudied group (Eitan et al., 2018), and very little work deliberately explores biases among Liberals. Nonetheless, we will discuss patterns discovered among Moderates and Conservatives as they are identified. Overall, patterns were less consistent across studies for Moderates and Conservatives than for Liberals; however, meta-analyses revealed some patterns for these groups as well, which we elaborate on in results and discussion sections and the general discussion.

Initiative for Open Science Statement

No participants were excluded from any study. There were no additional undisclosed manipulations or conditions. No analyses were performed before the corresponding data collection was complete (except as described in Study 6 of the main text). All datasets and syntax will be publicly available. The only variables deleted from the datasets were potential identifiers (ip address, latitude, longitude), some irrelevant and potentially sensitive demographics (relationship status and sexual orientation [asked only in Studies 1a-3] and income [asked only in Study 2]), two open-ended responses ("Was anything about this study bizarre, unusual, or suspicious?" and "Is there anything else you would like to tell us about your participation today?" asked only in Studies 4-7), and other irrelevant data (e.g., date of completion, time to complete). No other data were collected that are not described in the paper. No other studies were conducted testing the hypothesis that liberals would be biased against information that portrays privileged groups more favorably than victims' groups on a socially valued trait. There are no file drawer studies.

Study 1a

Study 1a tested the hypotheses that stronger liberal ideology would predict stronger beliefs that certain groups are victims of unfair treatment by society, and that our measure of equalitarianism would mediate this relationship.

Method

Ethics statement. All studies in the present manuscript were approved by the Florida State University Human Subjects Committee under protocols HSC #2015.16573 and HSC #2017.22463. Participants consented to participate by clicking 'next' to begin the study after reading a study information sheet.

Participants. U.S. participants (M_{age} = 36.93, *SD* = 12.30; 122 female) were recruited via Amazon Mechanical Turk (MTurk).[1] We aimed for a fairly large sample size of 200; 202 people participated. This would allow detection of a small to medium *r* effect size around .2 (at $p < .05$ with 80% power; G*Power; Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007). We discuss efforts to maintain and increase power across studies in the Methods section of Study 2.

Procedure. Order of procedures was randomized. Participants were asked to rate how unfairly various groups of people are treated in society on 100-point sliding scales from *Treated completely unfairly* to *Treated completely fairly*. Four were groups that are generally considered

[1] We used U.S. MTurk participants in all studies. Though MTurk is not perfectly representative of the U.S. as a whole, it is quite diverse with respect to age, sex, race, education, SES, and ideology (and certainly more diverse than most university subject pools). On average, MTurk workers are slightly younger, more educated, and more liberal than the US population; Asians are overrepresented and Hispanics are underrepresented (Paolacci & Chandler, 2014). All of these were true in our samples as well. Women were also slightly overrepresented. We focused on the U.S. because our theory builds on research conducted in the U.S. and was partly inspired by patterns of recent events in the U.S. We do not know whether our results would generalize to other countries and cultures. We suspect there may be important cultural moderators that we hope future research will uncover. For example, cultures that are more hierarchical and less egalitarian may not display the reported effects.

victims' groups (Black people, Women, Hispanic people, and Muslims); three were groups that are generally considered privileged groups (White people, Men, and Christians).[2]

Participants also completed an equalitarianism measure, which contained 18 items measuring attitudes about whether 1) all groups are equally endowed with socially desirable traits (e.g., "All ethnic groups have equal abilities on all tasks [for example, mathematics, sports, creativity]"), 2) prejudiced attitudes are ubiquitous (e.g., "Racism is everywhere even though people say they are not racist"), and 3) we can and should strive for a more egalitarian society (e.g., "We should strive to make all groups equal in society"), rated on 7-point scales from *Do not agree at all* to *Completely agree*, $\alpha = .92$ (see appendix for full scale). Across all studies reported in the present paper, the alpha for the equalitarianism measure ranged from .88-.93. Combined across all studies, a principle components analysis supported a one factor solution. Four components had Eigenvalues above 1, however there was a dramatic drop off from the first component (Eigenvalue = 7.72) to the second (Eigenvalue = 1.66), and all items correlated with the first component the strongest (and all above .48). The only exceptions were the three reverse scored items, which correlated with multiple components to similar degrees and seemed to explain the presence of the other components, a common problem with reverse-scored items (see e.g., Conrad et al., 2004). The three reverse-scored items generally correlated the weakest with all other items in the measure, however, they were still positively and significantly associated with all other items.

[2] One additional group was included (atheists), but this group does not clearly fit as a victims' or privileged group nor did we have a priori predictions about this group. But to satisfy curiosity, these were the results for atheists: fairness rating ($M = 55.16$, $SD = 29.46$); correlation with liberal ideology, $r = -.35$, $p < .001$. Thus, it seems Liberals believe atheists to be victims as well.

The only other procedure was a demographics survey on which participants reported a variety of demographic variables, including political ideology, which was reported on a 7-point scale from *Very conservative* to *Very liberal*. Combined across all studies, equalitarianism was correlated with more liberal political ideology, $r = .54$, $p < .001$.

Results

Participants were slightly above the midpoint on liberalism ($M = 4.44$, $SD = 1.79$) and equalitarianism ($M = 4.69$, $SD = 1.14$), and these were positively correlated, $r = .53$, $p < .001$. As can be seen in Table 1, participants viewed Whites as treated the most fairly, followed in order by Men, Christians, Women, Hispanics, Blacks, and last, Muslims. As predicted, stronger liberal ideology was significantly negatively related to fairness ratings for all four victims' groups: Muslims, Blacks, Hispanics, and Women. Results were slightly mixed for the privileged groups, such that stronger liberal ideology was significantly positively related to fairness ratings for Christians, slightly (but non-significantly) positively related to fairness ratings for Whites, and unrelated or slightly negatively related to fairness ratings for Men.

Table 1
Fairness ratings by group and their correlation with (liberal) ideology

Group	***M***	***SD***	***r***	***p***
Whites	78.92	23.03	0.09	0.231
Men	78.34	23.22	-0.05	0.514
Christians	68.12	27.74	0.32	<.001
Women	59.81	22.85	-0.39	<.001
Hispanics	51.65	25.12	-0.42	<.001
Blacks	50.30	26.23	-0.44	<.001
Muslims	41.94	28.57	-0.39	<.001

Fairness ratings for the victims' groups were reverse-scored and combined with fairness ratings for the privileged groups to create an unfairness index, $\alpha = .77$. A bootstrap mediation

analysis (10,000 resamples; PROCESS model 4 [Hayes, 2013])[3] revealed a significant indirect effect of ideology on unfairness ratings through equalitarianism, 95% CI [-2.99, -1.22]. As can be seen in Figure 1, more liberal ideology predicted rating victims' groups as treated more unfairly (and privileged groups as treated more fairly), and this was partially mediated by their higher equalitarian attitudes.

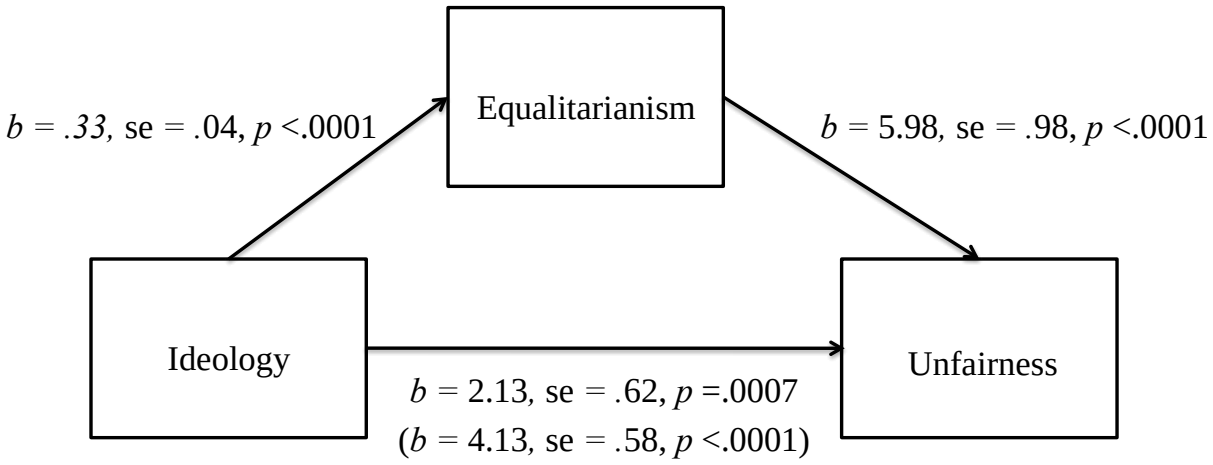

Figure 1. Influence of ideology (higher values = more liberal) on unfairness (higher values = victims' groups treated more unfairly/privileged groups treated more fairly), mediated by equalitarianism (higher values = more equalitarian). In this and all subsequent studies, values in parenthesis are the total effect of the IV on the DV (i.e., prior to controlling for equalitarianism).

Discussion

As predicted, Liberals viewed perceived victims' groups as treated more unfairly than Conservatives, and this effect was partially mediated by scores on a measure of equalitarianism.

Study 1b

Study 1b examined the influence of political ideology and equalitarianism on evaluations of news events and public opinions involving victims' groups. Participants evaluated two

[3] In this study and all upcoming studies, this is how we tested simple mediations.

ostensible news events, one involving a cop shooting an unarmed Black man, and one involving a university using a performance exam on which men outperform women. We expected that Liberals would evaluate the cop and the exam more unfavorably, and that these would be at least partially accounted for by their higher equalitarianism scores. Participants also reported their agreement with a variety of statements relevant to victims' groups. We expected that more liberal ideology would predict more pro-victims' groups and more anti-privileged groups attitudes, and that these would also be at least partially accounted for by their higher equalitarianism scores.

Method

Participants. U.S. participants (M_{age} = 34.68, *SD* = 11.14; 100 female) were recruited via MTurk. Given the strength of the relationships in Study 1a (the correlation between more liberal ideology and overall unfairness ratings was *r* = .453), we aimed for a slightly smaller sample size of 150; 151 people participated. This would allow us to detect an *r* effect size of around .23 (Faul et al., 2007, 2009). Participants were slightly above the midpoint on liberalism (*M* = 4.30, *SD* = 1.77) and equalitarianism (*M* = 4.78, *SD* = 1.01), and these were positively correlated, *r* = .54, *p* < .001.

Procedure. Order of procedures was randomized. Participants completed the same measure of equalitarianism, α = .89, and reported political ideology as in Study 1a. Participants were also asked to read two ostensible news reports from *The New York Times* and *The Boston Globe* (order of presentation was counterbalanced). One story was about a police officer killing an unarmed Black man:

On the night of August 19th, Joe Smith, a New York City policeman encountered Darren Johnson, an African American, on a playground. Officer Smith had received a call about an armed robber in the area. Officer Smith confronted Darren Johnson and told him to put his hands up. Darren Johnson then lifted a shiny object into the air and pointed at Officer Smith. Officer Smith fired five shots at Darren Johnson, killing him instantly. After the shooting, police discovered that the shiny object was a ballpoint pen.

The other story was about the introduction of a performance exam, on which men outperform women:

Washington State University is facing controversy after introducing the Graduate Performance Test (GPT). The GPT predicts college performance quite well, so Washington State began to administer it to incoming freshman. However, men perform much better than women on it. Some activists believe that the test is sexist and have called on administrators to stop using it. However, others have noted that men perform better in college at Washington State University, so the test is fair and predictive of performance.

Immediately following the cop story, participants responded to four questions ("How justified was the officer's shooting?" [reversed], "How wrong was the person who was shot?" [reversed], "Should the officer be punished?", and "Should the family of the person who was shot receive money?") on 7-point scales from *Not at all* to *Very much so*, which were combined into an index of belief that the cop was wrong, $\alpha = .80$. Immediately following the test story,

participants responded to four questions ("How justified was the school in using the Graduate Performance Test?" [reversed], "How right were activists in trying to get rid of the test?", "Is the test fair?" [reversed], and "Is the test sexist?") on 7-point scales from *Not at all* to *Very much so,* which were combined into an index of belief that the test is unfair, $\alpha = .88$.

Participants rated their agreement with several statements relevant to victims' groups (*Most police departments are racist, Islam is a religion of peace, Men are physically stronger than women, Men are better at mathematics than women, The government should spy on Muslims, Jokes about race are offensive, A woman's proper role in society is in the kitchen, and Women are smarter than men*) on 7-point scales from 1= *Not at all* to 7= *Very much so*.[4]

Results

As expected, more liberalism predicted stronger beliefs that the cop was wrong, $r = .45$, $p < .001$, and stronger beliefs that the test is unfair, $r = .24$, $p = .003$. Moreover, and consistent with predictions, stronger equalitarian beliefs partially mediated the influence of liberal ideology on beliefs that the cop was wrong, 95% CI [.04, .23] and that the test is unfair, 95% CI [.06, .25]. One of these mediations is mapped in Figure 2 below, in which more liberal ideology predicted stronger beliefs that the cop was wrong to shoot the Black man, and this was partially accounted for by Liberals' stronger equalitarian attitudes.

[4] For purposes of upholding the cover story that the study was about political attitudes, two additional statements were included (*I think gays should be able to marry, and Abortion should be legal*). We had no a priori predictions regarding these items, but to satisfy curiosity, these were the agreement rating and correlation with liberal ideology results for the former: $M = 5.44$, $SD = 2.13$, $r = .59$, $p < .001$, and the latter: $M = 4.80$, $SD = 2.36$, $r = .53$, $p < .001$.

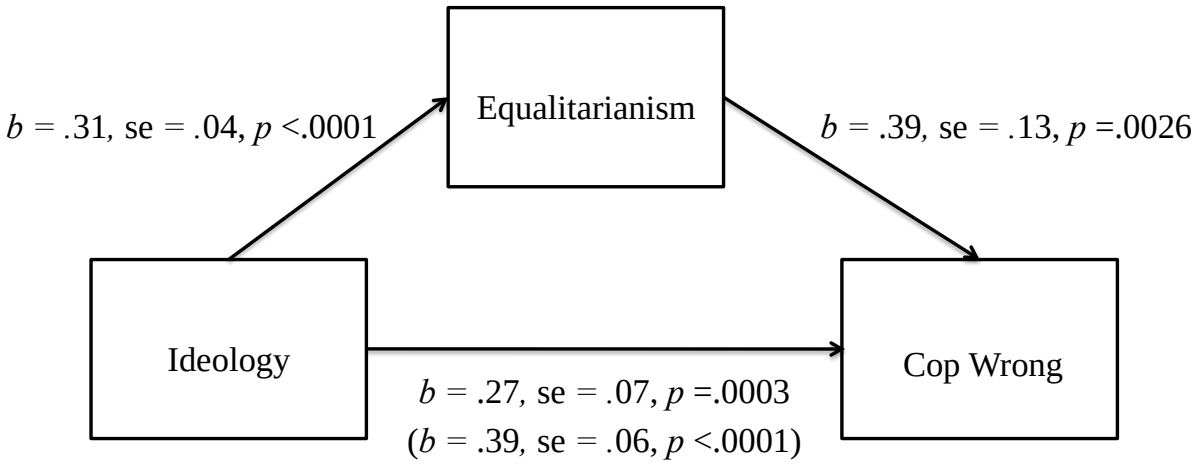

Figure 2. Influence of ideology (higher values = more liberal) on beliefs that the cop was wrong, mediated by equalitarianism.

We next examined the relationships between ideology and agreement with the statements regarding victims' groups and privileged groups. As can be seen in Table 2, more liberal ideology was significantly positively related to beliefs that most police departments are racist and that Islam is a religion of peace and significantly negatively related to beliefs that men are physically stronger than women, that men are better at math than women, that the government should spy on Muslims, and that a woman's place in society is in the kitchen. There was also a small (but not significant) negative relationship between liberalism and beliefs that jokes about race are offensive. There was no significant relationship between ideology and beliefs that women are smarter than men (later studies will suggest that both Conservatives and Liberals prefer this conclusion). Higher equalitarian attitudes significantly mediated all relationships except the relationship between ideology and beliefs that the government should spy on Muslims and the non-significant relationship between ideology and beliefs that women are smarter than men. Thus, other than these two exceptions, results were consistent with predictions that more liberal ideology predicts more pro-victims' groups attitudes and more anti-privileged groups attitudes, and that these relationships are partially explained by stronger equalitarian beliefs.

Table 2
Agreement with victims' groups statements, their correlation with (liberal) ideology, and mediation of that relationship by equalitarianism in Study 1b

Group	*M*	*SD*	*r*	*p*	Mediation *95% CI*
Most police departments are racist.	3.27	1.82	.42	<.001	.13, .32
Islam is a religion of peace.	3.98	1.83	.53	<.001	.06, .25
Men are physically stronger than women.	4.93	1.77	-.31	<.001	-.30, -.08
Men are better at mathematics than women.	2.50	1.57	-.20	.017	-.35, -.12
The government should spy on Muslims.	2.70	1.89	-.56	<.001	-.18, .05
Jokes about race are offensive.	5.08	1.80	-.13	.102	.09, .34
A woman's proper role in society is in the kitchen.	1.67	1.25	-.24	.003	-.21, -.06
Women are smarter than men.	3.39	1.54	.03	.742	-.05, .13

Note. 1 = not at all agree; 7 = agree very much so

Discussion

As predicted, more liberalism predicted greater opposition to using a test that favored men and more unfavorable judgments of a police officer who shot an unarmed black person; and these relationships were partially mediated by higher equalitarianism. More liberalism also predicted more positive victims' group attitudes and more negative privileged group attitudes, and equalitarianism generally mediated these relationships. Studies 1a and 1b showed that liberalism and equalitarianism were related to group attitudes in the expected ways. Studies 2 through 7 moved on to test the hypotheses that liberalism and equalitarianism predict biases against information that portray privileged groups more favorably than victims' groups.

Study 2

So far, liberal ideology predicts 1) beliefs that victims' groups are treated more unfairly by society, 2) that a cop shooting an unarmed black man was more wrong, 3) that it is more unacceptable to use performance exams on which men outperform women, and 4) more favorable attitudes toward victims' groups/less favorable attitudes toward privileged groups.

Liberals' higher equalitarian attitudes at least partially accounted for nearly all these outcomes. These validation studies suggest that Liberals' have greater concern for victims' groups. Thus, this concern could be a potential source of liberal bias. In the remaining studies, we expanded our investigation to test whether Liberals' stronger equalitarian attitudes were related to bias against biological group equality, especially when those threats indicated that privileged groups score higher than victims' groups on a socially valued trait.

Study 2 tested the prediction that Liberals would be less likely to trust, support, and accept an exam on which men outperform women than an exam on which women outperform men. As we noted in the introduction, Liberals desire to protect perceived victims' groups; therefore, they likely are more sensitive to potential threats to those groups. When a threat is detected, we predict that many Liberals will shift from standard to motivated reasoning and will evince bias. In this Study, we hypothesized that the test on which men perform better will be perceived as a threat to many Liberals, therefore causing bias against it (i.e., causing them to assess it differently from the same test when women are said to do better [no threat]).

Using standard methods to detect bias, we had participants read one of two vignettes about a university's use of a performance exam, and randomly assigned them to read either that men outperform women or that women outperform men (on average). Participants then evaluated whether it is acceptable to use the test. We predicted that liberal participants would be biased such that they would rate the exam as less acceptable when men outperform women than when women outperform men. We also expected that Liberals would rate the exam more unacceptable than Conservatives when men outperform women. These results would indicate that 1) Liberals evaluate information in a biased manner when that information could portray victims' groups or privileged groups in a more or less favorable light, and 2) Liberals (relative to Conservatives) are

particularly motivated to disparage information that appears to favor a privileged group over a victims' groups.

Method

Participants. U.S. participants (M_{age} = 36.80, *SD* = 12.75; 113 female) were recruited via MTurk. We aimed for 100 participants per condition (200 total); 205 participated. In this study, sample size was derived from the researchers' personal experience conducting similar work. In order to maintain sufficient power, we increased the number of participants per cell with each increasingly complex experimental design, (100 per condition in studies with two groups [Studies 2 and 3], 150 per condition in studies with three groups [Studies 4 and 5], and 200 per condition in studies with four groups [i.e., 2 x 2 designs; Studies 6 and 7]). Participants were slightly above the midpoint on liberalism (*M* = 4.30, *SD* = 1.66) and equalitarianism (*M* = 4.68, *SD* = 1.02),[5] and these were positively correlated, *r* = .42, *p* < .001.

Procedure. As in Studies 1a and 1b, order of procedures was randomized. Equalitarian attitudes, α = .90, and political ideology were measured with the same procedures as in Studies 1a and 1b. Participants also read a short vignette about a college entrance exam (below), and were randomly assigned to read that either men outperform women or women outperform men:

> *In the past decade, the College Entrance Exam (CEE) has been given to high school students. It has been shown to have remarkable accuracy at predicting academic performance in college.*
>
> *However, universities have been debating whether to use the exam or*

[5] In this study only, a slightly modified version of the scale was used, which replaced item 4 with "Many people are biased against people, and such biases threaten society" and item 18 with "With the right policies, we will increase equality in society".

not because women/(men), on average, score much higher than men/(women) on the exam, leading to the acceptance of more women/(men) to college than men/(women).

Following this vignette, participants responded to three questions ("How much do you think the test should be used?", "How fair do you think the test is?", and "How sexist do you think the test is?" [reverse-scored]) on 7-point scales from 1= *Not at all* to 7= *Very much so*, which were combined into an index of test acceptability, $\alpha = .85$.

Results

For this and all subsequent studies, interactions could be computed with either the continuous measure of ideology or by categorizing participants as Liberals, Moderates, and Conservatives based on conceptual cut points. The former strategy retains all available information, but the latter is easier to comprehend particularly as the designs get more complicated in later studies. For these reasons, and for the sake of open reporting, we report the results both ways. Note that across all studies, both analysis strategies yield similar interpretations of the data, though in some cases, the continuous analyses have slightly larger overall effect sizes or smaller *p*-values, especially for the relevant interaction effects.

Continuous. We regressed test acceptability ratings on the Sex condition, ideology (centered), and the interaction, controlling for sex.[6] As can be seen in Table 3, there was a significant main effect of Sex condition on test acceptability such that the test was considered less acceptable if men outperform women than if women outperform men. There was also a main effect of ideology such that liberalism predicted lower test acceptability. Somewhat consistent

[6] Removing sex as a control does not affect the statistical significance of any effects.

with predictions, there was a small, trending (but not statistically significant) interaction between the condition and ideology.

Consistent with predictions, simple slopes one standard deviation above and below the mean of political ideology revealed that liberal participants found the test significantly less acceptable when men outperform women than vice versa (b = 1.02), t = 3.54, p = .001. In contrast, conservative participants (one standard deviation below the mean) found the test equally acceptable regardless of whether women outperform men or men outperform women (b = .40), t = 1.38, p = .171, though they were still trending in the same direction as Liberals.

Examining the interaction another way, in the condition in which women outperform men, there was virtually no effect of ideology on test acceptability (b = .01), t = 0.12, p = .902. Both Liberals and Conservatives found the test reasonably acceptable (above the midpoint) if women outperform men. However, in the condition in which men outperform women, more liberal ideology predicted lower test acceptability (b = -.18), t = -2.10, p = .037.

Table 3
Test acceptability ratings regressed on Sex condition (0: Men Outperform, 1: Women Outperform), ideology, and the interaction, controlling for sex

	β	*t*	*p*	95% CI	semipartial *r*
Sex	-0.28	-4.33	<.001	-1.28, -.48	-.28
Condition	.23	3.46	.001	.30, 1.11	.23
Ideology	-.19	-2.13	.034	-.34, -.01	-.14
Condition x Ideology	.13	1.52	.129	-.06, .43	.10

Categorical. We created a categorical ideology variable for Conservatives (those who responded 1-3 on the 7-point ideology scale; n = 62), Moderates (those who responded 4; n = 57), and Liberals (those who responded 5-7; n = 86).[7] We analyzed the 2 (Sex condition) x 3

[7] This coding scheme is how we created a categorical ideology variable in this study and all subsequent studies.

(categorical ideology) interaction on acceptability ratings in a Univariate Analysis of Variance (ANOVA).

There was a significant main effect of Sex condition, indicating that all participants objected more to a test favoring men than a test favoring women. The main effect of ideology and the interaction were not significant. However, consistent with the continuous results, simple contrasts revealed the largest (and a significant) difference between experimental conditions for Liberals (see Table 4 and Figure 3). Specifically, Liberals rated the test as significantly more acceptable if women outperform men than if men outperform women, $p = .004$, *Cohen's d* = .64, whereas Moderates, $p = .507$, *Cohen's d* = .17, and Conservatives, $p = .118$, *Cohen's d* = .44, demonstrated no such difference (though note Conservatives were trending in a similar direction as Liberals).

In the Women Outperform condition, no groups significantly differed, *p*s > .557. In the Men Outperform condition, Liberals rated the test as marginally less acceptable than Moderates, $p = .099$, and somewhat (though not significantly) less acceptable than Conservatives, $p = .152$; whereas there were virtually no differences between Conservatives and Moderates in this condition, $p = .791$.

Table 4
Categorical ideology, Sex condition (0: Men Outperform; 1: Women Outperform), and the interaction on test acceptability

	F	*p*	η_p^2
Condition	8.11	.005	.039
Ideology	0.78	.460	.008
Condition x Ideology	0.94	.393	.009

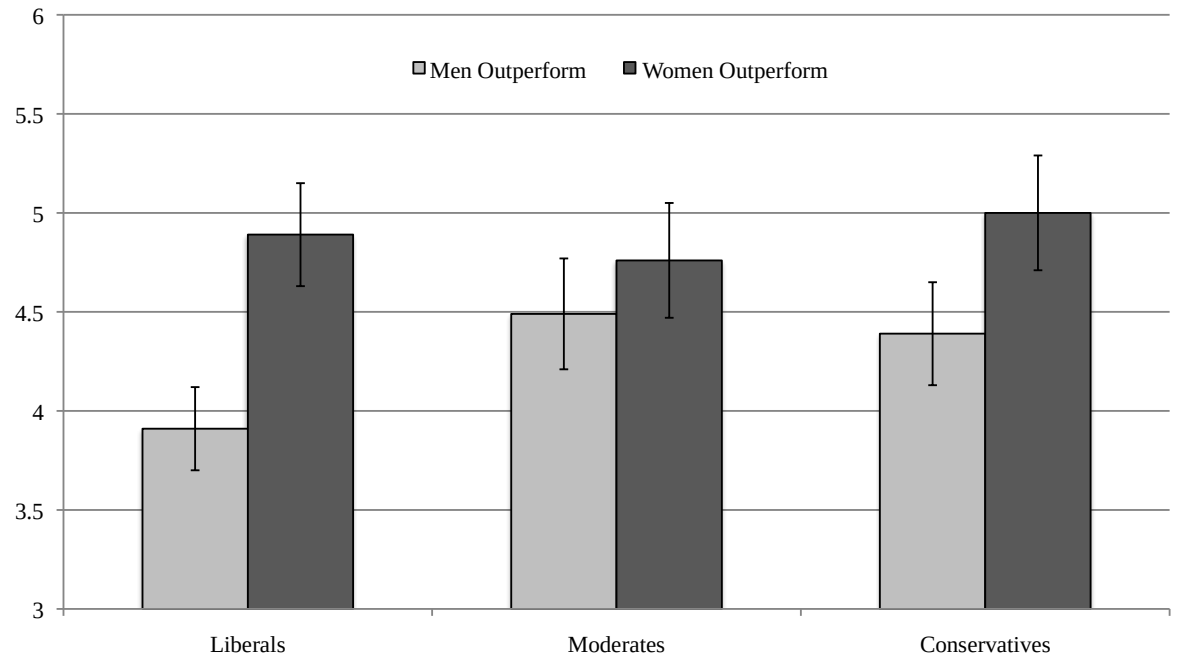

Figure 3. Test acceptability by Sex condition within each ideological group. Error bars are standard errors.

Moderated Mediation and Mediations. Equalitarianism mediated the interactive effect of Sex condition and (continuous) ideology on test acceptability, based on PROCESS model 5 (10,000 resamples; Hayes, 2013),[8] specifying ideology as the independent variable and Sex condition as the moderator, 95% CI [-.24, -.07]. To model this interaction simply, we then tested simple mediations within each condition. Confirming the results of the moderated mediation, equalitarianism did not mediate the (non)effect of ideology on test acceptability in the condition in which women outperform men, 95% CI [-.20, .01], but it did mediate the influence of ideology on test acceptability in the condition in which men outperform women, 95% CI [-.36, -.12]. As can be seen in Figure 4, higher equalitarianism fully accounted for the relationship

[8] This is how we tested moderated mediation in this study and all subsequent studies.

between more liberal ideology and lower ratings of test acceptability in the condition in which men outperform women on the test.

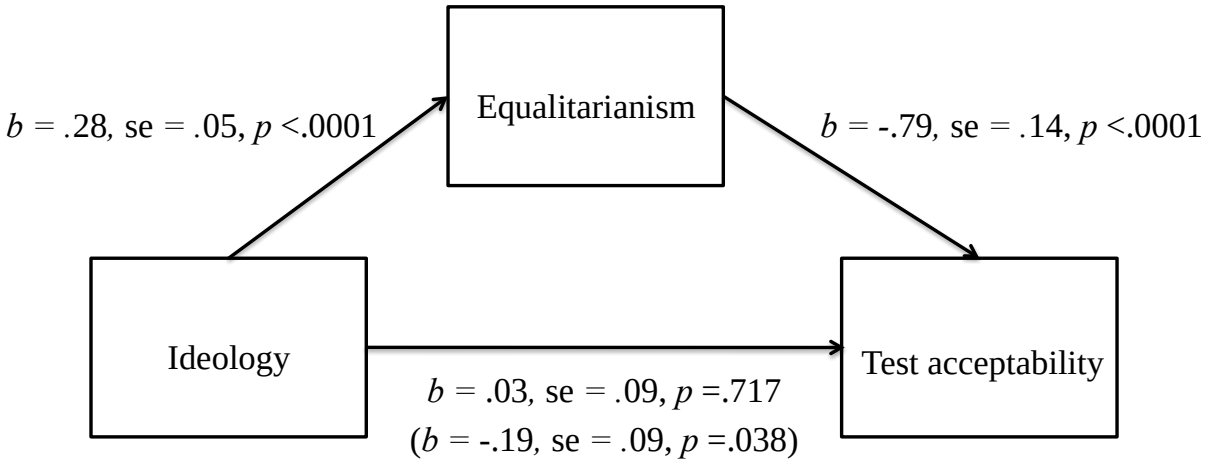

Figure 4. Influence of ideology (higher values = more liberal) on test acceptability, mediated by equalitarianism in the condition in which men outperform women.

Discussion

Study 2 found a general pattern of biased evaluation. Across the full sample, participants objected to a test more if men outperformed women than if women outperformed men. Consistent with our predictions, this was strongest (and significant) among Liberals. Also consistent with predictions, Liberals objected to the test more than Conservatives only in the condition in which men outperformed women. However, the full interactions did not reach statistical significance. The upcoming studies shed more light on this pattern.

We should address an important challenge to our argument. Perhaps Liberals are not biased at all, but rather are using some Bayesian-type reasoning. More women than men are going to college, and women tend to earn higher GPAs in college than men, so perhaps it is rational to conclude that a college test that favored men is sexist and unfair (it contradicts real

base rates). Upcoming studies seek to address this limitation by examining sex differences in IQ (men and women score similarly on IQ tests) and by using within-subjects designs.

It is also possible that Liberals were not biased against the validity of the test per se, but rather concerned about the explicitly stated downstream consequences (i.e., that fewer women would be admitted to college). If so, Liberals were not biased against the test, but were rationally concerned about the potential deleterious consequences to women. To address this objection, the upcoming studies avoided manipulating downstream consequences of differences and focused only the stated differences themselves.

Another plausible objection to the bias argument is that Liberals were using a different but equally rational prior that altered their response patterns when men outperform women: The base rate of sexism. If society is more sexist against women than against men, then perhaps it is rational to conclude that a test or policy that favors men is likely less fair and more sexist than a test or policy that favors women. We address this objection as fully as we can in Studies 6 and 7. The best methodological strategies to ensure that one is measuring bias are to use matched materials, to ask questions about the matched information and not the manipulated information (Ditto et al., 2019a), to use examples in which base rates go against the no bias explanation, and to use within-subjects designs. We improved upon all these in upcoming studies.

Study 3

Study 3 was similar to Study 2 but focused on race instead of gender. Study 3 also sought to minimize potential Bayesian counter-explanations for the bias by having participants evaluate the credibility of identical scientific arguments that only differed in their conclusions. In both conditions, participants read an argument about the discovery of a gene that was associated with higher IQ scores and that may explain intelligence differences between Blacks and Whites. The

only difference between conditions was whether the gene explained why Blacks score higher on IQ tests than Whites or why Whites score higher on IQ tests than Blacks.

We once again expected that Liberals would display bias such that they would evaluate the credibility of the argument more unfavorably if the gene was said to explain why Whites have higher IQs than Blacks than vice versa. We again expected that ideological differences in argument credibility ratings would be largest in the condition that casts a victims' group in a less favorable light than a privileged group such that Liberals would be particularly motivated to disparage information that suggests that Whites have higher IQs than Blacks (relative to Conservatives).

Method

Participants. U.S. participants (M_{age} = 37.65, *SD* = 12.65; 118 female; 159 White, 17 Asian, 13 Latino, 12 Black, 1 Middle Eastern) were recruited via MTurk. As in Study 2, we aimed for 100 participants per condition (200 total); 202 participated. Participants were slightly above the midpoint on liberalism (*M* = 4.55) and equalitarianism (*M* = 4.81), and these were positively correlated, $r = .53$, $p < .001$.

Procedure. Procedures were identical to Study 2 (equalitarian scale $\alpha = .92$), except participants read a different vignette and responded to different questions in response to the vignette. This vignette was an ostensible *The New York Times* science article, which described research about the discovery of a gene that might explain racial differences in IQ. We used a racially neutral name, Tom Berry (and used this name in all studies that used a variation of this vignette). Participants were randomly assigned to read that this gene might explain either why Whites score higher on IQ tests than Blacks, or why Blacks score higher on IQ tests than Whites:

Researchers from a large research institution have discovered a gene that might explain intelligence differences between Blacks and Whites. For many years, researchers have found that Blacks/(Whites) score higher on certain intelligence tests than Whites/(Blacks). Tom Berry and his colleagues have tried to find genetic causes for the disparity in intelligence scores, arguing that environmental explanations cannot explain the IQ gap. "There is simply no reasonable environmental explanation for the IQ gap that we can find or that other researchers have proposed," Dr. Berry explained.

Berry and his team think they have an answer. They isolated a gene on the 21st chromosome that is reliably associated with higher IQ scores. The gene polymorphism, called THS-56RR, was first found in 1999, but researchers didn't know that it was related to higher IQ scores. Berry and his team found that it was strongly related to IQ scores.

They also found that the gene is much more common in American Blacks/(Whites) than Whites/(Blacks). "About 93% of Blacks/(Whites) carry the gene," Dr. Berry said, "whereas only 10% of Whites/(Blacks) carry it. We really think this might explain the IQ gap."

Participants responded to the news article on six questions (“How credible do you find Dr. Berry’s argument?”, “Do you believe Dr. Berry’s argument?”, “Is Dr. Berry’s argument racist?” [reversed], “Is Dr. Berry’s argument logical?”, “How important is this research?”, and “Do you think we should fund more of this type of research?”) rated on 7-point scales from *Not*

at all to *Very much so* (first four questions) or *Not at all* to *Extremely/Definitely*, which were combined into an index of argument credibility, $\alpha = .92$.

Results

Continuous. We regressed argument credibility ratings on the Race condition, ideology (centered), and the interaction. As can be seen in Table 5, there was a significant main effect of the Race condition such that the argument that the gene could account for racial differences in intelligence was considered more credible if the gene explained why Blacks are more intelligent than Whites ($M = 3.61$, $SD = 1.38$) than if the gene explained why Whites are more intelligent than Blacks ($M = 3.15$, $SD = 1.59$). There was also a main effect of ideology such that more liberalism was associated with lower credibility ratings.

There was also a statistically significant interaction between the Race condition and ideology. Consistent with predictions, simple slopes one standard deviation above and below the mean revealed that more liberal participants found the argument more credible if the gene explained why Blacks have higher IQ than Whites than if it explained why Whites have higher IQ than Blacks ($b = 1.04$), $t = 3.40$, $p = .001$. In contrast, more conservative participants found the argument equally credible regardless of whether it explained Blacks' or Whites' higher intelligence ($b = -0.12$), $t = -0.40$, $p = .693$.

Examining the interaction another way, in the Blacks Higher condition, ideology was unrelated to argument credibility ratings ($b = 0.11$), $t = 1.16$, $p = .248$. Both Liberals and Conservatives found the argument reasonably credible if the gene explained why Blacks have higher IQs than Whites. However, as predicted, in the Whites Higher condition, more liberal ideology predicted lower argument credibility ratings ($b = -0.22$), $t = -2.84$, $p = .005$.

Table 5

Argument credibility ratings regressed on Race condition (0: Whites Higher;

1: Blacks Higher), ideology, and the interaction

	β	*t*	*p*	95% CI	semipartial *r*
Condition	.15	2.13	.034	.04, .89	.15
Ideology	-.25	-2.91	.004	-.37, -.07	-.20
Condition x Ideology	.23	2.71	.007	.09, .58	.19

Categorical. We again created an ideological category variable (Conservatives $n = 56$, Moderates $n = 37$, Liberals $n = 109$) and analyzed the 2 (Race condition) x 3 (categorical ideology) interaction on credibility ratings in an ANOVA. There was no main effect of Race condition, nor ideology, but similar to the continuous results, there was a marginal interaction (see Table 6 and Figure 5).

All simple contrasts demonstrated the expected pattern of results. Specifically, Liberals rated the argument as significantly more credible in the Blacks Higher condition than the Whites Higher condition, $p = .005$, *Cohen's d* = .58. This difference was smaller and not significant for Moderates, $p = .400$, *Cohen's d* = .58, and slightly (but not significantly) in the opposite direction for Conservatives, $p = .498$, *Cohen's d* = .20. In the Blacks Higher condition, no groups significantly differed, *p*s > .134. In the Whites Higher condition, Liberals rated the argument as significantly less credible than Moderates, $p = .040$, and Conservatives, $p = .030$; Moderates and Conservatives did not differ, $p = .856$.

Table 6
Categorical ideology, Race condition (0: Whites Higher; 1: Blacks Higher), and the interaction on argument credibility

	F	*p*	η_p^2
Condition	1.90	.170	.010
Ideology	1.67	.192	.017
Condition x Ideology	2.44	.090	.024

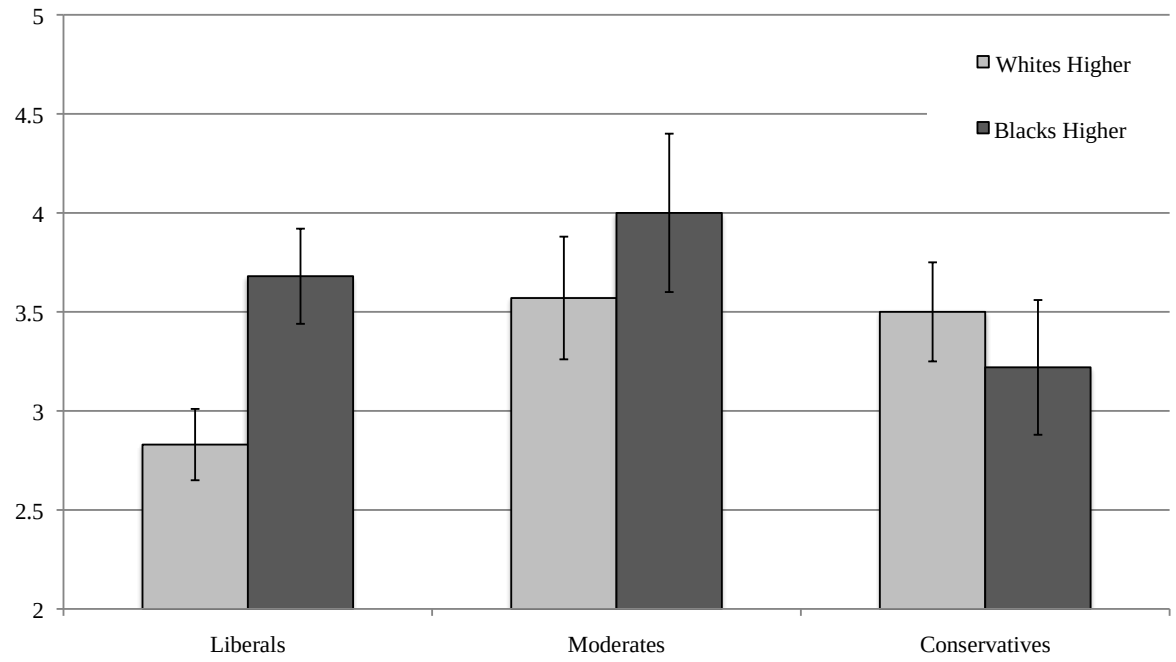

Figure 5. Argument Credibility by Race condition within each ideological group. Error bars are standard errors.

Moderated Mediation and Simple Mediations. We next tested whether equalitarianism mediated the interactive effect of Race condition and ideology on argument credibility, specifying ideology as the independent variable and Race condition as the moderator. As expected, higher equalitarianism mediated the interactive effect, 95% CI [-.24, -.07]. Simple mediations within each condition confirmed the results of the moderated mediation: equalitarianism did not mediate the (non)effect of ideology on argument credibility in the Blacks Higher condition, 95% CI [-.10, .10], but did mediate the influence of ideology on argument credibility in the Whites Higher condition, 95% CI [-.42, -.16]. As can be seen in Figure 6, higher equalitarianism fully accounted for the relationship between more liberal ideology and lower ratings of argument credibility in the condition in which Whites were said to have a higher average IQ than Blacks.

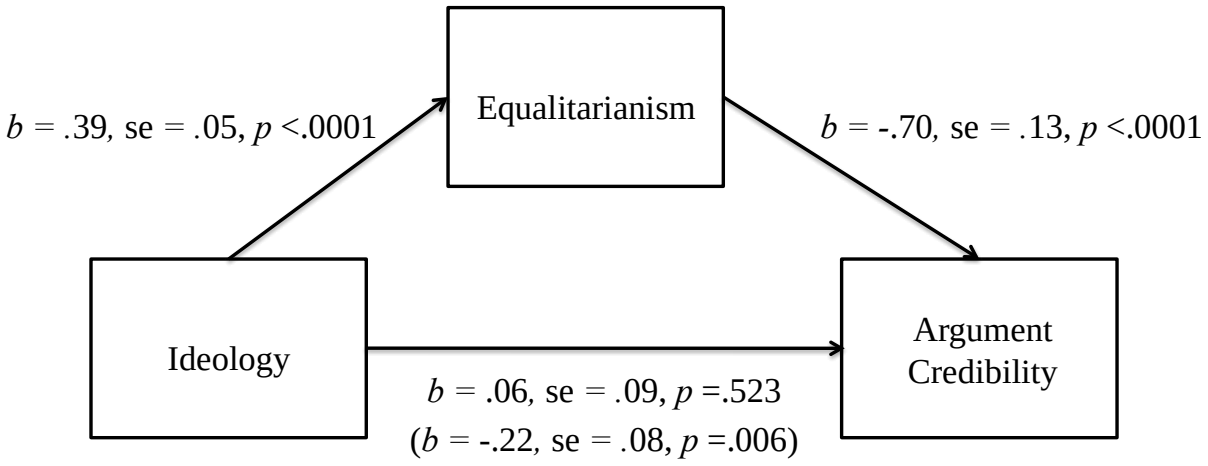

Figure 6. Influence of ideology (higher values = more liberal) on argument credibility, mediated by equalitarianism in the Whites Higher condition.

Discussion

Study 3 replicated the basic pattern of results of Study 2 with materials more resistant to potential Bayesian-type counterarguments. Specifically, it found that Liberals, but not Conservatives, were biased against genetic explanations for IQ differences between Whites and Blacks when Whites were said to outperform Blacks (on average).

These findings do not rule out an objection about pervasive racism. That is, one could argue that modern society is rife with racism and that therefore any explanation, any test, any policy, that appears to disfavor Blacks is likely to be unfair and racist. This does seem a plausible objection to some of our questions (e.g., "should this research be funded?"), but it seems less plausible to raise this objection to other questions (e.g., "Is Dr. Barry's argument logical?"). In the upcoming studies, we dropped the objectionable questions, and in Study 6, we seek to examine the plausibility of this alternate explanation with a within-subjects design.

Study 4

Study 4 sought to replicate and extend the results of Study 3 by including an Equal condition, in which it was said that a gene explained individual differences in intelligence, that

the gene was found in equal degrees in both Blacks and Whites, and that this explains why Blacks and Whites score similarly on intelligence tests. We added this condition to explore whether Liberals are motivated to reject the conclusion that Whites have higher IQs than Blacks, motivated to accept the conclusion that Blacks have higher IQs than Whites, or perhaps motivated to reject both but to different degrees relative to an Equal condition. Consistent with our hypothesis, we predicted that Liberals would find the Equal condition most credible, followed by Blacks higher and then last by Whites higher. Regarding Conservatives, our main prediction (as in previous studies) was that they would be more accepting of the argument when the privileged group (here, Whites) is said to have higher IQs than the victims' group (here, Blacks) relative to Liberals, though we did not have predictions for Conservatives regarding differences between conditions.

Method

Participants. U.S. participants (M_{age} = 36.96, *SD* = 12.34; 233 female; 341 White, 48 Asian, 34 Black, 28 Latino, 1 Middle Eastern) were recruited via MTurk. Because of the addition of the Equal condition, we aimed for 150 participants per condition (450 total); 452 participated. Participants were slightly above the midpoint on liberalism (M = 4.49) and equalitarianism (M = 4.70), and these were positively correlated, r = .54, p < .001.

Procedure. Methods were identical to Study 3 (equalitarian scale α = .92) with two exceptions. First, we used only the one question from Study 3 that was the least vulnerable to Bayesian counter-explanation: "Is Dr. Berry's argument logical?" We also added two additional items that should be minimally vulnerable to Bayesian counter-explanations: "How reasonable do you find Dr. Berry's argument?" and "How plausible is it that a gene could explain IQ

differences?", which were combined into an index of argument credibility, $\alpha = .91$. Second, an Equal condition was also included (pasted below).[9]

> *Researchers from a large research institution have discovered a gene that might explain intelligence similarities among Blacks and Whites. For many years, researchers have found that Whites and Blacks score similarly on certain intelligence tests. Tom Berry and his colleagues have tried to find genetic causes for intelligence scores, arguing that environmental factors cannot explain IQ. "There is simply no reasonable environmental explanation for IQ differences within races that we can find or that other researchers have proposed," Dr. Berry explained.*
>
> *Berry and his team think they have an answer. They isolated a gene on the 21st chromosome that is reliably associated with higher IQ scores. The gene polymorphism, called THS-56RR, was first found in 1999, but researchers didn't know that it was related to higher IQ scores. Berry and his team found that it was strongly related to IQ scores.*
>
> *They also found that the gene is equally common in American Whites and Blacks. "About 60-65% of both Whites and Blacks carry the gene," Dr. Berry said, "We really think this might explain similarities in intelligence scores between them."*

[9] There were a few other trivial changes that apply to Studies 4-7: Order of procedures was fixed rather than randomized (science article and DVs came first, then the equalitarianism scale, then demographics), some unrelated and unreported demographic questions were removed (e.g., relationship status, sexual orientation), and open-ended suspicion probes and comment boxes were added.

Results

Continuous. We regressed argument credibility ratings on the Race condition dummy coded with the Equal condition as the reference category, ideology (centered), and the interactions. As can be seen in Table 7, there were significant main effects for both dummy variables such that participants rated the arguments as less credible if the gene explained why Whites have higher IQ than Blacks or if the gene explained why Blacks have higher IQ than Whites (relative to the Equal condition). There was no main effect of ideology.

There was no significant interaction between the Blacks Higher dummy variable and ideology. But, as expected, there was a significant interaction between the Whites Higher dummy variable and ideology. Simple slopes at each level of the Whites Higher dummy variable revealed that in the condition in which Whites were said to have a higher IQ than Blacks, more liberal ideology predicted lower ratings of credibility (b = -.24), t = -3.76, p < .001. In the other conditions, ideology was unrelated to credibility ratings (b = -.03), t = -.41, p = .680.

Table 7
Argument credibility ratings regressed on dummy coded Race conditions, ideology, and the interactions

	β	*t*	*p*	95% CI	semipartial *r*
Blacks Higher	-.21	-3.95	<.001	-1.02, -.34	-.18
Whites Higher	-.23	-4.43	<.001	-1.10, -.42	-.20
Ideology	-.04	-0.42	.673	-.18, .12	-.02
Black x Ideology	.02	0.35	.724	-.17, .24	.02
White x Ideology	-.14	-2.05	.041	-.40, -.01	-.09

Categorical. We again created an ideological category variable for Conservatives (n = 125), Moderates (n = 103), and Liberals (n = 224), and analyzed the 3 (Race condition: Whites Higher, Blacks Higher, Equal) x 3 (categorical ideology) interaction on credibility ratings in an

ANOVA. There was a significant main effect of Race condition, a marginal main effect of ideology, and a significant interaction (see Table 8).

Table 8
Categorical ideology, Race condition (0: Whites Higher; 1: Blacks Higher), and the interaction on argument credibility

	F	*p*	η_p^2
Condition	9.06	<.001	.039
Ideology	2.49	.085	.011
Condition x Ideology	2.57	.037	.023

As can be seen in Figure 7, there were no differences between Liberals, Moderates, and Conservatives on argument credibility in the Equal or Blacks Higher conditions, *p*s > .344. In the Whites Higher condition, Conservatives and Moderates did not differ ($p = .648$), but Liberals rated the argument as less credible than both Conservatives ($p = .003$) and Moderates ($p = .002$). Among Conservatives and Moderates, only the Equal and Blacks Higher conditions significantly differed (*p*s = .010 and .025, respectively, *Cohen's ds* = .57-.58) such that participants rated the argument that a gene could explain *similarities* in intelligence among Blacks and Whites as more credible than when it was said to explain why Blacks have higher IQ than Whites. The Whites Higher condition fell between the other two conditions and did not significantly differ from either the Blacks Higher or the Equal condition for Conservatives or Moderates, *p*s > .117, *Cohen's ds* = .31-.33. Among Liberals, all conditions significantly differed. Liberals rated the argument as more credible in the Equal condition than the Blacks Higher condition, $p = .038$, *Cohen's d* = .36, and the Whites Higher condition, $p < .001$, *Cohen's d* = .69, and more credible in the Blacks Higher condition than the Whites Higher condition, $p = .016$, *Cohen's d* = .39.

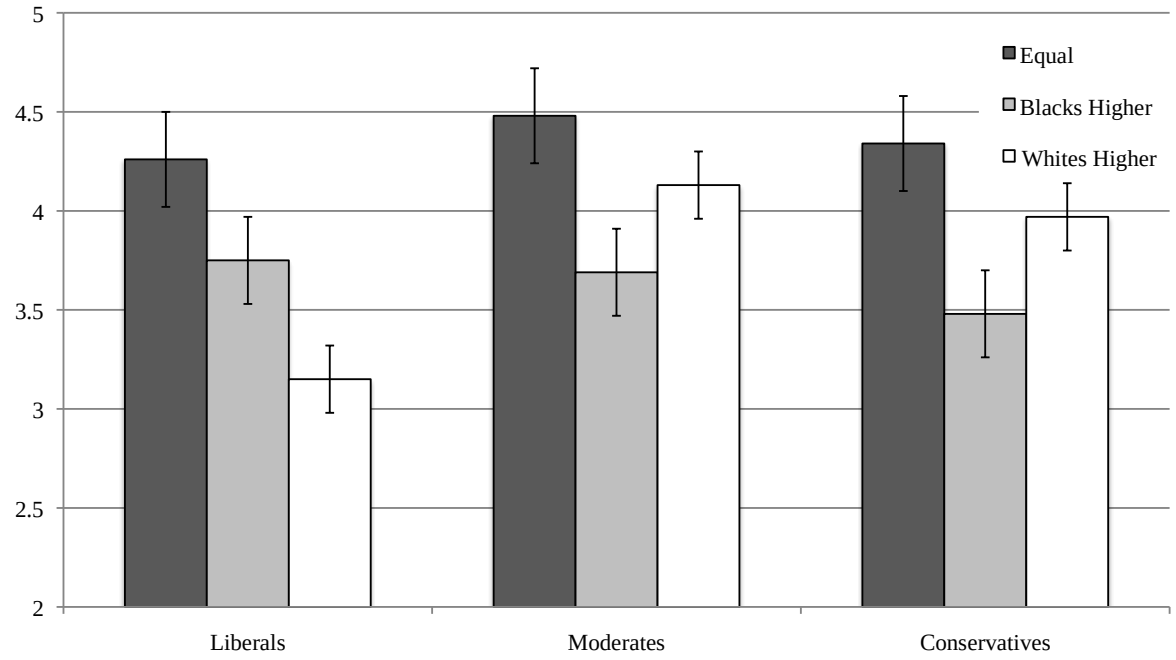

Figure 7. Argument credibility by Race condition within each ideological group. Error bars are standard errors.

Mediations. We next examined whether higher equalitarianism mediated the influence of ideology on argument credibility ratings within each Race condition. In the Equal and Blacks Higher conditions, equalitarianism did not mediate the (non-effect) of ideology on argument credibility ratings, 95% CI [-.12, .09] and 95% CI [-.10, .13], respectively. As can be seen in Figure 8, and consistent with all results thus far, in the Whites Higher condition, higher equalitarianism fully mediated the influence of more liberal ideology on lower argument credibility ratings, 95% CI [-.28, -.08].

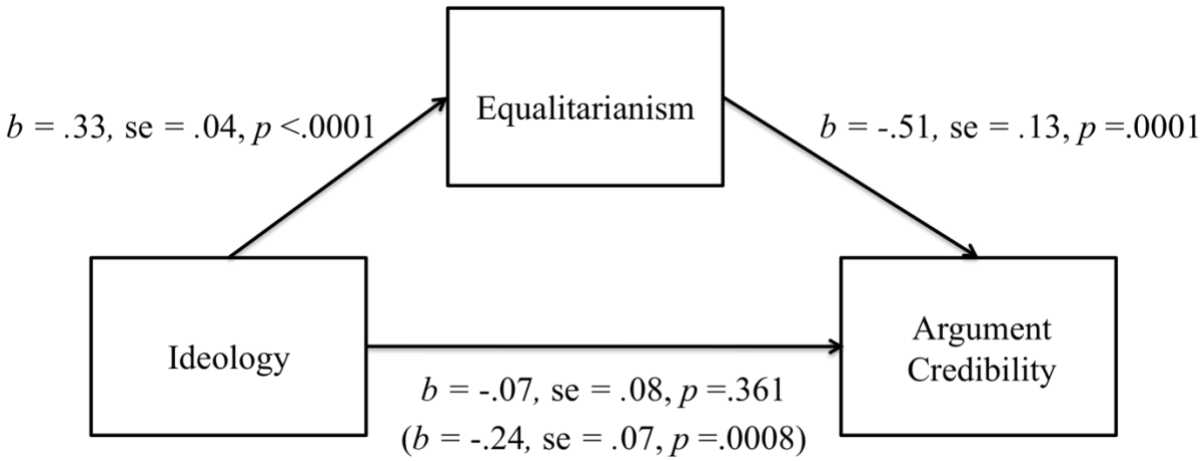

Figure 8. Influence of ideology (higher values = more liberal) on argument credibility, mediated by equalitarianism in the Whites Higher condition.

Discussion

Results were mostly consistent with predictions. As in Studies 2 and 3, ideological differences in argument credibility only emerged in the condition in which the privileged group was portrayed more favorably, such that Liberals found the Whites Higher argument less credible than Moderates and Conservatives. And higher equalitarianism mediated the influence of ideology on lower credibility ratings in the Whites Higher condition. Liberals, Moderates, and Conservatives did not significantly differ in their credibility ratings of the Blacks Higher or Equal arguments.

Also consistent with predictions (and Studies 2-3), Liberals found the Whites Higher argument less credible than the Equal and Blacks Higher arguments. Conservatives (and Moderates) showed no (significant) difference in credibility ratings between the Whites Higher and Blacks Higher arguments.

It may seem surprising that all ideological groups (Conservatives, Moderates, and Liberals) rated the Equal argument as more credible than the other arguments (though note, not significantly more than Whites Higher for Conservatives and Moderates). This suggests that all

groups have some preference for group equality, and perhaps simply Conservatives and Moderates are somewhat more willing to accept that that might not be the case (or Liberals are somewhat more unwilling), especially if those differences favor the privileged group. While apparently people across the political spectrum preferred to hear that the races have equal IQs, Liberals stood out in rejecting the message of higher average intelligence among Whites than Blacks. They were readier to accept that Blacks have higher average IQs than Whites, whereas Moderates and Conservatives showed a (non-significant) tendency toward the reverse.

Study 5

Study 5 explored biases when the targets are men (privileged group) and women (victims' group), instead of Blacks and Whites. Study 5 replicated the methods of Study 4 exactly, but manipulated sex rather than race. The objective psychometric facts would incline a purely data-driven person toward regarding the two as roughly equal, but it may be equally reasonable to conclude that men have slightly higher IQs than women or vice versa. Large-scale comparisons of intelligence test performance suggest that adult men and women have nearly equal intelligence, with the male mean being very slightly higher. Women outperform men in school, whereas men slightly outperform women on the SAT. There is also a substantial difference in variance, with more men at both extremes, and so someone exposed to more exemplars of either extreme might generalize mistakenly.

However, we expected that people would answer based more on their prejudices than on published IQ data. We predicted that Liberals in particular would evince bias such that they would evaluate the Men Higher argument as less credible than the Equal or Women Higher arguments, due to their protective concern for women as a victim class. Furthermore, we expected Liberals to rate the Men Higher argument as less credible than Conservatives, and that

higher equalitarianism would mediate the influence of more liberal ideology on lower credibility ratings in the Men Higher condition.

We were less confident and more uncertain about our predictions for Conservatives. But, we suspected that Conservatives might demonstrate a slight preference for the Equal argument (as in Study 4) over the other two arguments, and possibly also a slight preference for the Women Higher argument over the Men Higher argument (as in Study 2).

Method

Participants. U.S. participants (M_{age} = 36.42, *SD* = 11.52; 254 female; 353 White, 35 Black, 32 Asian, 31 Latino, 2 Middle Eastern) were recruited via MTurk. We again aimed for 450 participants (150 per condition); 454 participated. Participants were slightly above the midpoint on liberalism (*M* = 4.51) and equalitarianism (*M* = 4.78), and these were positively correlated, $r = .51$, $p < .001$.

Procedure. Methods were identical to Study 3 (equalitarian scale $\alpha = .90$; argument credibility, $\alpha = .91$) with one exception: we manipulated which sex was said to have a higher IQ (or that the sexes have roughly equal IQs) instead of which race.

Results

Continuous. We regressed argument credibility ratings on the Sex condition dummy coded with the Equal condition as the reference category, ideology (centered), and the interactions. As can be seen in Table 9, there was only a main effect of the Men Higher dummy variable, such that participants rated the Men Higher argument as less credible than the other arguments. No other effects were significant (including the expected Men Higher x ideology interaction).

Nonetheless, the simple slopes at each level of the Men Higher dummy variable revealed that in the condition in which Men were said to have a higher IQ than Women, more liberal ideology predicted marginally lower credibility ratings (b = -.12), t = -1.90, p = .058 (consistent with predictions). In the other conditions, ideology was unrelated to credibility ratings (b = -.07), t = -1.11, p = .269, (consistent with predictions, though note this relationship was trending in the same direction as the Men Higher condition, hence, the non-significant interaction).

Table 9
Argument credibility ratings regressed on dummy coded Sex conditions, ideology, and the interactions

	β	*t*	*p*	95% CI	semipartial *r*
Women Higher	-.04	-0.38	.474	-.43, .20	-.03
Men Higher	-.23	-4.38	<.001	-1.02, -.39	-.20
Ideology	-.09	-1.08	.280	-.20, .06	-.05
Women x Ideology	-.04	-0.58	.563	-.23, .13	-.03
Men x Ideology	-.04	-0.57	.573	-.23, .13	-.03

Categorical. We again created an ideological category variable for Conservatives (n = 132), Moderates (n = 82), and Liberals (n = 239), and analyzed the 3 (Sex condition: Men Higher, Women Higher, Equal) x 3 (categorical ideology) interaction on credibility ratings in an ANOVA. There was a significant main effect of Sex condition, a marginal main effect of ideology, and again unexpectedly, no significant interaction (see Table 10).

Table 10
Categorical ideology, Race condition (0: Men Higher; 1: Women Higher), and the interaction on argument credibility

	F	*p*	η_p^2
Condition	7.84	<.001	.034
Ideology	2.99	.051	.013
Condition x Ideology	0.30	.876	.003

As can be seen in Figure 9, consistent with predictions and all studies thus far, there were no differences between Liberals, Moderates, and Conservatives on argument credibility in the

Equal or Victims' Group (here, women) Higher conditions, *p*s > .107. In the Men Higher condition, there was a marginal main effect such that Liberals evaluated the argument as less credible than Conservatives, $p = .076$, weakly consistent with predictions (and consistent with all studies thus far and upcoming Study 7).

Liberals generally displayed the expected pattern of results: They rated the Equal condition as the most credible, followed by Women Higher, followed by the Men Higher. Liberals did not significantly differ between the Equal and Women Higher conditions, $p = .310$, *Cohen's d* = .17 (we did not have a strong prediction, here, but thought Liberals would rate the Equal condition as most credible). Consistent with predictions, Liberals rated the Men Higher argument as significantly less credible than both the Women Higher, $p = .005$, *Cohen's d* = .41, and Equal arguments, $p < .001$, *Cohen's d* = .59.

Conservatives also did not differ between the Equal and Women Higher conditions, $p = .865$, *Cohen's d* = .04, but unexpectedly, rated the Men Higher argument as marginally less credible than the Equal argument, $p = .076$, *Cohen's d* = .39, and significantly less credible than the Women Higher argument, $p = .048$, *Cohen's d* = .45. Moderates did not significantly differ between any of the sex conditions, *p*s > .185, *Cohen's ds* .03- .36, but demonstrated the same basic pattern as Conservatives and Liberals (i.e., Equal and Women Higher roughly equivalent, and both higher than Men Higher),

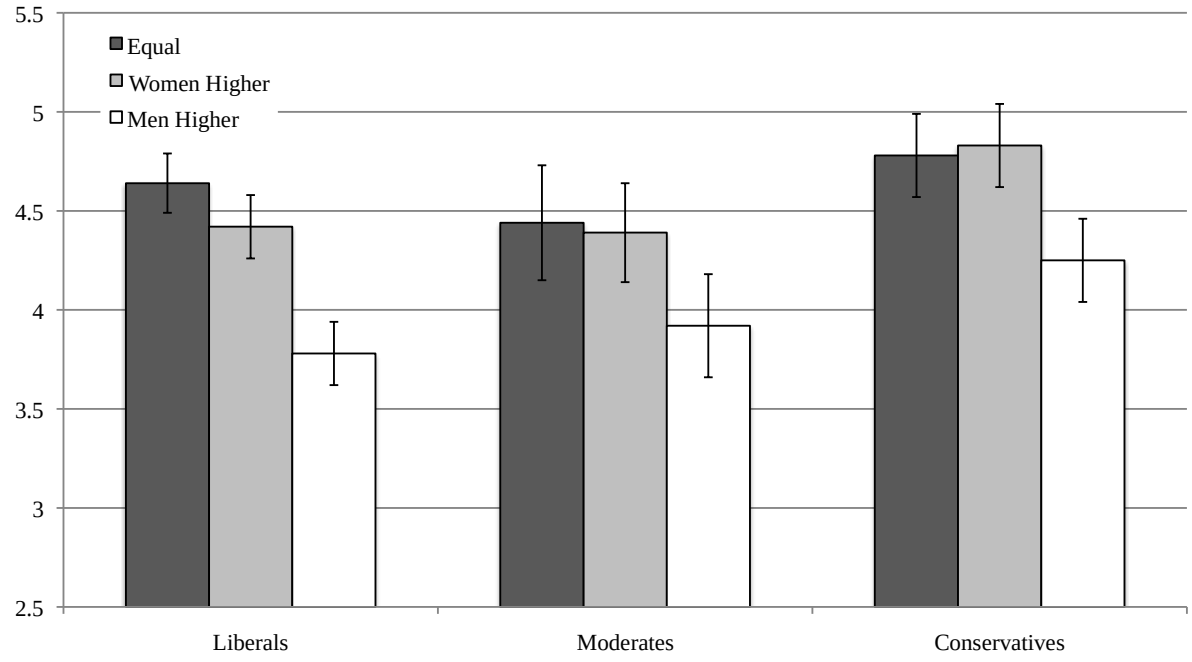

Figure 9. Argument credibility by Sex condition within each ideological group. Error bars are standard errors.

Mediations. We next examined whether equalitarianism scores mediated the influence of ideology on argument credibility ratings within each Sex condition. As expected, and consistent with Studies 2-4), in the condition in which the victims' group was said to be higher (Women, in this case), there was no significant mediation, 95% CI [-.06, .09].

As can be seen in Figure 10, and as expected, in the Men Higher condition, higher equalitarianism fully mediated the marginal influence of more liberal ideology on lower argument credibility ratings, 95% CI [-.23, -.02].

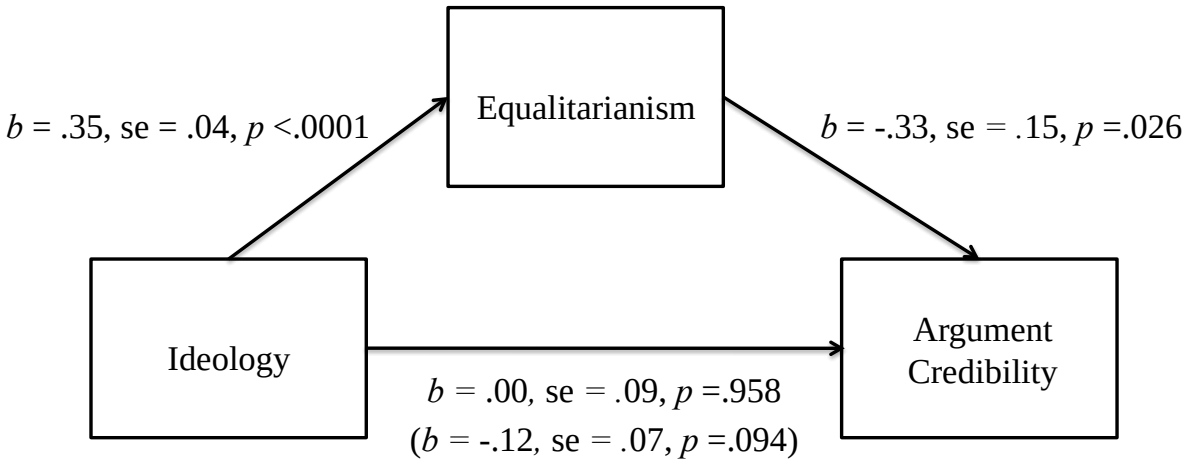

Figure 10. Influence of ideology (higher values = more liberal) on argument credibility, mediated by equalitarianism in the Whites Higher condition.

Unexpectedly (and unlike Study 4), in the Equal condition, equalitarianism mediated the influence of ideology on argument credibility ratings, 95% CI [.02, .16]; see Figure 11. The meaning of this significant mediation was not immediately obvious to us. Consistent with previous results, higher liberalism predicted higher equalitarianism, higher equalitarianism predicted stronger agreement in the Equal condition (not particularly surprising), but more liberal ideology predicted *lower* credibility ratings in the Equal condition (significantly so only *after* controlling for equalitarianism). Across all reported studies, Liberals generally found the vignettes about genetic differences less credible than Conservatives. Perhaps this mediation pattern reflects this. Higher liberalism is related to lower credibility scores, *but* Liberals also score higher in Equalitarianism than Conservatives and so want groups to be equal. Therefore, when the Equalitarian score is put into the mediation analysis, and thus Liberals' desire for equality is accounted for, the negative relationship between Liberalism and argument credibility becomes significant.

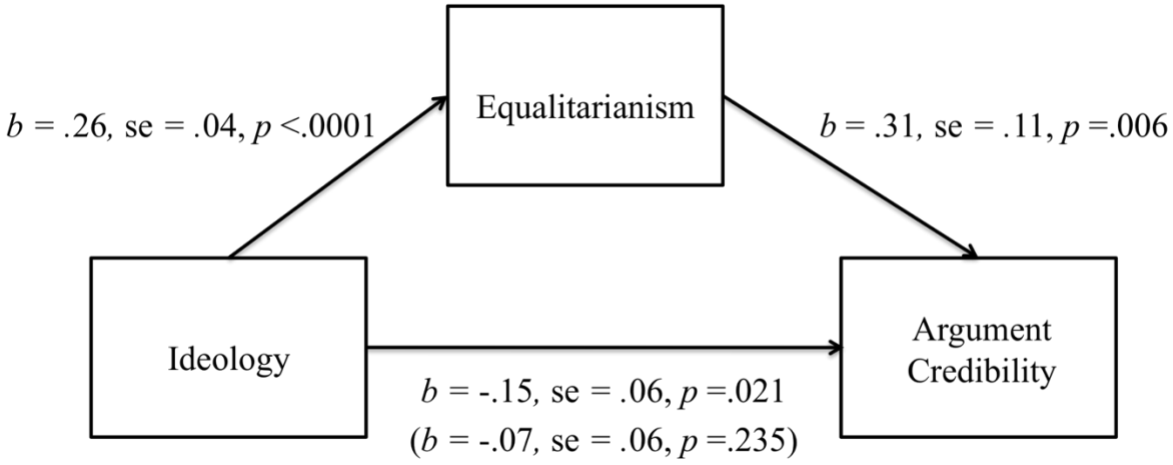

Figure 11. Influence of ideology (higher values = more liberal) on argument credibility, mediated by equalitarianism in the Equal condition.

Discussion

Results were partially consistent with predictions. As expected, Liberals appeared biased against arguments that suggested that a privileged group scores higher on a socially valued trait than a victims' group: They rated the Men Higher argument as less credible than the Women Higher and the Equal arguments. And as in Studies 2-4, ideological differences in credibility ratings emerged only in the condition in which the privileged group was said to be higher such that Liberals found the Men Higher argument (marginally) less credible than Conservatives, and this was mediated by higher equalitarianism scores.

As in Study 4, all ideological groups generally rated the Equal condition as the most credible. However, unlike Study 4, there were generally no differences in credibility ratings between the Equal condition and the Victims' Group (women) Higher condition, for any ideological group. Also, and surprisingly, all groups rated the Privileged (men) Higher condition as the least credible (significantly lower than the other two conditions for Liberals and Conservatives, but not for Moderates). In Study 4, on the other hand, Conservatives and Moderates showed a slight (but not significant) reverse effect such that they rated the Victims'

Group Higher (Black) condition as less credible than the Privileged Group Higher (White) condition.

So far, our results have consistently shown that Liberals are biased against information that suggests that a privileged group is higher in a socially valued trait than a victims' group relative to information that suggests that a victims' group is higher or that the two groups are equal. Our results have also consistently shown that higher liberalism scores predict lower credibility ratings of vignettes that suggest that suggest that a privileged group is higher in a socially valued trait than a victims' group, and this has been consistently mediated by scores on our equalitarianism scale.

However, the story for Conservatives is more mixed and more difficult to summarize. In this study, Conservatives' results looked like Liberals' results. However, in previous studies that used race instead of sex, Conservatives either evinced no bias or appeared to "favor" the Privileged Group (White) over the Victims' group (Black) (though they demonstrated the strongest preference for Equal). There are multiple possible explanations for Conservatives' pattern of results, such as that they are racially biased against Blacks and sexually biased against men; or that they believe that which race or sex is said to be higher is a valid input into argument credibility evaluations (see PRE principle); or that our results for Conservatives are false positives (given the inconsistency of the size and direction of these differences for Conservatives). Though we cannot address all these explanations assiduously in a few studies, and though the primary focus of this paper is on Liberal bias, which has been very consistent and predictable in all studies—we do explore them further in Studies 6 and 7.

Of course, there are possible objections to our interpretation of our results thus far, the two most serious are these: (1) Perhaps the results do not show that Liberals are biased but rather

that they are using appropriate Bayesian reasoning; and/or (2) Perhaps the results do not show that Liberals are biased but rather that they are appropriately skeptical of the powerful (privileged groups) when they (or anyone) claim that their group (Whites or Men) scores higher on a socially valued trait. One might contend that (1) powerful groups in society often forward narratives, including even putatively scientific narratives, that cast them in a favorable light while casting less powerful groups in a negative light and (2) Liberals are more sensitive to this reality than Conservatives.

These alternative hypotheses are difficult to rule out entirely, but we believe that a within-subjects design is the best tool to do so. Therefore, in Studies 6 and 7, we used such a design. We explain the logic in more detail below.

Study 6

Study 6 sought to replicate Study 4 and attempt to rule out possible alternative explanations by parlaying a within-subjects design. For the sake of simplicity, the Equal condition was dropped from Study 4. All other materials were identical. As discussed in the introduction, within-subjects designs are useful for studying bias because it allows us to ascertain whether participants *believe* they should answer both vignettes consistently. Every participant gets both vignettes. Some get the Whites Higher first; others get the Blacks Higher first. If they believe that they should rate them consistently, then they should anchor their second response to their first. This would suggest that they believe it is biased (or that it looks biased) to rate them differently. Bias would manifest as an *order effect* such that if participants see preference congruent information first, then they would rate both arguments higher (on average) than when preference incongruent information came first (because they are anchoring their second response to their first). On the other hand, if they don't think they should answer them consistently,

because they think it is rational to let which group is said to be higher influence their judgments (e.g., because it is right and rational to be skeptical of information that suggests that privileged groups are higher), then we should not see an order effect, and conclude that perhaps this is not a bias after all.

To see this more clearly, imagine that we used two vignettes describing identical research procedures. In one, a scientist concluded, "A squirrel is larger than a bear." And in the other, he/she concluded, "A bear is larger than a squirrel." And then we asked how credible each procedure was. We might not expect an order effect because people believe that it is rational not to answer these two statements consistently because one is clearly wrong and the other is clearly correct. Now imagine two vignettes in which either a very attractive or a very unattractive woman applied for an office job with the exact same résumé. And then we asked, "how qualified is the candidate?" Here, we might expect an order effect because participants know that it would be biased to rate the candidates differently, but they also might have a propensity to rate the attractive candidate as more qualified. In this case, we would see that when they evaluate the attractive candidate first, they would evaluate her as relatively qualified, and then upon viewing the exact same résumé from a less attractive candidate, evaluate her similarly as high; but if they evaluated the less attractive candidate first, they would evaluate her as relatively less qualified, and then upon viewing the exact same résumé from the more attractive candidate, evaluate her similarly as low. The presence of this kind of *order effect* can suggest that participants are not basing their evaluations on different rational criteria for the two different conditions, but rather that they believe it is unreasonable and biased to do so.

For Liberals, we expected an order effect such that they would evaluate both arguments more favorably if they first read the Blacks Higher argument and then the Whites Higher

argument than if the arguments were presented in reverse order. We also expected Liberals to rate both Race conditions more similarly within order condition than between order conditions, which would indicate that Liberals at least *believe* it is irrational to evaluate the two arguments differently, despite evincing this exact bias in the order effect.

For Conservatives, we expected a possible main effect of race (consistent with the trending but non-significant patterns in Studies 3-4) such that they would rate the Whites Higher argument somewhat more credible than the Blacks Higher argument. We did not have strong predictions about whether there would be an order effect for Conservatives, but we did think the presence or absence of it would be informative for understanding the underlying reasons for a possible race effect for Conservatives. If we did observe an order effect, this would provide evidence that Conservatives demonstrate a reverse bias as Liberals, with a preference for information that portrays high status groups favorably over information that portrays low status groups favorably (at least on race—their patterns were trending in the opposite direction for sex). If we did not observe an order effect, this might suggest that Conservatives have an intuition about average differences in IQ scores between races (Hunt, 2011; Mackintosh, 2011) and thus believe it is rational to treat these conditions differently.

Method

Participants. U.S. participants (M_{age} = 35.41, *SD* = 11.88; 421 female; 604 White, 83 Black, 75 Asian, 34 Latino, 5 Middle Eastern) were recruited via MTurk. We originally aimed for 400 participants (401 participated) and analyzed the results after 401. The Order condition x ideology interaction was trending in an informative direction, but was not statistically significant. We then conducted a second wave of recruitment a few days later for 400 more participants (800 total); 803 participated. After recruiting these additional participants, observed power = .79 for

the Order x ideology interaction. Participants were slightly above the midpoint on liberalism (M = 4.53) and slightly above the midpoint on equalitarianism (M = 4.70), and these were positively correlated, r = .56, p < .001.

Procedure. Methods were identical to Study 3 with one exception (equalitarian scale, α = .92; Blacks Higher credibility, α = .93; Whites Higher credibility, α = .94): it was conducted within subjects rather than between. Order of presentation was randomly assigned. After reading the first argument, they received the direction below before receiving the second:

> *In the article you just read, we altered the direction of the IQ gap that Dr. Berry was trying to explain and the results that Dr. Berry found. That is, we changed the article to say that Dr. Berry was trying to explain why Whites(/Blacks) score higher on certain IQ tests than Blacks(/Whites), and that he found that 93% of Whites(/Blacks) carry the intelligence gene whereas only 10% of Blacks(/Whites) carry it.*
>
> *In reality, Dr. Berry was trying to explain why Blacks(/Whites) score higher on certain IQ tests than Whites(/Blacks), and he found that 93% of Blacks(/Whites) carry the intelligence gene whereas only 10% of Whites(/Blacks) carry it.*
>
> *On the next page, you will read the actual article as it was originally published, and respond on the same three questions.*

Results

We first entered credibility ratings into a general linear model, with Order condition (between: Whites Higher First vs. Blacks Higher First), Race condition (within: Whites Higher vs. Blacks Higher), ideology (centered), and all interactions as predictors. As can be seen in Table 11, there was a significant main effect of Race condition such that the argument was perceived as somewhat more credible when the gene explained why Whites score higher on intelligence tests than Blacks (M = 3.70, SD = 1.72) than vice versa (M = 3.59, SD = 1.65). There was no main effect of order. There was a main effect of ideology such that more liberal ideology predicted lower argument credibility ratings. All two-way interactions and the three-way interaction were statistically significant.

Table 11
The influence of the Race Condition (Whites Higher credibility; Blacks Higher credibility), Order Condition (0: Whites Higher First; 1: Blacks Higher First), ideology, and the interactions on argument credibility

	F	p	η_p^2
Race condition	26.52	<.001	.033
Order condition	1.49	.223	.002
Ideology	3.49	.002	.026
Race x Order	8.78	.003	.011
Race x Ideology	11.93	<.001	.083
Order x Ideology	2.22	.039	.017
Race x Order x Ideology	5.22	<.001	.038
Conservatives Only			
Race condition	25.71	<.001	.113
Order condition	0.38	.540	.002
Race x Order	2.61	.108	.013
Moderates Only			
Race condition	3.83	.052	.021
Order condition	2.20	.140	.012
Race x Order	4.49	.035	.024
Liberals Only			
Race condition	12.71	<.001	.030
Order condition	5.47	.020	.013
Race x Order	0.11	.737	.000

As in previous studies, we broke the model down into categorical ideological groups. We reran the model among only Conservatives (n =204), among only Moderates (n = 183), and among only Liberals (n =414) with Order condition (between: Whites Higher First vs. Blacks Higher First), Race condition (within: Whites Higher vs. Blacks Higher), and the two-way interaction as predictors. As predicted, and as can be seen in Figure 12, Liberals displayed an order effect such that they rated both arguments (averaged) as more credible if they read the Blacks Higher argument first and then the Whites Higher (M = 3.63, SD = 1.63) than when the arguments were presented in the reverse order (M = 3.26, SD = 1.65). However, Liberals also display a main effect of race such that they rated the Blacks Higher argument as more credible (M = 3.51, SD = 1.64) than the Whites Higher argument (M = 3.37, SD = 1.67). As can be seen in Figure 12, simple contrasts revealed that Liberals rated both the Blacks Higher argument, p = .028, and the Whites Higher argument, p = .020, as more credible in the Blacks Higher First condition than the Whites Higher First condition. Liberals also rated the argument more credible in the Blacks Higher condition than the Whites Higher condition regardless of which argument came first, ps < .023. Note that magnitude of the difference between the two Order conditions within each Race condition was more than double the magnitude of the difference between each Race condition within each Order condition. In other words, within each order condition, Liberals evaluated the Blacks Higher and Whites Higher arguments more similarly to each other than how similarly they rated the exact same Blacks Higher argument across order conditions and how similarly they rated the exact same Whites Higher argument across order conditions.

Among Conservatives, there was only a significant main effect of Race condition, such that Conservatives evaluated the argument as more credible in the Whites Higher condition (M = 4.25, SD = 1.75) than in the Blacks Higher condition (M = 3.67, SD = 1.69), somewhat similarly

to Studies 3-4, which found trending but non-significant effects in the same direction. The Order effect and interaction were not significant (see Table 11). As can be seen in Figure 12, simple contrasts revealed that Conservatives rated the argument more credible in the Whites Higher condition than the Blacks Higher regardless of which argument came first, *p*s < .014, and the order condition had no significant influence on credibility ratings for either the Blacks Higher or Whites Higher argument, *p*s > .178.

Among Moderates, there was a marginal main effect of Race condition, such that they evaluated the argument as more credible in the Whites Higher condition (M = 3.82, SD = 1.65) than the Blacks Higher condition (M = 3.68, SD = 1.63), similar to Conservatives. The Order condition was not significant, but the interaction was. As can be seen in Figure 12, simple contrasts revealed that Moderates rated the Whites Higher argument as more credible when they saw it second than when they saw it first, p = .044, but evaluated the Blacks Higher argument as equally credible regardless of order of presentation, p = .241. When the Whites Higher argument was presented first, Moderates rated the Blacks Higher and Whites Higher arguments roughly equally, p = .910, but when the Blacks Higher argument was presented first, Moderates rated the Whites Higher argument as more credible than the Blacks Higher argument, p = .004.

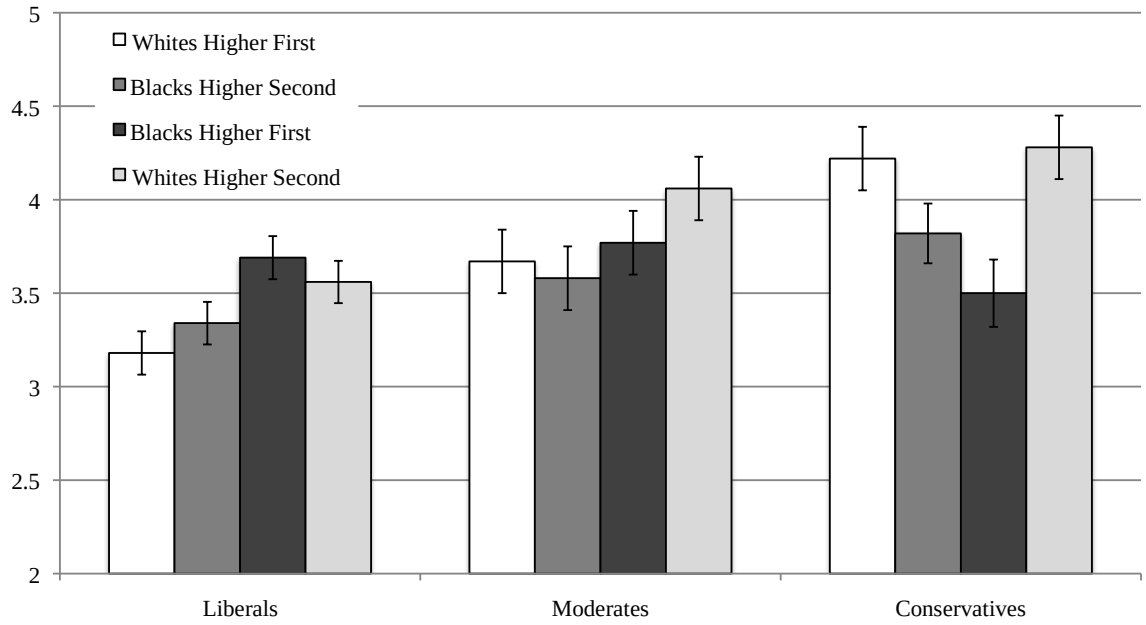

Figure 12. Argument credibility by Race and Order conditions within each ideological group. Notes. Within each ideological group, the center two bars are credibility ratings of the Blacks Higher argument and the outer two bars are ratings of the Whites Higher argument; the left two bars are ratings within the condition in which the Whites Higher argument came first and the right two bars are ratings within the condition in which the Blacks Higher argument came first.

Moderated Mediations and Mediations. We next tested whether equalitarianism mediated the interactive effect of Order condition and ideology on argument credibility (within each Race condition), specifying ideology as the independent variable and Order condition as the moderator. For Whites Higher credibility ratings, equalitarianism mediated the interactive effect, 95% CI [-.21, -.11]. Unexpectedly, there was also a smaller but significant moderated mediation for argument credibility in the Blacks Higher condition, 95% CI [-.12, -.02].

We then ran simple mediations within each Order condition. Consistent with the results of the moderated mediation, equalitarianism mediated the effect of ideology on Whites Higher argument credibility when they read the Whites Higher argument first, 95% CI [-.27, -.11]. As can be seen in Figure 13, higher equalitarianism accounted for the relationship between more

liberal ideology and lower ratings of argument credibility when Whites were higher and that condition came first.

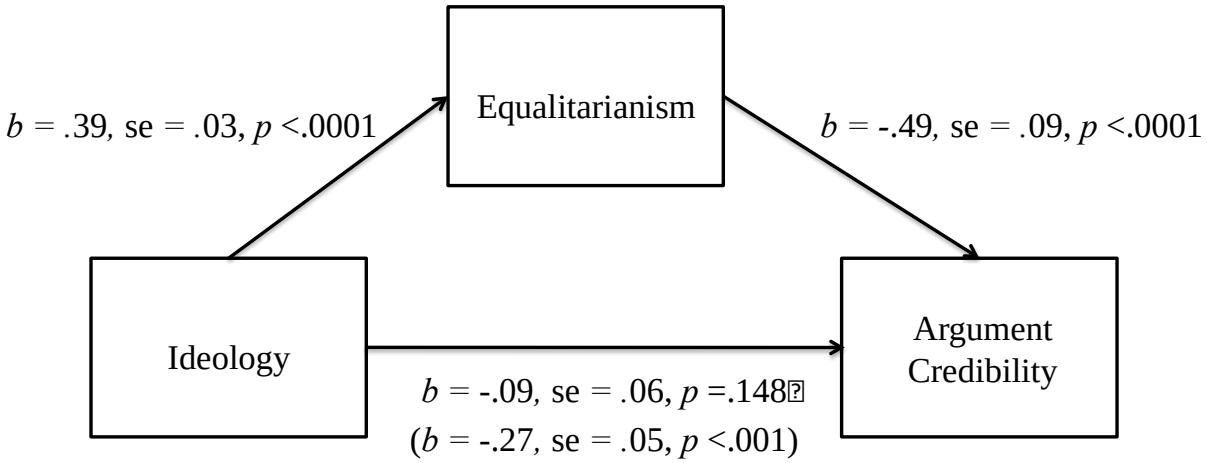

Figure 13. Influence of ideology (higher values = more liberal) on argument credibility, mediated by equalitarianism in the Whites Higher condition when this argument came first.

These relationships were somewhat smaller, but generally similar when they read the Whites Higher argument second, 95% CI [-.19, -.07], such that higher equalitarianism mediated the relationship between more liberalism and lower ratings of argument credibility that Whites are higher (see Figure 14).

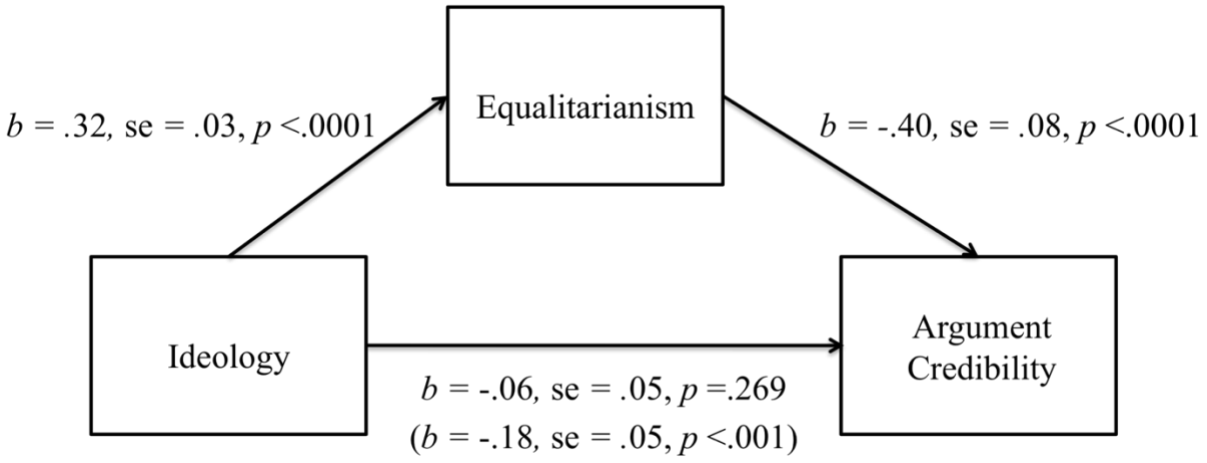

Figure 14. Influence of ideology (higher values = more liberal) on argument credibility, mediated by equalitarianism in the Whites Higher condition when this argument came second.

On the Blacks Higher outcome, equalitarianism did not mediate ideology on argument credibility when the argument came first 95% CI [-.12, .00], but did when the argument came second 95% CI [-.17, -.01]. As can be seen in Figure 15, higher equalitarianism fully accounted for the relationship between more liberal ideology and *lower* ratings of argument credibility when Blacks were said to be higher and that argument came second.

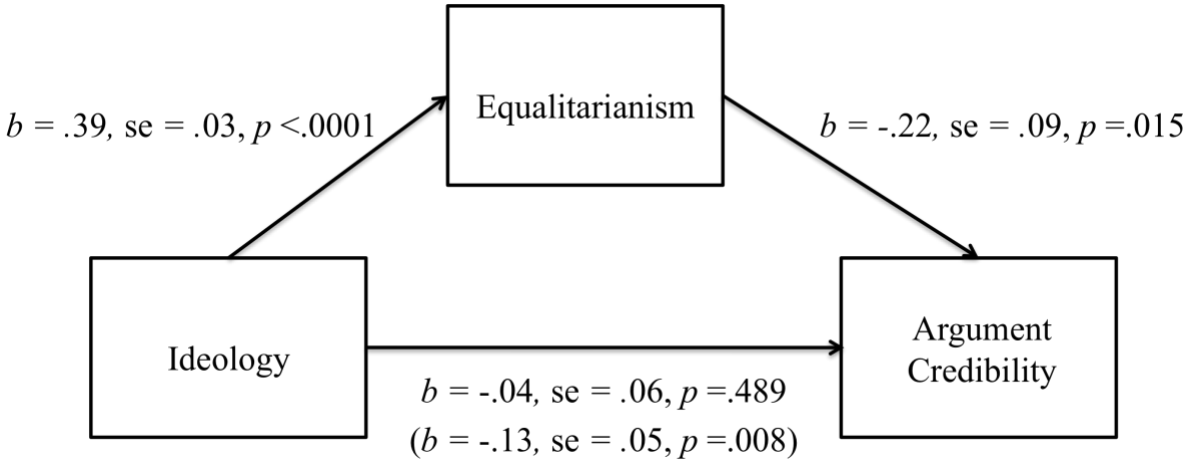

Figure 15. Influence of ideology (higher values = more liberal) on argument credibility, mediated by equalitarianism in the Blacks Higher condition when this argument came second.

Discussion

For Liberals, the results were almost exactly consistent with predictions derived from equalitarianism. They evinced an order effect such that they rated both arguments as more credible when they received the preference consistent argument (Blacks Higher) first than when the arguments were presented in reverse order. Within each order condition, there were only small differences between the Blacks Higher and Whites Higher arguments (though, they did consistently rate the Blacks Higher argument as slightly more credible), whereas there were larger differences in argument credibility ratings for the identical Blacks Higher and Whites Higher arguments between order conditions. This suggests that Liberals believe that the race of the higher IQ group should not (much) affect their assessment of the argument's credibility.

However, despite this, our previous results and the order effect in this study show that the race of the higher group does in fact affect their rating. This supports our contention that the difference in credibility ratings between race conditions is the result of motivated cognition and constitutes a bias. Furthermore, and consistent with previous results, more liberal opposition to the Whites Higher argument was again mediated by higher equalitarianism.

Unexpectedly, we also found that higher equalitarianism mediated the relationship between more liberal ideology and *lower* ratings of argument credibility when Blacks were said to be higher and that argument came *second*. It might seem surprising at first that Liberals found it less credible that Blacks have higher IQ than Conservatives did, but it appears consistent with our theory (though, we did not predict it). When the Blacks Higher argument came second, participants had already read the Whites Higher argument (which Liberals had evaluated as relatively non-credible). This lowered the anchor point for Liberals (compared to Conservatives). When Liberals rated the Whites Higher argument as non-credible, presumably in an effort to maintain consistency, they then rated the second argument as less credible than did Conservatives, even though it favored a victims' group (and, indeed, in the Blacks Higher first condition, Liberals rated the Blacks Higher argument as somewhat [though not significantly] more credible than did Conservatives). Therefore, equalitarianism mediated the relationship between liberal ideology and rating the Blacks Higher argument as less credible when participants had already read the Whites Higher vignette.

For the first time, Conservatives displayed a significant effect of Race condition, such that they evaluated the Whites Higher argument as more credible than the Blacks Higher argument. Though this effect was not significant for Conservatives in Studies 3 and 4, the difference was in the same direction in those studies, and the difference was fairly large in the

present study, so this is likely to be a real and replicable effect for Conservatives. The meaning of this difference is not obvious. Perhaps one's first reaction to the result would be to accuse Conservatives of anti-Black bias. And this is certainly possible; however, other results are not so consistent with an anti-Black bias interpretation. First, in previous studies, Conservatives rated the Equal condition as slightly more (though not statistically significantly more) credible than the Whites Higher condition, which is hard to square with a posited anti-Black bias (why then would they not rate the argument that said Whites score higher than Blacks the most favorably?). Still, they did rate Blacks Higher as the least credible, which, one might argue, does suggest *a kind of anti-Black bias.* But second, Conservatives did not display an order effect, suggesting that they thought it was rational (or defensible) to rate the stories differently. And this is congruent with current psychometric data, which show that Whites score somewhat higher than Blacks on intelligence tests, on average (Hunt, 2011; Mackintosh, 2011; though note, the underlying reasons for this difference are still debated). Therefore, especially considering they displayed no order effect, one could argue that Conservatives' credibility ratings are rational from a Bayesian perspective. One better way to test explanations for the Conservatives' results is to choose a trait on which Whites and Blacks score roughly equally or where differences are ambiguous. If Conservatives rate a Whites Higher condition as more credible in such an experiment, it would support an anti-Black bias hypothesis. In the current paper, we were more interested in Liberals, so we did not run such tests and can therefore only make suggestions and theory-based arguments. Future studies should fill this lacuna.

Study 7

In Study 6, we provided evidence of Liberal bias against information that appears to favor a privileged group over a victims' group because Liberals demonstrated an order effect,

which weakens the force of Bayesian objections. In the current study, we extended the investigation further by using the same design but different examples of privileged and victims' groups: men and women. All methods were identical to Study 6 except instead of manipulating which race was said to perform better on certain IQ tests, we manipulated which sex was said to perform better on certain IQ tests (men vs. women). We again predicted an order effect for Liberals such that they would rate both arguments are less credible when they read the Men Higher (privileged group) argument first than when they read the Women Higher (victims' group) argument first. We also expected that equalitarianism would mediate the influence of more liberal ideology on lower argument credibility ratings that men are more intelligent than women when this argument came first. We did not have strong predictions about Conservatives. We guessed that they would roughly match Liberals' response pattern for the Sex condition (as they did in Study 3), but we did not know whether to expect an order effect for Conservatives.

Method

Participants. U.S. participants (M_{age} = 35.84, *SD* = 12.05; 417 female; 625 White, 62 Black, 67 Asian, 49 Latino, 2 Middle Eastern) were recruited via Mturk. We again aimed for 800 participants total; 805 participated. Participants were slightly above the midpoint on liberalism (*M* = 4.54) and slightly above the midpoint on equalitarianism (*M* = 4.72), and these were positively correlated, $r = .57$, $p < .001$.

Procedure. This study was preregistered: http://aspredicted.org/blind.php?x=rz2fv9. We followed this preregistration exactly, with the exception that we said that we would report the results for Moderates in the supplemental materials only, but instead we report them in the main text as we did in previous studies (though note, we had no a priori predictions about Moderates, nor are they the focus of this paper). Methods were identical to Study 6 (equalitarianism scale α

= .92; Women Higher credibility α = .92; Men Higher credibility α = .92) with one exception: sex was manipulated instead of race (i.e., the words "Whites" and "Blacks" were swapped with the words "men" and "women").

Results

We first entered credibility ratings into a general linear model, with Order condition (between: Men Higher First vs. Women Higher First), Sex condition (within: Men Higher vs. Women Higher), ideology (centered), and all interactions as predictors. As can be seen in Table 12, there was a significant main effect of Sex condition such that the argument was perceived as somewhat more credible when the gene explained why women score higher on intelligence tests than men (M = 4.15, SD = 1.50) than vice versa (M = 3.90, SD = 1.53). There was no main effect of order. There was a main effect of ideology such that more liberal ideology predicted lower argument credibility ratings. All two-way interactions were significant or marginal. There was no significant three-way interaction.

To dissect the three-way interaction further, we again reran the model among only Conservatives (n =229), only Moderates (n =163) and only Liberals (n =413) with Order condition (between: Men Higher First vs. Women Higher First), Sex condition (within: Men Higher vs. Women Higher), and the two-way interaction as predictors. These results are presented in Table 12 and Figure 16.

Among Liberals, there was a significant main effect of Sex condition, such that Liberals evaluated the argument as more credible when the gene explained why women score higher on some intelligence tests than men (M = 4.04, SD = 1.55) than vice versa (M = 3.65, SD = 1.56). As predicted, there was also a significant effect of Order condition such that Liberals evaluated the arguments as more credible when they read the Women Higher argument first (M = 4.09, SD

= 1.47) than when they read the Men Higher argument first (*M* = 3.62, *SD* = 1.59). There was also a marginal interaction such that the difference between the Sex conditions was larger when participants read the Men Higher argument first. As can be seen in Figure 16, simple contrasts revealed that Liberals who read the Women Higher argument first rated both the Women Higher argument, $p = .010$, and the Men Higher argument, $p < .001$, as significantly more credible than those who read the Men Higher argument first. Liberals also rated the Women Higher argument as more credible in both order conditions, $p < .001$. Note that the magnitude of the difference in credibility ratings between the Men Higher condition and Women Higher condition when each argument came first was nearly ten times the difference between these conditions than when each came second, which demonstrates a clear attempt to anchor the second judgment to the first.

Among Conservatives, there was a significant main effect of Sex condition, such that Conservatives evaluated the argument as more credible when the gene explained why women score higher on some intelligence tests than men (*M* = 4.42, *SD* = 1.33) than vice versa (*M* = 4.28, *SD* = 1.39). Conservatives displayed similar patterns in Study 5 and Study 2 (though it was only significant in Study 5). As in Study 6, the Order condition was not significant for Conservatives. Unexpectedly, there was a significant two-way interaction between Sex and Order, such that there was only a significant effect of Sex in the Men Higher First condition. When Conservatives read the Men Higher argument first and then the Women Higher argument, they rated the Women Higher argument as significantly more credible, $p = .001$, than the Men Higher argument. When Conservatives read the Women Higher argument first and then the Men Higher argument, they rated the arguments as equally credible, $p = 1.00$. There were no significant differences in credibility ratings in the Men Higher or Women Higher conditions between order, *p*s > .247. Across Studies 2, 5, and 7, Conservatives demonstrated a somewhat

consistent pattern such that they rated the Women Higher argument as either more credible than the Men Higher argument, or rated the arguments as equally credible. Conservatives never rated the Men Higher argument as more credible (nor did any other group).

Among Moderates, neither main effects nor the interaction approached significance, *p*s > .658. Moderates rated all arguments virtually equally credible. Thus, across the three studies that manipulated sex, Moderates consistently rated either the Women Higher argument as more credible than the Men Higher argument, or rated the two arguments as equally credible (similar to Conservatives).

Table 12
The influence of the Sex Condition (Men Higher credibility; Women Higher credibility), Order Condition (0: Men Higher First; 1: Women Higher First), ideology, and the interactions on argument credibility

	F	*p*	η_p^2
Sex condition	36.17	<.001	.044
Order condition	1.30	.255	.002
Ideology	4.47	<.001	.033
Sex x Order	6.70	.010	.008
Sex x Ideology	3.02	.006	.022
Order x Ideology	2.07	.055	.015
Sex x Order x Ideology	0.72	.631	.005
Conservatives Only			
Sex condition	5.44	.021	.023
Order condition	0.10	.747	.000
Sex x Order	5.44	.021	.023
Moderates Only			
Sex condition	0.20	.659	.001
Order condition	0.01	.938	.000
Sex x Order	0.02	.880	.000
Liberals Only			
Sex condition	61.70	<.001	.131
Order condition	11.28	.001	.027
Sex x Order	3.09	.079	.007

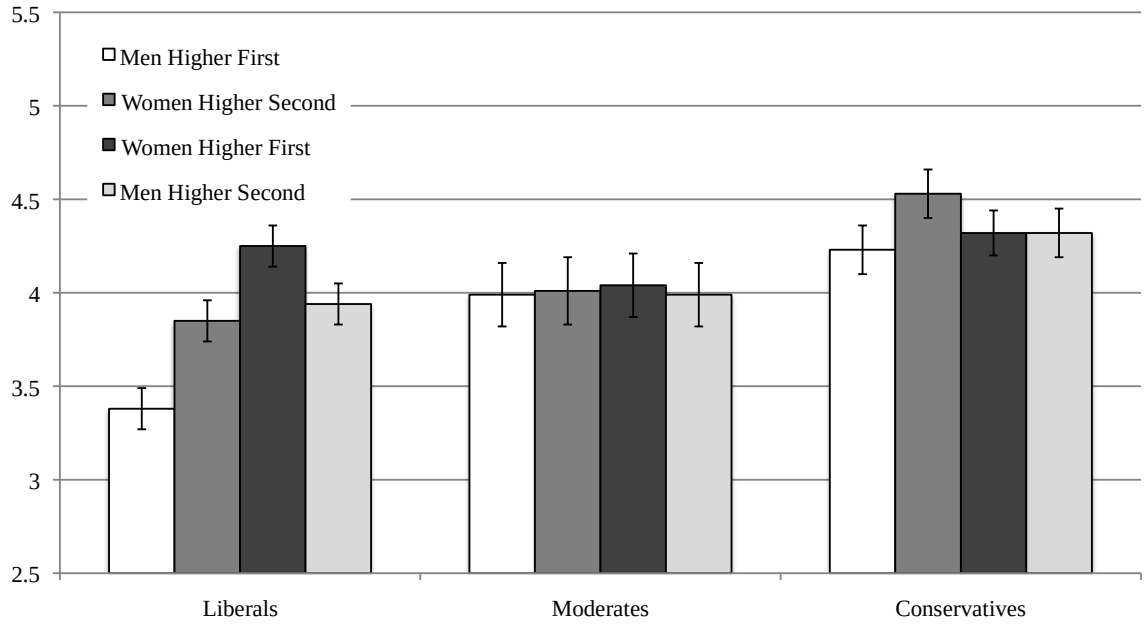

Figure 16. Argument credibility by Sex and Order conditions within each ideological group. Notes. Within each ideological group, the center two bars are credibility ratings of the Women Higher argument and the outer two bars are ratings of the Men Higher argument; the left two bars are ratings within the condition in which the Men Higher argument came first and the right two bars are ratings within the condition in which the Women Higher argument came first.

Moderated Mediations and Mediations. We next tested whether equalitarianism mediated the interactive effect of Order condition and ideology on argument credibility (within each Sex condition), specifying ideology as the independent variable and Order condition as the moderator. For Men Higher argument credibility, equalitarianism mediated the interactive effect, 95% CI [-.14, -.05]. There was no significant moderated mediation for Women Higher argument credibility, 95% CI [-.04, .04].

To model these interactions simply, we then tested simple mediations within each Order condition. As predicted, equalitarianism mediated the influence of ideology on Men Higher argument credibility when they read the Men Higher argument first, 95% CI [-.19, -.07]; see

Figure 17. Confirming the results of the moderated mediation, equalitarianism did not mediate the effect of ideology on Men Higher argument credibility when they read the Men Higher argument second, 95% CI [-.11, .03].

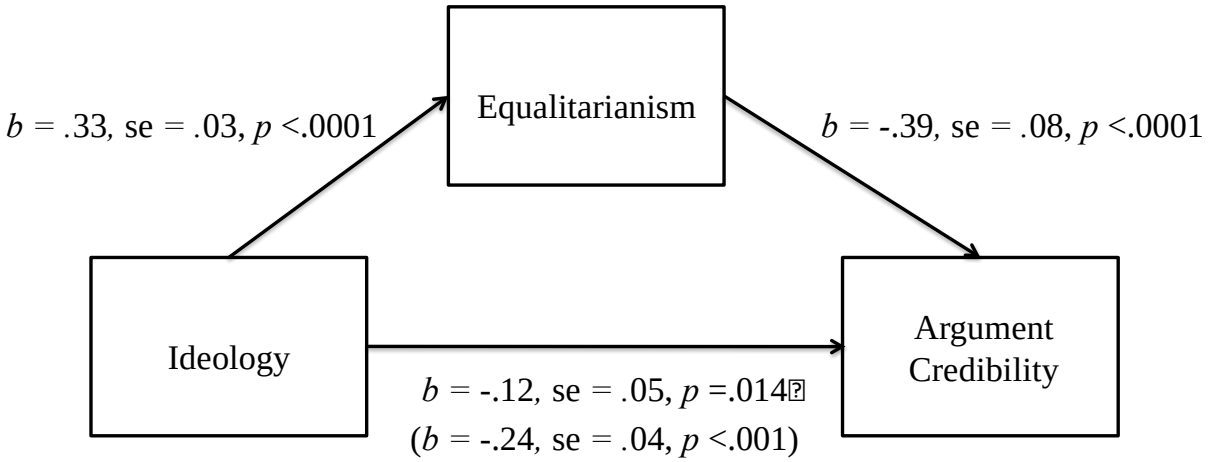

Figure 17. Influence of ideology (higher values = more liberal) on argument credibility, mediated by equalitarianism in the Men Higher condition when this argument came first.

As expected, on the Women Higher outcome, equalitarianism did not mediate ideology on argument credibility in either Order condition, Women Higher First 95% CI [-.04, .09], Men Higher First 95% CI [-.08, .04].

Discussion

Liberals displayed the expected pattern of results exactly. Specifically, they again demonstrated an order effect such that they evaluated both arguments more favorably when they received the preference congruent argument (Women Higher) first than when they received the preference incongruent argument (Men Higher) first. Even so, they still consistently rated the Women Higher argument as more credible than the Men Higher argument in both order conditions, particularly so when they read the Men Higher argument first (i.e., they were willing to significantly adjust their credibility rating up when the conclusions changed and the argument said women were actually higher). This suggests that Liberals might think it is acceptable (and

rational) to permit the direction of the sex difference to influence their judgments somewhat, though not to the extent that sex actually does influence their judgments as demonstrated by the roughly 2-3 times greater difference in credibility ratings between the arguments when each was presented first than the differences between the arguments within each order condition. Also as predicted, and consistent with all previous results, higher equalitarianism mediated the influence of more liberal ideology on lower argument credibility ratings in the Privileged Group (men) Higher condition.

Again, results were somewhat less clear for Conservatives. Differences were generally small. Participants who read the Women Higher argument first rated both arguments virtually identically. Participants who read the Men Higher argument first demonstrated a small trend similar to the pattern for Liberals (and the previous studies) such that they adjusted their rating up somewhat when the argument conclusions changed and said women are actually higher. However, there was no main effect for order, which would indicate a bias.

Moderates rated all arguments virtually identically regardless of Sex condition or Order of presentation.

A possible limitation of these within-subjects studies is that the instruction between the two arguments may have made participants suspicious of the experimenter, thus influencing their evaluations. It seems that if this were the case, participants would have generally evaluated the second argument less favorably than the first (suspicion of the argument should make the argument seem less credible), yet we did not observe this pattern in either Study 6 or 7, thus we believe this is unlikely. Nonetheless, we hope readers note this limitation in their evaluations of these studies, and we hope future researchers will try other “cover stories” in within-subjects designs to rule this possibility out more thoroughly.

Results Summary and Meta-analyses

Table 13 below summarizes the results of all simple contrasts (with effect sizes) between experimental conditions among Conservatives, Moderates, and Liberals. The table lists which group was marginally or significantly *unfavored* by each ideological group (relative to the favored group). By unfavored, we mean that participants rated vignettes that said that this group was higher on a socially valued trait (generally, IQ) as less credible than the comparison condition (either groups are equal or the other group was higher). Although the term "unfavored" is slightly clumsy, it allowed us to condense a great deal of information into one table.

In general, neither Conservatives nor Liberals appeared to desire that one group perform better than another group (on a socially valued trait). Rather, both seemed to prefer that both groups be equal. However, relative to Conservatives, and relative to information that portrayed victims' groups more favorably, Liberals were averse to information that portrayed privileged groups more favorably than victims' groups. This is the clear and consistent pattern observed in Table 13. But, and importantly, Liberals didn't seem biased *for* information that favored victims' groups (Blacks, women). Instead, our results support our contention that Liberals prefer that all demographic groups be roughly similar on socially valued traits. However, if demographic groups are not similar, Liberals seem particularly averse to the notion that the privileged group would have a more desirable quality. Despite some inconsistencies across studies for both Moderates and Conservatives, the meta-analyses below allowed us to identify some likely real patterns for these groups.

Table 13
Simple contrasts and Cohen's d between indicated binary conditions within each categorical ideological group for each experimental study

Study	**Bias Effect**	**Ideological Group**								
		Conservatives			Moderates			Liberals		
		Unfavored Group	*p*	*d*	Unfavored Group	*p*	*d*	Unfavored Group	*p*	*d*
Study 2	Sex Condition			**.44**			.17	**Men**	**	**.64**
Study 3	Race Condition			**-.20**			**.28**	**Whites**	**	**.58**
Study 4	Race (White/Black)			**-.33**			**-.31**	**Whites**	*	**.39**
	Race (Equal/Black)	**Blacks**	*	**-.58**	**Blacks**	*	**-.57**	**Blacks**	*	**-.36**
	Race (Equal/White)			**.26**			**.24**	**Whites**	*	**.69**
Study 5	Sex (Men/Women)	**Men**	*	**.45**			**.33**	**Men**	**	**.41**
	Sex (Equal/Women)			.04			-.03			-.17
	Sex (Equal/Men)	**Men**	+	**.39**			**.36**	**Men**	***	**.59**
Study 6	Race Condition	**Blacks**	***	**-.34**	Blacks	+	-.09	Whites	***	.08
	Order Condition			-.08			**.21**	**Whites**	*	**.22**
	Race Within BH1	**Blacks**	***	**-.50**	Blacks	**	-.17	Whites	*	.08
	Race Within WH1	**Blacks**	*	**-.22**			-.01	Whites	**	.10
	BH Between Order			-.19			.12	**Whites**	*	**.21**
	WH Between Order			.03	**Whites**	*	**.30**	**Whites**	*	**.23**
Study 7	Sex Condition	Men	*	.10			.03	**Men**	***	**.25**
	Order Condition			-.04			.01	**Men**	*	**.31**
	Sex Within WH1			.00			.03	**Men**	***	**.21**
	Sex Within MH1	**Men**	**	**.21**			.01	**Men**	***	**.29**
	WH Between Order			-.16			.02	**Men**	**	**.26**
	MH Between Order			.06			.00	**Men**	***	**.37**

Notes. Blank cell = No preference at $p > .10$; $+p < .10$, $*p < .05$, $**p < .01$, $***p < .001$.
Shaded cell = Privileged group unfavored; Unshaded cell (if not blank) = Victims' group unfavored.
In Study 6, BH1 = Blacks Higher First condition; WH1 = Whites Higher First condition;
BH = Blacks Higher evaluation; WH = Whites Higher evaluation.
In Study 7, WH1 = Women Higher First condition; MH1 = Men Higher First condition;
WH = Women Higher evaluation; MH = Men Higher evaluation.
Positive Cohen's *d*s indicate privileged group unfavored; Negative indicates victims' group unfavored on relevant comparisons. Bold indicates a Cohen's $d > .199$ (or -.199), the threshold for a "small effect."

Meta-Analyses

As a last step, we conducted 12 mini meta-analyses of the interaction effect between the experimental manipulations and continuous political ideology as well as of the condition effect among categorical Conservatives, Moderates, and Liberals for Studies 2 through 7.

Method. We used procedures outlined by Goh, Hall, and Rosenthal (2016). To make

effect sizes comparable across studies, we dropped the equal conditions from Studies 4 and 5, and we used only participants' first evaluation in Studies 6 and 7 so they could be treated as a between-subjects designs as in Studies 2 through 5. For the interaction effects between the experimental manipulations and continuous ideology, we used the semipartial *r*s of the interactions as effect size estimates. To test the bias effect size among Conservatives, Moderates, and Liberals separately, we computed *r* effect sizes from the *M*s, *SD*s, and *n*s for each experimental condition in each study. The *r* effect sizes were then Fisher's *Z* transformed to r_Z. We used random effects to meta-analyze the overall interactions and overall effect sizes among Conservatives, Moderates, and Liberals because there were at least two kinds of studies: those that manipulated race and those that manipulated gender.

We then conducted fixed effects meta-analyses to test the interaction effect and manipulation effect sizes among each ideological group only on the subset of studies that manipulated sex (Studies 2, 5, and 7) and on the subset that manipulated race (Studies 3, 4, and 6) separately. Fixed effects is appropriate for these meta-analyses because the studies were very similar within manipulation type, and thus weighting by sample size is preferred (see Goh et al., 2016). The r_Zs were weighted and averaged using the formula: Weighted $\bar{r}_Z = \Sigma$ ([N-3] r_Z) / Σ (N-3). To estimate statistical significance, we used the Stouffer's *Z* test, in which the *p* values for each effect size were converted to *Z*s, combined using the formula: $Z_{combined} = \Sigma Z$ / sqrt(k), and then converted back to *p*s.

Results. For the fixed effects analyses, we conducted four single-sample *t*-tests on the r_Zs. Consistent with hypotheses, there was a significant effect of the interaction between the experimental manipulations and continuous political ideology (*k*=6, *n*=2,617), r_Z = .12, *t*(5)=4.50, *p*=.006, 95% CI [.05, .19]. Also consistent with hypotheses, among Liberals, there was

a significant overall effect of the experimental manipulations (*k*=6, *n*=1,320), r_z = .23, *t*(5)= 9.19, *p*<.001, 95% CI [.17, .30]. Among Conservatives, there was no overall significant effect of the experimental manipulations (*k*=6, *n*=729), r_z = .00, *t*(5)=-0.02, *p*=.983, 95% CI [-.20, .19]. And among Moderates, there was no overall significant effect of the experimental manipulations (*k*=6, *n*=568), r_z = .01, *t*(5)=0.13, *p*=.899, 95% CI [-.12, .14].

Among studies that manipulated sex, there was a significant effect of the interaction (*k*=3, *n*=1,313), r_z = .10, *p*=.004. This significant interaction effect reflected the relatively larger effect size among Liberals than Conservatives. There was a small but significant effect of the sex manipulation on Conservatives (*k*=3, *n*=380), r_z = .10, *p*=.016, and a larger one among Liberals (*k*=3, *n*=654), r_z = .27, *p*<.00001. There was no significant effect of the sex manipulation among Moderates (*k*=3, *n*=279), r_z = .06, *p*=.235.

Among studies that manipulated race, there was again a significant effect of the interaction (*k*=3, *n*=1,304), r_z = .16, *p*<.00001. There was again no significant effect among Moderates (*k*=3, *n*=289), r_z = -.01, *p*=.492 Conservatives displayed a reverse effect such that they evaluated the argument more positively when it favored Whites than when it favored Blacks (*k*=3, *n*=349), r_z = -.18, *p*=.003. And Liberals displayed the hypothesized effect (*k*=3, *n*=666), r_z = .18, *p*<.00001.

General Discussion

Taken together, the data from these studies strongly support the equalitarian account of liberal bias. First, Liberals appeared committed to intrinsic group equality. They were biased such that they found vignettes that stated that two demographic groups were equal more (although not statistically significantly relative to Women Higher in Study 5) credible than

vignettes that stated that one group outperformed another. Second, they were consistently biased against results that favored a privileged group over a victims' group (either Whites over Blacks or men over women). In every single study, they rated the Privileged Group Higher vignette as less credible than the Victims' Group Higher. And third, scores on our equalitarian measure mediated our results in every study such that higher scores on the equalitarian measure predicted more bias among Liberals. Consistent with our hypotheses, meta-analyses revealed a significant interaction effect overall as well as within studies that manipulated sex and those that manipulated race, such that increased liberalism predicted a larger bias against information that portrays high status groups more favorably than low status groups relative to the reverse. Also consistent with hypotheses, meta-analyses revealed the hypothesized effects for Liberals overall and within both types of studies. The meta-analyses also revealed a relatively smaller but still significant effect of the sex manipulation for Conservatives in the same direction as for Liberals, and a significant effect of the race manipulation for Conservatives in the opposite direction as for Liberals. Among Moderates, there were no significant effects of the conditions.

Our theory builds from previous work, but goes beyond it, providing a framework for understanding a powerful and largely empirically unexplored—but not undiscussed—source of bias. Many scholars have noted—some lamenting and some championing—that many Liberals have protective concerns for victims' groups (e.g., Bawer, 2012; Haidt, 2012; Mac Donald, 2018; Pinker, 2003) and that those concerns can lead to resistance to human biological variation and powerful biases about victims' groups. Therefore, at minimum, our theory is *a priori* plausible. But it is also largely congruent with many previous analyses of Liberals and not only provides a potential explanation for previous findings (for example, Liberals have a stronger pro-black bias than Conservatives [Axt et al., 2016], Liberals but not Conservatives are less willing

to sacrifice the life of a Black man than a White man to save 100 others [Uhlmann et al., 2009], one of the largest discrepancies among liberal and conservative bias in the Ditto et al. [2019a] meta-analysis came from a study involving victims' groups [Crawford et al., 2013], Liberals are more inclined to impute motives to scientists who propose biological explanations for life outcomes than those who propose more extrinsic explanations [Hannikainen, 2018]), Liberals are particularly opposed to research on male-favoring sex-differences [Stewart-Williams et al., 2020]), but it also makes novel predictions, one of which was supported in this paper. The consistency of our results across studies and with established empirical data and with recent controversies in the academic community increases our confidence in our theory and persuades us that it might be a powerful framework for understanding certain political and even scientific biases.

Furthermore, our theory contributes to a burgeoning area of research on liberal bias that has challenged prior assumptions about the relation between political ideology and bias. For a long time, many scholars contended that Conservatives were more prone to bias than Liberals (e.g., Jost et al., 2003). However, recent evidence and arguments have challenged this asymmetry argument, asserting that bias is likely equal across political ideologies (Ditto et al., 2019a). Although some scholars have been troubled by this (e.g., Baron & Jost, 2019), our results also challenge the asymmetry argument and illustrate the importance of exploring many different areas of bias. Because most social psychologists are liberal, they may take liberal biases for granted; that is, they simply assume that liberal biases are correct and are not biases at all. Indeed, even when people are aware bias exists, they seem unable to identify bias in themselves (Pronin, Lin, & Ross, 2002). Furthermore, liberal social psychologists might not be as motivated to discover and shed light on liberal bias as they are for conservative bias, because conservative

thought seems more peculiar and foreign to them. When scholars have looked in the right places, though, they have found more equivalent levels of bias between ideological groups (e.g., Crawford, 2012; 2014; Brandt, Reyna, Chambers, Crawford, & Wetherell, 2014). Of course, our results cannot settle this important debate, but they do add plausibility to the symmetrical bias thesis, or at least a 'not as asymmetrical as previously thought' hypothesis. And they forward a novel domain and direction of bias among Liberals.

Before expanding our interpretation (and to include Conservatives), discussing possible alternative explanations, and forwarding some ideas for future directions, we should address limitations.

Limitations

All studies were conducted on Amazon Mechanical Turk. We used this population because we could get a more diverse sample than we could from most University participant pools (Casler, Bickel, & Hackett, 2013). Furthermore, research suggests that Mturk participants are not insouciant survey takers; they pay attention and provide reliable data (Hauser & Schwartz, 2016). But this also means that all data were self-report. This comes with standard problems such as desirability biases. It is certainly possible that Liberals and Conservatives have slightly different presentational values (Liberals have more equalitarian presentational values) and that our results simply reflect those values and not biased assessments of our vignettes. Future work would also benefit from testing these biases among nationally representative samples, which would have more balanced numbers between Liberals and Conservatives as well as a more representative spread of Liberals and Conservatives within each ideological group.

Probably the most severe methodological limitation of our investigation was that we focused on only one socially valued trait: Intelligence. Equalitarianism predicts that Liberals

(and others who score high on this trait/philosophy) will be biased against information that suggests that demographic groups differ on *almost any* socially valued trait; and that they will be especially biased against information that suggests that a privileged group is "better" than a victims' group on such a trait. We focused on intelligence alone, and thus it remains unknown whether or results would replicate for other traits. However, in the time since we conducted these studies, a set of scholars have provided some evidence that this bias likely extends to other traits. For example, Stewart-Williams and colleagues found that people more negatively evaluated research on sex differences that favored males (that men are better at drawing and lie less often) than research that drew the reverse conclusions, and that this tendency was stronger among more liberal participants. And Winegard and colleagues (2019) found that people had greater desire to censor science that argued that men evolved to be better leaders than women than science that argued the reverse, especially among Liberals. We hope future research will continue to explore these patterns with numerous socially valued traits (e.g., self-control, ambition, agreeableness, criminality, etc.) and across different kinds of groups that are perceived as more advantaged or disadvantaged. In general, we would predict that the more intensively valued the trait, the more intense the bias. The exception is traits whose differences across demographic groups are too conspicuous to deny (thus increasing clarity of the difference and reducing bias) such as physical strength differences between men and women. Though note, Study 1b did demonstrate that Liberals agree less with this contention than Conservatives.

Focusing only on intelligence allowed us to scrutinize the bias carefully across different demographic target groups (sex-based and race-based) while using varied study designs to refine the theory, replicate the effects, and rule out alternate explanations. Furthermore, intelligence is a highly socially valued trait, perhaps one of the highest, and discussion about demographic

differences in intelligence is often morally supercharged, vitriolic, and even counterproductive (Hunt, 2011). It may be that equalitarian bias plays a role in the unfortunate tone and results of many such discussions.

Our measure of equalitarianism also has limitations. In the present paper, we focused on identifying a particular form of biased responding among Liberals, trying to rule out as many potential alternate explanations as possible (though of course not all of them). We did not, however, assiduously validate the equalitarianism measure by establishing convergent and discriminant validity with other scales, establishing retest reliability, or narrowing our set of items down to a perhaps better (or less redundant) set. Although this scale had high internal consistency and very consistently mediated our findings across studies, it is possible future research will identify a construct that can better explain our findings, and perhaps one that is more established and has already undergone several perfecting revisions over time. In other words, we may not need an entirely new construct to explain the present findings. We hope future researchers will seek to compare this measure of equalitarianism to other similar constructs, such as Social Dominance Orientation (Pratto et al., 1994) or Preference for Merit (Davey, Bobocel, Hing, & Zanna, 1999), and their relation to biased evaluations of information with significance to group differences. If our measure of equalitarianism proves uniquely useful for studying liberal bias, and particularly liberal bias regarding low status groups, we hope future research will refine the measure and perhaps generate a more concise measure. If not, we hope our findings regarding the equalitarianism scale will help scholars identify the construct that better explains the identified liberal bias.

Alternate Explanations

We can think of at least two serious alternative explanations to our analysis: (1) It is rational to be skeptical of scientific results which seem to favor the powerful over the oppressed; and (2) it is rational to believe it more plausible that genetics explain higher IQ scores among victims' groups than that they explain higher IQ scores among privileged groups. This second explanation seems compelling because the environment that victims' groups navigate is likely harsher and less conducive to thriving than the environment that privileged groups experience. Therefore, if a privileged group scores higher, it could be because of the environment; but if a victims' group scores higher, then it must be because of genes (because it couldn't be caused by the [worse] environment).

It is almost impossible to rule out completely the first explanation. Powerful people have doubtlessly used science to justify their privilege and to pacify the less fortunate by claiming that the indigent "deserve" their lot because of their inferiority (Gould, 1996). So, according to this argument, when socially conscious and concerned Liberals are confronted with data that claim that Whites score higher than Blacks on IQ scores because of genetics, they rationally assess it as implausible (and probably as politically motivated). The same holds for data that claim that men score higher than women. We believe, however, that the within-subjects design studies at least mitigate the force of this argument. If Liberals believe they are rational to rate arguments that favor privileged groups as less credible than arguments that favor victims' groups, then it is unclear why we would see an order effect. The order effects suggest that Liberals realize that they should answer the two vignettes consistently (or at least somewhat consistently), which suggests that they believe it would be biased not to do so.

It is possible however that the order effects are simply standard anchoring effects (Furnham & Boo, 2011). That is, perhaps the order effects don't reflect a concern for appearing

or being unbiased, but simply reflect a psychological anchoring heuristic. Although this is certainly possible, Conservatives (and Moderates) did not display an anchoring effect, suggesting that anchoring is not a necessary outcome of such an experimental design. Furthermore, it strikes us as rather implausible that such an anchoring *should occur*. In fact, if anything, if not for concerns of bias, we would probably predict that a within-subjects design would augment differences. Consider, for example, a study in which there were two conditions: In one cheetahs were said to be faster than dogs and in the other, dogs were said to be faster than cheetahs. The researchers asked participants to rate the plausibility of the stories. If cheetah faster came first and got a high plausibility rating, it would seem sensible that dogs faster would get an even lower rating than if it came first, because the participant would think, "Well, I already noted that Cheetahs were faster…no way can dogs also be faster." Still, this is a possible counterargument that future researchers should address in more detail. A helpful reviewer suggested a possible route of casting further doubt on this alternate explanation in future work: explicitly making the scientist in the vignette a black woman. This should minimize, at least to some extent, skepticism that the scientist is motivated by racism or sexism in the conditions in which the privileged group is said to perform better on the test.

The order effects cast doubt on the second explanation in the same way they do for the first explanation. However, one might speculate that whereas Liberals are using their knowledge of alternate environmental explanations that could explain higher IQ scores among privileged groups than victims' groups in the between subjects design, the within subjects design compels them to disregard this knowledge in order to appear consistent in their judgment even though consistency is not the only rational response pattern. This argument seems to make more sense when applied to race differences in IQ than to sex differences. Men and women inhabit largely

the same environment (same socioeconomic status and schools, for example) and, in fact, girls and women outperform boys in every stage of education, from elementary school through college (Duckworth & Seligman, 2006). Still, one might contend—and Liberals might rationally believe—that they are held back by pernicious and invidious stereotypes or more subtle forms of sexism (Spencer, Steele, & Quinn, 1999). Our present investigation does not allow us definitively to rule out this explanation. We believe, as of now, that our equalitarian theory of bias is a better, more parsimonious explanation, but researchers should continue to pursue these questions so that we can continue to update our understanding of these biases (or patterns of responses, if they are, indeed, not biases).

Conservatives (and Moderates)

In the present investigation, we predicted that Liberals would evince a specific and consistent pattern of biased responding, one that was supported by the data across all studies and meta-analyses of those studies. We focused on Liberals because they are a relatively understudied group (Eitan et al., 2018), very little work deliberately explores biases among Liberals, and recent work has suggested there are likely domains of liberal bias yet to be fully uncovered (Ditto et al., 2019a, 2019b). However, by including participants across the ideological spectrum, we were able to discover patterns among Conservatives and Moderates as well.

Although the patterns were less consistent for Conservatives across studies, the meta-analyses revealed two patterns for Conservatives. First, in contrast to Liberals, Conservatives rated the argument that a gene explains why Whites score higher on IQ tests as more credible than the argument that a gene explains why Blacks score higher. As we noted earlier (see discussion section of Study 6), this might suggest a bias against Blacks, or this might suggest that Conservatives believe it is rational to treat these two arguments differently. Although it would be

rash to conclude one way or another, there are at least a few reasons to doubt the anti-Black bias account. Conservatives rated the Equal condition as the most credible (in Study 4), suggesting a slight "preference" for equality (although this was not statistically significant). Conservatives did not display an order effect and so appeared to believe that it was rational to rate the Whites Higher condition as more credible than the Blacks Higher conditions (from a Bayesian perspective, this could possibly be a rational response). And, a growing body of recent work suggests that whereas Liberals are biased in favor of Blacks over Whites, Conservatives' judgments and evaluations are relatively less influenced by race manipulations (e.g., Axt et al., 2016; Kteily et al., 2019; Purser & Harper, 2020; Uhlmann et al., 2009; Winegard et al., 2019). We hope future research will explore the possibility of an anti-black racial bias among Conservatives across numerous kinds of judgments and evaluations—it might be that they have biases in particular domains and not others.

Second, like Liberals, Conservatives seemed to have a slight preference for women having higher IQ than men than vice versa, although to a weaker extent than Liberals. Unfortunately, their order effect in Study 7 was relatively uninformative. When they received the women higher argument first, they anchored their second judgment to the first, consistent with a bias explanation; when they received the men higher argument first, they evaluated the women higher argument as more credible, less consistent with a bias explanation. Other work seems to support the idea that Conservatives, like Liberals, have a pro-female bias, just to a lesser degree (e.g., Winegard et al., 2019; Stewart-Williams et al., 2020). We hope future work will further explore this possibility as well.

Moderates demonstrated some inconsistent patterns across studies, but the meta-analyses suggested that they were relatively unaffected by the manipulations—they evaluated research

similarly credible regardless of whether findings favored high or low status groups. Such findings may be consistent with the *rigidity-of-the-extreme* hypothesis, which suggests that more extreme partisan attachments, whether more right or more left, are associated with more rigid, dogmatic, and biased cognition (Zmigrod, 2020). Future work should explore numerous kinds of biases to further test the possibility that those more centrist tend to display the smallest and fewest biases.

Overall, whereas our studies demonstrated very consistent patterns for Liberals, they were somewhat less consistent among Moderates and Conservatives, but we do hope the patterns we discovered here for Moderates and Conservatives will be useful for generating new hypotheses regarding the biases of these groups.

Relevance to the World

We believe that our results are germane to many modern political and moral discussions. Few topics are as explosive and controversial as demographic differences. Many researchers who have discussed such differences openly have been calumniated and accused of moral treachery (Winegard & Winegard, 2015). This is probably one reason very few have studied bias about demographic differences: merely studying the bias may earn them obloquy. However, in a free, scientifically literate society, people need to have these conversations, with appropriate care and caution, so that we can best understand humans and best design social policy in a cosmopolitan society. Some researchers believe that the modern genomic revolution is likely to reveal that many demographic differences are at least partially genetically caused, and we, as a society, will be ill-prepared for these results if we are too afraid to talk about such a possibility (Reich, 2018). We believe that studying and understanding biases regarding such differences might help us to have such conversations more productively and with fewer accusations of iniquity.

Before briefly discussing some future directions, we should note that equalitarianism *might be a morally rational world-view and the biases that stem from it might be justifiable.* One might argue that even if one accepts that our results stem from bias, one could still argue that such a bias is rational because racism and sexism are grave threats in the United States and we need to be vigilant against them. From this perspective, it is better to err on the side of caution *against* results that seem to buttress the current system of power or that seem to disparage historically oppressed and marginalized peoples. We think that is a perfectly sensible argument. It may be right. Our goal in this paper was to understand equalitarianism and how it contributed to liberal bias, not to assess it morally. We do think that such biases could lead to indefensible accusations toward scholars who forward certain kinds of explanations and even informal censorship of certain kinds of explanations, but we do not doubt that they could be morally justifiable on whole.

Future Directions

In the future, researchers should expand our investigation by examining more privileged and victims' groups (e.g., Muslims, homosexuals, Native Americans). They should also examine more socially valued traits than intelligence (e.g., self-control, ambition, criminal propensities).

We have assumed that pervasive racism and sexism are appealing explanations for group differences among Liberals because the alternate explanation—that demographic groups might have different underlying traits and abilities—poses a far greater challenge to egalitarian ideals. Presumably, biology is harder to change than individual and societal prejudices. However, this might not be true in the future. Advances in gene technology could make it both possible and commonplace to alter genes in a way that benefits individuals and thus groups. If biological differences were no longer viewed as a barrier to equality and instead were viewed as easily

resolved, we suspect there would be less resistance among Liberals to such explanations, particularly if these explanations provided compelling reason to allocate such technological resources to relatively low status groups. Future research should investigate this emerging reality. Technology may obviate our theory.

Another future direction is to explore how ideology relates to beliefs in and motivations for numerous kinds of explanations for group differences. Here, we explored a possible aversion to one kind of explanation (a biological one) for one particular kind of group difference (intelligence) across only two group categories (race and sex). However, there are numerous possible explanations for group inequalities: social norms, cultural differences, historical discrimination, natural environment features (e.g., water quality, exposure to natural disasters), "free choice" (however one defines it), among many others. For example, previous work has found that Conservatives more than Liberals believe in the concept of "free will" because of their stronger desire to hold people morally responsible for their bad behavior—and that both Liberals and Conservatives selectively appeal to this explanation when it is ideologically convenient (Everett et al., 2020). Likely, which explanations seem the most plausible and desirable to particular ideologies vary according to which groups and outcomes they have significance to, and future research should study these beliefs and motivations sedulously, as these variations likely explain a great deal of ideological conflict and polarization.

Conclusions

For a long time, many social psychologists contended that Conservatives are more biased than Liberals. Recent scholarship has strongly challenged this argument. Conservatives and Liberals appear roughly equally biased. Our research adds to this important debate and suggests one domain in which Liberals demonstrate a consistent bias. Because most social psychologists

are Liberals and because demographic differences are such an explosive topic, this bias has remained unstudied and largely unknown (although researchers speculated about it). Our hope here is to provoke more internal reflection among Liberals and liberal scholars on whether such biases may affect their own evaluations, discussions, and scholarship.

References

Adorno, T. W., Frenkel-Brunswik, E., Levinson, D. J., & Sanford, R. N. (1950). The authoritarian personality. New York, NY: Harper and Row.

Altemeyer, B. (1981). Right-wing authoritarianism. Manitoba, Canada: University Press.

Altemeyer, B. (1996). The authoritarian specter. Cambridge, MA: Harvard University Press.

Atran, S., Axelrod, R., & Davis, R. (2007). Sacred barriers to conflict resolution. *Science, 317,* 1039-1040.

Axt, J. R., Ebersole, C. R., & Nosek, B. A. (2016). An unintentional, robust, and replicable pro-Black bias in social judgment. *Social Cognition, 34,* 1-39.

Baron, J., & Jost, J. T. (2019). False equivalence: Are liberals and conservatives in the United States equally biased?. *Perspectives on Psychological Science, 14,* 292-303.

Baumeister, R. F., Maranges, H. M., & Vohs, K. D. (2018). Human Self as Information Agent: Functioning in a Social Environment Based on Shared Meanings. *Review of General Psychology, 22,* 36-47.

Bawer, B. (2012). *The victims' revolution: The rise of identity studies and the closing of the liberal mind.* New York: Broadside Books.

Bem, D. (2011). Feeling the future: experimental evidence for anomalous retroactive influences on cognition and affect. *Journal of Personality and Social Psychology, 100,* 407-425.

Brandt, M. J., Reyna, C., Chambers, J. R., Crawford, J. T., & Wetherell, G. (2014). The ideological-conflict hypothesis: Intolerance among both liberals and conservatives. *Current Directions in Psychological Science, 23,* 27-34.

Casler, K., Bickel, L., & Hackett, E. (2013). Separate but equal? A comparison of participants and data gathered via Amazon's MTurk, social media, and face-to-face behavioral testing. *Computers in Human Behavior*, *29*, 2156-2160.

Clark, C. J., Liu, B. S., Winegard, B. M., & Ditto, P. H. (2019). Tribalism is human nature. *Current Directions in Psychological Science*, *28*, 587-592.

Clark, C. J., & Winegard, B. M. (2020). Tribalism in war and peace: The nature and evolution of ideological epistemology and its significance for modern social science. *Psychological Inquiry*, *31*, 1-22.

Conrad, K. J., Wright, B. D., McKnight, P., McFall, M., Fontana, A., & Rosenheck, R. (2004). Comparing traditional and Rasch analyses of the Mississippi PTSD Scale: revealing limitations of reverse-scored items. *Journal of Applied Measurement*, *5*, 15-30.

Crawford, J. T. (2012). The ideologically objectionable premise model: Predicting biased political judgments on the left and right. *Journal of Experimental Social Psychology, 48,* 138-151.

Crawford J. T. (2014). Ideological symmetries and asymmetries in political intolerance and prejudice toward political activist groups. *Journal of Experimental Social Psychology*, *55*, 284–298.

Crawford, J. T. & Jussim, L. (2017). *Frontiers of Social Psychology Series: The Politics of Social Psychology*. New York, NY: Routledge.

Crawford, J. T., Jussim, L., Cain, T. R., & Cohen, F. (2013). Right-wing authoritarianism and social dominance orientation differentially predict biased evaluations of media reports. *Journal of Applied Social Psychology*, *43*, 163-174.

Davey, L. M., Bobocel, D. R., Hing, L. S. S., & Zanna, M. P. (1999). Preference for the Merit Principle Scale: An individual difference measure of distributive justice preferences. *Social Justice Research*, *12*, 223-240.

Ditto, P. H., & Lopez, D. F. (1992). Motivated skepticism: Use of differential decision criteria for preferred and nonpreferred conclusions. *Journal of Personality and Social Psychology*, *63*, 568-584.

Ditto, P. H., Liu, B. S., Clark, C. J., Wojcik, S. P., Chen, E. E., Grady, R. H., ... & Zinger, J. F. (2019a). At least bias is bipartisan: A meta-analytic comparison of partisan bias in liberals and conservatives. *Perspectives on Psychological Science*, *14*, 273-291.

Ditto, P. H., Clark, C. J., Liu, B. S., Wojcik, S. P., Chen, E. E., Grady, R. H., ... & Zinger, J. F. (2019b). Partisan bias and its discontents. *Perspectives on Psychological Science*, *14*, 304-316.

Duarte, J. L., Crawford, J. T., Stern, C., Haidt, J., Jussim, L., & Tetlock, P. E. (2015). Political diversity will improve social psychological science. *Behavioral and Brain Sciences*, *38*, e130.

Duckworth, A. L., & Seligman, M. E. (2006). Self-discipline gives girls the edge: Gender in self-discipline, grades, and achievement test scores. *Journal of Educational Psychology*, *98*, 198-208.

Dupree, C. H., & Fiske, S. T. (in press). Self-presentation in Interracial Settings: The Competence Downshift by White Liberals. *Journal of Personality and Social Psychology*.

Eitan, O., Viganola, D., Inbar, Y., Dreber, A., Johannesson, M., Pfeiffer, T., ... & Uhlmann, E. L. (2018). Is research in social psychology politically biased? Systematic empirical tests and

a forecasting survey to address the controversy. *Journal of Experimental Social Psychology, 79*, 188-199.

Everett, J. A. C., Clark, C. J., Meindl, P., Luguri, J. B., Earp, B. D., Graham, J., ... & Shariff, A. F. (2020). Political differences in free will belief are associated with differences in moralization. *Journal of Personality and Social Psychology*.

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*, 175-191.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149-1160.

Felson, R. B. (1981). Ambiguity and bias in the self-concept. *Social Psychology Quarterly*, 64-69.

Frenda, S. J., Knowles, E. D., Saletan, W., & Loftus, E. F. (2013). False memories of fabricated political events. *Journal of Experimental Social Psychology, 49*, 280-286.

Furnham, A., & Boo, H. C. (2011). A literature review of the anchoring effect. *The Journal of Socio-Economics, 40*(1), 35-42.

Goh, J. X., Hall, J. A., & Rosenthal, R. (2016). Mini meta-analysis of your own studies: Some arguments on why and a primer on how. *Social and Personality Psychology Compass*, *10*, 535-549.

Gould, S. J. (1996). *The mismeasure of man*. WW Norton & Company.

Graham, J., Haidt, J., Koleva, S., Motyl, M., Iyer, R., Wojcik, S. P., & Ditto, P. H. (2013). Moral foundations theory: The pragmatic validity of moral pluralism. *Advances in Experimental Social Psychology, 47*, 55-130.

Haidt, J. (2011, February 11). The bright future of post-partisan social psychology. *Edge.* Retrieved from https://www.edge.org/conversation/jonathan_haidt-the-bright-future-of-post-partisan-social-psychology

Haidt, J. (2012). *The righteous mind: Why good people are divided by politics and religion.* New York: Vintage.

Hannikainen, I. R. (2018). *Ideology between the lines: Lay inferences about scientists' values and motives.* Manuscript submitted for publication.

Hasson, Y., Tamir, M., Brahms, K. S., Cohrs, J. C., & Halperin, E. (2018). Are Liberals and Conservatives Equally Motivated to Feel Empathy Toward Others? *Personality and Social Psychology Bulletin, 44*, 1449-1459.

Hauser, D. J., & Schwarz, N. (2016). Attentive Turkers: MTurk participants perform better on online attention checks than do subject pool participants. *Behavior research methods, 48*, 400-407.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and condtional process analysis: A regression-based approach.* New York, NY: Gilford Press.

Huddy, L. (2001). From social to political identity: A critical examination of social identity theory. *Political Psychology, 22*, 127-156.

Hunt, E. (2011). *Human intelligence.* New York, NY: Cambridge University Press.

Inbar, Y., & Lammers, J. (2012). Political diversity in social and personality psychology. *Perspectives on Psychological Science, 7*, 496-503.

Jeffries, C. H., Hornsey, M. J., Sutton, R. M., Douglas, K. M., & Bain, P. G. (2012). The David and Goliath principle: Cultural, ideological, and attitudinal underpinnings of the normative protection of low-status groups from criticism. *Personality and Social Psychology Bulletin*, *38*, 1053-1065.

Jost, J. T., Glaser, J., Kruglanski, A. W., & Sulloway, F. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin, 129,* 339-375.

Jost, J. T., Nosek, B. A., & Gosling, S. D. (2008). Ideology: Its resurgence in social, personality, and political psychology. *Perspectives on Psychological Science, 3*(2), 126-136.

Kahan, D. M. (2016). The politically motivated reasoning paradigm, part 1: What politically motivated reasoning is and how to measure it. *Emerging Trends in the Social and Behavioral Sciences: An Interdisciplinary, Searchable, and Linkable Resource*. 1–16.

Kahan, D. M., & Braman, D. (2006). Cultural cognition and public policy. *Yale Law & Policy Review, 24*, 149-172.

Kahneman, D., & Tversky, A. (1984). Choices, values, and frames. *American Psychologist, 39*, 341-350.

Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: how difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology, 77*, 1121-1134

Kteily, N. S., Rocklage, M. D., McClanahan, K., & Ho, A. K. (2019). Political ideology shapes the amplification of the accomplishments of disadvantaged vs. advantaged group members. *Proceedings of the National Academy of Sciences*, *116*, 1559-1568.

Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, *108*, 480-498.

Lord, C. G., Ross, L., & Lepper, M. R. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology, 37,* 2098-2109.

Lucas, B. J., & Kteily, N. S. (2018). (Anti-) egalitarianism differentially predicts empathy for members of advantaged versus disadvantaged groups. *Journal of Personality and Social Psychology, 114,* 665-692.

Mac Donald, H. (2018). *The diversity delusion: How race and gender pandering corrupt the university and undermine our culture.* New York, NY: St. Martin's Press.

Mackintosh, N. J. (2011). *IQ and human intelligence*. New York, NY: Oxford University Press.

Paolacci, G., & Chandler, J. (2014). Inside the Turk: Understanding Mechanical Turk as a participant pool. *Current Directions in Psychological Science, 23,* 184-188.

Pinker, S. (2003). *The blank slate: The modern denial of human nature.* New York, NY: Penguin Books.

Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychology, 67,* 741-763.

Pronin, E., Lin, D. Y., & Ross, L. (2002). The bias blind spot: Perceptions of bias in self versus others. *Personality and Social Psychology Bulletin, 28,* 369-381.

Purser, H., & Harper, C. (2020). Low system justification drives ideological differences in joke perception: A critical commentary and re-analysis of Baltiansky et al. (2020). Unpublished manuscript.

Reich, D. (2018). Who we are and how we got here: Ancient DNA and the new science of the human past. New York, NY: Pantheon Books.

Rokeach, M. (1956). Political and religious dogmatism: An alternative to the authoritarian personality. *Psychological Monographs: General and Applied, 70,* 1-43.

Rushton, J. P. (1995). *Race, evolution, and behavior.* New Brunswick: Transaction.

SAT: Total group profile report 2016. Retrieved from https://securemedia.collegeboard.org/digitalServices/pdf/sat/total-group-2016.pdf

Skitka, L. J. (2010). The psychology of moral conviction. *Social and Personality Psychology Compass*, *4*, 267-281.

Stewart-Williams, S., Thomas, A., Blackburn, J. D., & Chan, C. Y. M. (2020). Reactions to male-favoring vs. female-favoring sex differences: A preregistered experiment. *British Journal of Psychology*.

Taber, C. S., & Lodge, M. (2006). Motivated skepticism in the evaluation of political beliefs. *American Journal of Political Science, 50,* 755-769.

Taylor, I. A. (1960). Similarities in the structure of extreme social attitudes. *Psychological Monographs: General and Applied, 74*, 1-36.

Tetlock, P. E. (1994). Political psychology or politicized psychology: Is the road to scientific hell paved with good moral intentions?. *Political Psychology, 3,* 509-529.

Tetlock, P. E. (2003). Thinking the unthinkable: Sacred values and taboo cognitions. *Trends in Cognitive Sciences, 7,* 320-324.

Uhlmann, E. L., Pizarro, D. A., Tannenbaum, D., & Ditto, P. H. (2009). The motivated use of moral principles. *Judgment and Decision making*, *4*, 476-491.

von Hippel, W., & Buss, D. M. (2017). Do ideologically driven scientific agendas impede the understanding and acceptance of evolutionary principles in social psychology. In J. T.

Crawford & L. Jussim. *Frontiers of Social Psychology Series: The Politics of Social Psychology* (pp. 7-25). New York, NY: Routledge.

Van Bavel, J. J., Reinero, D. A., Harris, E., Robertson, C. E., & Pärnamets, P. (2020). Breaking groupthink: Why scientific identity and norms mitigate ideological epistemology. *Psychological Inquiry*, *31*, 66-72.

Van Bavel, J. J., & Pereira, A. (2018). The partisan brain: An Identity-based model of political belief. *Trends in Cognitive Sciences*, *22*, 213-224.

Winegard, B. M., & Clark, C. J. (2020). Without Contraries is no Progression. *Psychological Inquiry*, *31*, 94-101.

Winegard, B. M., Clark, C. J., & Bunnel, E. (2019). *The ideology of censorship*. Manuscript submitted for publication.

Winegard, B. & Winegard, B. (2015). A social science without sacred values. Working Paper.

Winegard, B. & Winegard, B. (2017, March 27). A tale of two bell curves. Retrieved from http://quillette.com/2017/03/27/a-tale-of-two-bell-curves/

Winegard, B., & Winegard, B. (2017). Paranoid egalitarian meliorism: An account of political bias in the social sciences. In J. T. Crawford & L. Jussim. *Frontiers of Social Psychology Series: The Politics of Social Psychology* (pp. 193-209). New York: Routledge.

Winegard, B., Winegard, B., & Geary, D. C. (2015). Too paranoid to see progress: Social psychology is probably liberal, but it doesn't believe in progress. Commentary on target article, Political diversity will improve social psychological science (J. Duarte, J. Crawford, C. Stern, J. Haidt, L. Jussim, & P. E. Tetlock). *Behavioral and Brain Sciences*, 38, e162.

Zmigrod, L. (2020). The role of cognitive rigidity in political ideologies: theory, evidence, and future directions. *Current Opinion in Behavioral Sciences, 34,* 34-39.

Appendix

Equalitarianism Measure

Instructions: Please answer the following questions as honestly as you can. Remember, all answers will be confidential. Use the following scale 1- do not agree all, 4-somewhat agree, 7- agree completely (so 1 is the lowest level of agreement, and 7 is the highest.)

1. The only reason there are differences between men and women is because society is sexist
2. Differences between men and women in society are caused by discrimination
3. Differences between ethnic groups in society are caused by discrimination
4. Most people are not biased and racism is not a problem anymore*
5. When people assert that men and women are different because of biology, they are usually trying to justify the status quo
6. People often try to conceal their racism and sexism, but they act that way anyways
7. People often use biology to justify unjust policies that create inequalities
8. Racism is everywhere, even though people say they are not racist
9. Sexism is everywhere, even though people say that they are not sexist
10. People use scientific theories to justify inequalities between groups
11. Men and women have equal abilities on all tasks (for example, mathematics, cooking, nursing).
12. All ethnic groups have equal abilities on all tasks (for example, mathematics, sports, creativity)
13. Some differences between men and women are hardwired*
14. Although things are unequal now, if we work really hard, we can make society better and more fair
15. We should strive to make all groups equal in society
16. We should strive to make men and women equally represented in science fields
17. If we work hard enough, we can ensure that all ethnic groups have equal outcomes
18. Differences among ethnic groups in social outcome are at least partially biologically caused*

*reverse coded items