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****WORKING PAPER****

Equalitarianism: A source of liberal bias

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Abstract

For a long time, many social scientists were convinced that Conservatives were more biased and more in need of explaining than Liberals. However, recent scholarship has challenged this assumption, contending that the predominance of Liberals in the social sciences might have caused social science to view Conservatives unfairly as alien and abnormal and Liberals as unbiased and “normal.” Here, we build on this work, arguing that one potent source of liberal bias—perceived victims’ groups—has remained largely unstudied. We argue that most Liberals are *cosmic egalitarians*, that is, they believe that (especially ethnic) demographic groups do not differ biologically on socially valued traits (e.g., math ability, IQ, self-control). This, when coupled with a sacred narrative about protecting perceived victims’ groups (e.g., Blacks, Hispanics, Muslims, Women), leads to bias against any challenge to cosmic egalitarianism that appears to cast a perceived privileged group (e.g., men) in a more favorable light than a perceived victims’ group (e.g., women). We support our theory with X studies, which show that Liberals, but not Conservatives, evaluate information in a biased manner when that information portrays perceived victims’ groups or perceived privileged groups as superior on a socially valued trait. We argue that this bias is due to a liberal trait we call Equalitarianism.

Equalitarianism: A source of liberal bias

In August of 2017, an internal document about diversity written at Google by James Damore was published online without his permission (Wakabayashi, 2017). In it, Damore contended that extant Google diversity policies were poorly designed because they ignored biologically rooted sex differences. He argued that these biological differences, and not invidious policies and biases, likely contributed more to the skewed sex distribution of Google programmers (more men than women) than many (mostly liberal) analysts believed. Over and over, he insisted that diversity is good, including diversity of opinion, but that efforts to mitigate representation gaps should be informed by an understanding of the empirical literature about sex differences. Without this understanding, he argued, such efforts at diversity were bound to fail or to injure productivity while creating a fraudulent narrative that would require protection from “heretics” who challenged it with the copious scholarship on sex differences available in books and peer-reviewed journals.

Reaction from liberal commentators was swift and almost universally hostile. Many vociferously denounced the memo and assailed Damore’s character, suggesting that he was, at best, a clueless male, and, at worst, a nefarious sexist working to perpetuate Tech Industry’s “bro culture.” For just a couple of examples, an article at Vox, a popular liberal website, excoriating Damore was subtitled “James Damore’s sexist screed indicted all of Silicon Valley” (Romano, 2017). And an article at the Guardian was titled, “Google’s sexist memo has provided the alt-right a new martyr” (Jones, 2017). Both ferociously attacked Damore’s memo for sexism and strongly insinuated that Damore was a bigoted naïf who simply mantled his own prejudices with “pseudo-scientific jargon” to protect a patriarchal culture at Google (Jones, 2017).

Although extreme, such hostility toward those who violate sacred narratives (in this case, a liberal narrative about group equality) is not unusual (see table 1 for an overview of definitions of important concepts such as “sacred narrative”). Socrates was condemned and eventually chose to die for impiety, and Galileo was arrested for publishing a dialogue that appeared to promote heliocentrism. These examples may strike modern readers as peculiar and foreign: We no longer have sacred concerns about State Gods and have left the study of the ether to astronomers and physicists, who work without fear of political censure. But many people today do have sacred concerns about human nature and group differences.

These sacred concerns depend largely upon the political party to which one belongs (and almost certainly, the party to which one belongs depends upon prior personality traits that affect one’s sacred values; Haidt, 2012). And differences in sacred concerns probably largely explain why conservative commentators were unperturbed by Damore’s Google memo; and were, in fact, more alarmed by what they saw as hysterical liberal overreaction to a judiciously worded document. Liberals but not Conservatives have sacred concerns about the nature of demographic differences in society (we call the total package of liberal sacred concerns about perceived victims’ groups “equalitarianism”; see table 1 for definition). Specifically, Liberals fervidly believe that all demographic differences (e.g., differences in median income, differences in representation in various fields) are caused by discrimination and other environmental forces, not by characterological differences. Winegard and Winegard (2017) called this belief *cosmic egalitarianism* because it suggests that the universe (cosmos) is inherently fair in its distribution of traits to demographic groups and that all demographic groups are relatively equal on socially valued traits.

In what follows, we argue that because of equalitarianism, Liberals evince greater bias than Conservatives about perceived victims’ groups (e.g., homosexuals, women, Hispanics; see table 2 and experiment 1 for a list of perceived victims’ groups) and about potential demographic differences (Bawer, 2012; Winegard & Winegard, 2015). We support this argument with X studies that show, on average, that whereas Conservatives display little to no bias about victims’ groups, Liberals display small to medium effects.

Table 1

List of basic definitions used in this article

Term	Basic Definition
Blank Slatism	The belief that humans are very malleable and that most group and sex differences are caused by variation in the environment, not by differences in genes. Taken to its extreme, the belief that humans do not have a “nature” and are entirely molded by environmental/cultural forces.
Cosmic Egalitarianism	The belief that all ethnic and cultural groups, social classes, and sexes are relatively equal on all socially desired traits.
Equalitarianism	Cosmic egalitarianism plus a commitment to treating all groups equally (and rectifying past wrongs by treating victims’ groups better than other groups) plus a fervent desire to help bring about equality by combatting sexism, racism, and other forms of discrimination.
Motivated Credulity	The assimilation of preference congruent information without standard scrutiny or skepticism. For example, if one who loves Citizen Kane reads a badly argued piece contending that it is the greatest film ever, then he or she would evince motivated credulity if he agreed and did not notice (or care about) the bad arguments.
Motivated Skepticism	Skepticism that is selective against information that contradicts one’s preferences. For example, if one who loves Citizen Kane reads a well-argued piece that contend it was a poor movie, then he or she would evince motivated skepticism if he or she carefully criticized all the arguments more thoroughly than he or she would have if he or she detested the movie.
Privileged Group	A demographic group that is perceived as privileged in society. For example, many people believe that White men are favored in many ways in modern industrial societies, i.e., that they possess “White privilege.”
Sacred Narrative	A narrative that is comprised of sacred values that is accepted by a group or by broader society. Religious narratives are the most

	obvious example. However, there are many other sacred narratives. For example, in journalism, it is a sacred narrative not to reveal a source.
Sacred Value	A value that is very important to a person and that he or she will not trade for another profane or mundane value. For example, a person almost certainly would not trade a sister’s life for a million dollars. The sister’s life is a sacred value. The million dollars is not.
Victims’ Group	A demographic group that is perceived as victimized by society. For example, many Liberals believe that Blacks, Hispanics, homosexuals, and women are oppressed in myriad ways by modern societies; therefore, those groups are perceived victim’s groups.

Table 2

Perceived status of social groups

Group	Victim/Privilege
White men	High privilege
White women	Privilege, but lower than White men
African American men	Victims
African American women	Victims, perhaps more so than African American men
Hispanics	Victims
Muslims	Victims
Christians	Relatively privileged

Bias

Bias is an important concept in social and cognitive psychology. Unfortunately, it is exceedingly difficult to define or measure. As we will discuss 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., 2018; 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 the Yankees than for the other team), 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. For example, it can lead to selective exposure, whereby individuals preferentially expose themselves to value congruent information and purposefully avoid value incongruent information (Iyengar and Hahn, 2009); to selective remembering, whereby individuals preferentially remember value congruent facts (Frenda, Knowles, Saletan, & Loftus, 2013); to motivated skepticism, whereby individuals selectively challenge preference incongruent information (Ditto & Lopez, 1992); and to motivated credulity, whereby individuals selectively assimilate (often with little challenge) preference congruent information (Taber & Lodge, 2006).

As a general rule, bias increases as the strength of one's preferences increases (Skitka, 2010; Taber & Lodge, 2006; see section "liberal bias and equalitarianism" for thorough discussion). The fervid Yankees fan is much more likely than the casual fan to have a biased strike zone. This is not true for every person, of course. Sally might be the biggest Yankees fan in New York and still apply an unbiased zone when analyzing balls and strikes for Yankees' games. However, it is true in the aggregate. 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 (See Lucas & Lawless, 2013; although they found that weather has a much smaller effect on well-being than many would imagine, their result is surprising precisely because most humans prefer sun to clouds). On the other hand, a preference for a team or artist might very well cause significant bias because it could comprise one crucial part of a person's

social identity. As we will discuss later, morally valenced identity preferences probably cause the strongest biases (Skitka, 2010; Tetlock, 2003).

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 political 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, here, that Conservatives are *more* biased than Liberals; see Ditto et al., 2018.) For example, a popular article (cited 2903 times) published in *Psychological Bulletin* was entitled "Political conservatism as *motivated social cognition*" (Italics added). The article paints an unflattering picture of Conservatives as rigid, fearful, and biased, although it does note that liberalism might also be motivated.

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 and describe them in

pejorative ways (see Crawford & Jussim, 2017 for discussion of political bias in social psychology). Social Dominance Orientation is a good example of this. A researcher could assume that some groups are better than others (they might be; it is an empirical question) and that those groups therefore deserve more resources and should “dominate” other groups (could be described as “lead” rather than dominate). Then she could measure deviations from such beliefs and call them Egalitarian Fantasy Beliefs. Social Dominance Orientation could also be called “Group Competition and Meritocracy Orientation” without losing the meaning of the scale; and it would be a less unflattering name.

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). 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 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 2018, Ditto et al. conducted 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 good reason to believe that this meta-analysis actually underestimated the size of liberal bias because it only included a few studies that measured one of the most potent sources of liberal bias: perceived victims' groups. In this article, we want to help rectify this problem by directly examining liberal bias as related to perceived victim's groups. Our theory builds from Winegard, Winegard, and Geary's (2015) unfortunately named but, we believe, fruitful model of liberal bias.

Paranoid Egalitarian Meliorism and Equalitarianism

In a 2015 commentary on a *Behavioral and Brain Sciences* article, Winegard and colleagues introduced what they termed the paranoid egalitarian meliorist (PEM) model of political (liberal) bias in social psychology, which they have since refined (Winegard & Winegard, 2015; 2017). According to the PEM model, most liberal bias is about perceived victims' groups because Liberals are particularly sensitive (paranoid) egalitarian meliorists. That is, they believe that all demographic groups (Blacks, Hispanics, Women, et cetera) should be treated equally and that if society sedulously works toward equality, then it can alleviate the worst of the many wrongs hundreds of years of oppression have inflicted on many minority groups (and women).

The model further argued that many paranoid egalitarian meliorists would endorse some version of cosmic egalitarianism as a protective buffer for real world egalitarianism. Cosmic egalitarianism is the belief that all demographic groups are roughly the same on all socially valued traits (e.g., intelligence, ambition, self-control) and appears to protect egalitarian values

because it suggests that all groups should be treated equally because they are basically equal.

(Notice that if groups were different, some might argue that they should be treated differently.

Whether a good argument, it is at least potentially a compelling one.) One particularly prominent form of cosmic egalitarianism is blank slatism, the belief that humans are very malleable and that genetic/biological variables do not cause important demographic differences (Pinker, 2002).

The theory was headed by the adjective “paranoid,” which was a reference to Haselton and Nettle’s (2006) concept of paranoid optimism, which suggests that humans are paranoid about potential environmental threats but romantically optimistic about their ability to shape the future. Although this paradoxical personality structure has perplexed philosophers and poets, it makes eminent evolutionary sense. People should be hopeful about the future, but also should be extremely cautious (“paranoid”) about possible environmental threats because it is often better to mistake many innocuous stimuli for harmful stimuli (e.g., a rubber hose for a snake) than it is to mistake a few harmful stimuli for innocuous stimuli (e.g., a snake for a rubber hose). This is easily understood by considering a smoke detector (Nesse, 2001). Smoke detectors are designed to make errors in a biased way: they “mistake” burnt toast for a house fire much more often than they “mistake” a house fire for burnt toast because the costs of the mistakes are much different.

Similarly, according to the PEM model, many egalitarian meliorists are hyper-sensitive to potential threats to egalitarianism. This paranoia, in turn, can lead to motivated cognition and bias because PEMs are strongly inclined to reject information that threatens egalitarianism and equally strongly inclined to assimilate and promote information that buttresses it. For example, consider the James Damore example from the introduction. His “memo” argued that biologically rooted sex differences explained at least *some* of the disparate representation of men and women in the tech industry. For a PEM, this argument would be threatening because it is a rejection of

cosmic egalitarianism. Therefore, many PEMs would reject the contentions in the memo, would interpret it uncharitably, and would quite possibly impute nefarious motives to Damore for writing it.

Winegard and Winegard (2015; 2017) suggested that the PEM model can explain a significant amount of bias in social science because much of it is about perceived victims' groups. That is, most bias in social science protects a sacred narrative about demographic differences, steadfastly refusing to posit biological causes while assiduously searching for evidence of racism and sexism in society. This likely explains why the most ferocious ad hominem attacks in social science are deployed against scholars such as Arthur Jensen, Linda Gottfredson, Charles Murray, J. P. Rushton, and Richard Lynn: They all forwarded data and theories that directly challenged cosmic egalitarianism.

We believe that the basic outline of the paranoid egalitarian meliorist model is correct and can be applied to bias outside of academia. However, we have a strong reservation. The adjective "paranoid" is unfortunate because it appears pejorative. Paranoid just sounds bad. Earlier in this article we were critical of the terms many social scientists use to describe predominantly conservative traits (such as "social dominance orientation"); we believe the same criticism applies to "paranoid egalitarian meliorist." Therefore, we have renamed and slightly updated the theory to apply to the general population (instead of just academia).

We will call the commitment that explains liberal bias about perceived victims' groups equalitarianism and individuals who are dedicated to equalitarianism equalitarians. Equalitarians are committed to several propositions. First, equalitarians endorse cosmic egalitarianism. They believe that demographic groups (save for age, perhaps) do not differ biologically on socially valued traits. Second, equalitarians believe that society is rife with sexism and racism and that

disparate demographic outcomes are likely caused by oppression and prejudice. And third, equalitarians believe that if people in society work together they can combat pervasive racism and sexism.

Liberal Bias and Equalitarianism: Summary of Bias and the Theory

According to our theory, 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 be biased or 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). *Ceteris Paribus*, the more powerful one's extraneous concerns, the more likely one is to be biased. For example, if one really, really wants Samantha to be a better dancer than Sally, then one is more likely than otherwise to see Samantha as a better dancer (i.e., to be biased). *Ceteris Paribus*, the more powerful one's accuracy concerns, the less likely one is to be biased. If one really wants Samantha to be a better dancer than Sally *but also really* wants to be a good judge of dancing, then one will be less likely to be biased than if one did not want to be a good judge.

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). So, Tom might abhor the Yankees, but it would be difficult for him to deny that they won a game 10-6 last night if they really won the game, and he saw it on a broadcast in the morning. 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 clarity plus accuracy concerns equals likelihood and degree of bias, where lower scores are higher bias ($B = C + A - E$).

This equation 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 impossible to perceive 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 often easily clouds 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. 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).

Because Liberals and Conservatives have different sacred values, they should evince different bias about different things and conclusions. As noted in the PEM section, Winegard, Winegard, and Geary (2015) contended that Liberals have sacred values about perceived victims' groups and the equalitarian model of liberal bias accepts this hypothesis. Liberals, much more than Conservatives, appear to believe that women and minorities comprise a victims' group

category that needs to be protected from oppression and other social harms (see table 3 for an overview of liberal and conservative beliefs, biases, and sacred values). This suggests that Liberals, but not Conservatives, will be biased about perceived victims’ groups in predictable ways. Most broadly, Liberals will be especially sensitive to apparent threats to perceived victims’ groups and will be more likely to shift from standard reasoning processes (a mixture of accuracy concern and some extraneous concerns) to biased reasoning processes (mostly extraneous concerns) when confronted with such potential threats (see figure 1).

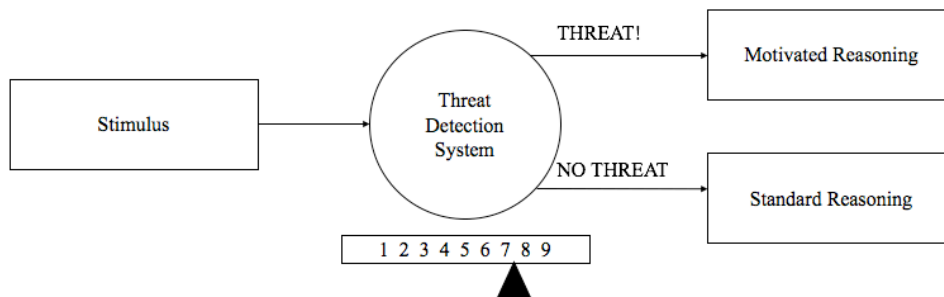


Figure 1. Equalitarian account of bias.

Note. Liberals score higher than Conservatives on sensitivity meter, which makes them more likely to process a moral stimulus about egalitarianism in a biased or motivated way

Consider, for example, the conflagration of controversy ignited by *The Bell Curve* (Herrnstein & Murray, 1994). Most of what was written in the book was relatively mainstream in psychometrics (Hunt, 2011) and many of those who launched scurrilous attacks on the book were clearly ignorant of its actual content (Pinker, 2001; Winegard & Winegard, 2017). According to our theory, much of the hostility to the book stemmed from biased cognition (though, of course, not all) because the substance, chiefly the claim that there are IQ differences between Blacks and Whites and that such differences are likely caused at least partially by

differences in genes, posed a direct threat to cosmic egalitarianism (in a way that threatened a perceived victims’ group). That threat triggered biased reasoning. Many who didn’t read the book were nevertheless offended by descriptions of it because of the threat it posed. (None of this suggests that the book was 100% correct or that it didn’t deserve criticism; simply that many attacks on it were biased and uncharitable).

Table 3

Biases and sacred values by ideology

CONSERVATIVE	LIBERAL
Broad Values: Stability, Nationalism, Religious Faith Sacred Values: Religious Purity	Broad Values: Openness, Cosmopolitanism, Equality Sacred Values: Protection of Victims’ Groups
Examples of Commitments: Affirmative Action (wrong) Abortion (wrong) Gun Control (wrong) Military (right) Free Markets (right)	Examples of Commitments: Affirmative Action (right) Abortion (right) Gun Control (right) Military (skeptical) Free Markets (skeptical)
Sacred Value Statement: “Abortion is murder, and it is always wrong.” “Our country, right or wrong. Move out if you don’t like the policy.”	Sacred Value Statement: “Wanting to restrict immigration is racist.” “If you are against affirmative action, then you are a bigot.”

This leads to an important point: liberal bias is triggered by challenges to cosmic egalitarianism, but only when the challenge threatens a perceived victims’ group. In the abstract, most Liberals are cosmic egalitarians (to one degree or another); but, their real concern is with threats to equality and fairness, and therefore, they should only evince strong bias against

challenges to cosmic egalitarianism that contend that perceived privileged groups *score higher on average* on socially valued traits than perceived victims groups. This probably explains why, for example, almost nobody was offended by Jared Diamond's unsupported speculation that New Guineans are (biologically) smarter than Westerners in *Guns, Germs, and Steel* (Diamond, 1998) but many people were apoplectic about J. P. Rushton's speculation that Whites are (biologically) smarter on average than Blacks and Africans in *Race, Evolution, and Behavior* (1995; see Gottfredson, 2013 for a discussion). New Guineans are seen as victims; therefore, speculation that they are smarter than Whites, who are seen as privileged, does not trigger alarm, strong emotions, and bias. On the other hand, the opposite claim does trigger alarm, strong emotions, and, very likely, bias.

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. 2018; Kahneman & Tversky, 1984). Studies usually match as much information as possible, changing only the conclusions of a vignette or other supposedly extraneous information (such as race or sex of the people), contending that differences in response caused by the altered information are caused by bias. For example, in a famous study on bias, Lord, Ross, and Lepper (1979) gave participants descriptions of studies that appeared either to support or challenge the effectiveness of the death penalty. The only information that varied in the conditions was the conclusion; the descriptions of the methodologies were the same. Then they had the participants rate the soundness of the studies. 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 a study 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 has participants rate the wrongness of the cop's actions and contends that any disparity between the two conditions reflects bias. 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 way 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 behavior is sexual harassment as well as how bad the behavior is. In this way, the demographic information is going, if anything, against the direction of the hypothesis because most people believe, with good (though not definitive reason) that men are more likely than women to sexually harass others.

Second, one could observe order effects in a within subjects design. 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 evincing bias 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

Across X 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). We predicted that this measure would mediate partially or fully the effect of liberalism on bias about perceived victims' groups. In study 1, we examined what groups people viewed as victims' groups, whether Liberals and Conservatives viewed victims' groups differently, and whether equalitarianism scores mediated the difference. In study 2, we examined relations between liberalism and attitudes about potential real world events, which included perceived victims' groups (e.g., cop shooting an unarmed Black person). In study 3, we examined liberal bias using a vignette about a college entrance exam in which either men (one condition) or women (other condition) outperform the other. In study 4, we examined liberal bias using a vignette about a gene that might explain some of the IQ gap between Blacks and Whites when either Blacks perform better (one condition) or Whites perform better (other condition). In study 5, we will repeat the study, but add another condition in which the groups are said to be equal. And in study 6, we will again replicate the study, but conduct it within groups to test whether there would be an order effect for Liberals. We expect that Liberals will rate two identical arguments about whether a particular gene can explain racial differences in IQ as less plausible when the first argument contends that the gene might explain why Whites have a higher average IQ than Blacks and the second contends that the gene might explain why Blacks have a higher average IQ than Whites than when the arguments are presented in opposite order. We expect no order

effect for Conservatives such that they will rate the arguments as equally credible regardless of the order of presentation.

Study 1

In Study 1, we tested the hypothesis that stronger liberal ideology would predict stronger beliefs that perceived victims' groups are treated unfairly by society and that perceived privileged groups are treated more fairly by society, and that this relationship would be mediated by scores on a measure of equalitarianism.

Method

Participants. U.S. participants ($M_{\text{age}} = 36.93$, $SD = 12.30$; 122 female) were recruited via Amazon Mechanical Turk (MTurk). We aimed for a large sample size of 200; 202 people participated.

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 victims' groups (Black people, Women, Hispanic people, and Muslims); three were groups that are generally considered privileged groups (White people, Men, and Christians).¹

Participants also completed an equalitarianism measure. This measure contained 18-items, which measured attitudes about whether 1) cosmic egalitarianism is true (e.g., "All ethnic groups have equal abilities on all tasks [for example, mathematics, sports, creativity]"), 2) prejudiced attitudes are a problem (e.g., "Racism is everywhere even though people say they are not racist"), and 3) we should and can strive for a more egalitarian society (e.g., "We should

¹ One additional group was included (atheists), but this group does not clearly fit as a victims' group or a privileged group nor did we have a priori predictions about this group, and thus this group was not included in analyses.

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 supplemental materials for full scale). 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*.

Results

Participants were slightly above the midpoint on liberalism ($M = 4.44$, $SD = 1.79$) and slightly above midpoint on equalitarianism ($M = 4.69$, $SD = 1.14$). As can be seen in Table 4, 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 to fairness ratings for Men.

Table 4

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

Group	<i>M</i>	<i>SD</i>	<i>r</i>	<i>p</i>
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 privileged groups were reverse-scored and combined with fairness ratings for the victims' groups to create a fairness index, $\alpha = .77$. A bootstrap mediation analysis (10,000 resamples; PROCESS macro [Hayes, 2013]) revealed a significant indirect effect of ideology on fairness ratings through equalitarianism, 95% CI [-2.99, -1.22]. As can be seen in Figure 2, 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.

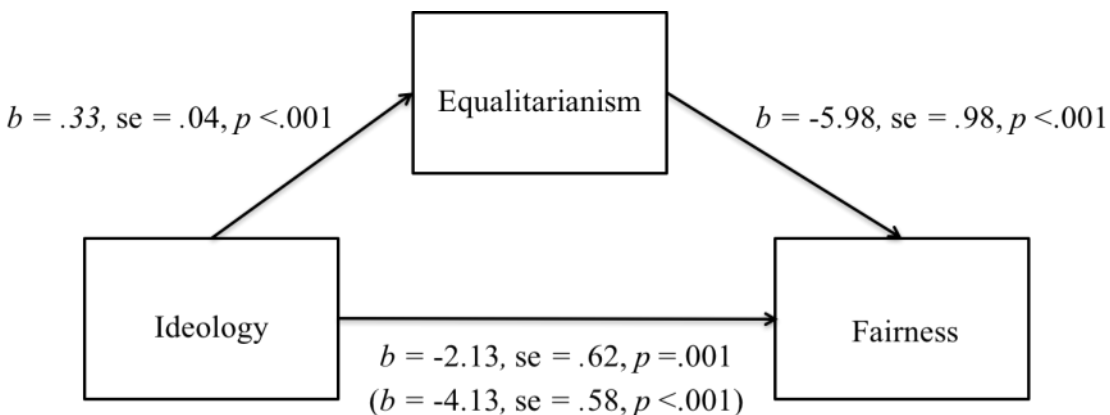


Figure 2. Influence of ideology (higher values = more liberal) on fairness ratings (higher values = victims' groups treated more fairly and privileged groups treated more unfairly), mediated by equalitarianism (higher values = more equalitarian). Values in parenthesis are the total effect of ideology on fairness (i.e., prior to controlling for equalitarianism).

Discussion

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

Study 2

In study 2, we sought to expand our investigation to examine the influence of political ideology and equalitarianism on evaluations of real world type news events and public opinions

involving victims' groups. Participants evaluated two 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 stronger equalitarianism. 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 attitudes, and that these would also be at least partially accounted for by their stronger equalitarianism.

Method

Participants. U.S. participants ($M_{\text{age}} = 34.76$, $SD = 11.14$; 101 female) were recruited via MTurk. Given the strength of the relationships in Study 1, we aimed for a slightly smaller sample size of 150; 152 people participated.

Procedure. Order of procedures was randomized. Participants completed the same measure of equalitarianism s , $\alpha = .90$, and reported political ideology as in Study 1. 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?” [reverse-scored], “How wrong was the person who was shot?” [reverse-scored], “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?” [reverse-scored], “How right were activists in trying to get rid of the test?”, “Is the test fair?” [reverse-scored], 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 were also asked how much they agreed with a number of 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 *Not at all to Very much so*.²

Results

Participants were slightly above the midpoint on liberalism ($M = 4.29$, $SD = 1.77$) and slightly above the midpoint on equalitarianism ($M = 4.77$, $SD = 1.02$). As expected, more liberal ideology predicted stronger beliefs that the cop was wrong to shoot the Black man, $r = .44$, $p < .001$, and stronger beliefs that the test on which men outperform women is unfair, $r = .23$, $p = .004$. Moreover, and consistent with predictions, stronger equalitarian beliefs partially mediated (bootstrap mediation analysis; 10,000 resamples; PROCESS macro [Hayes, 2013]) 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, .24]. One of these mediations is mapped in Figure 3 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.

² 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 and so they were not included in analyses.

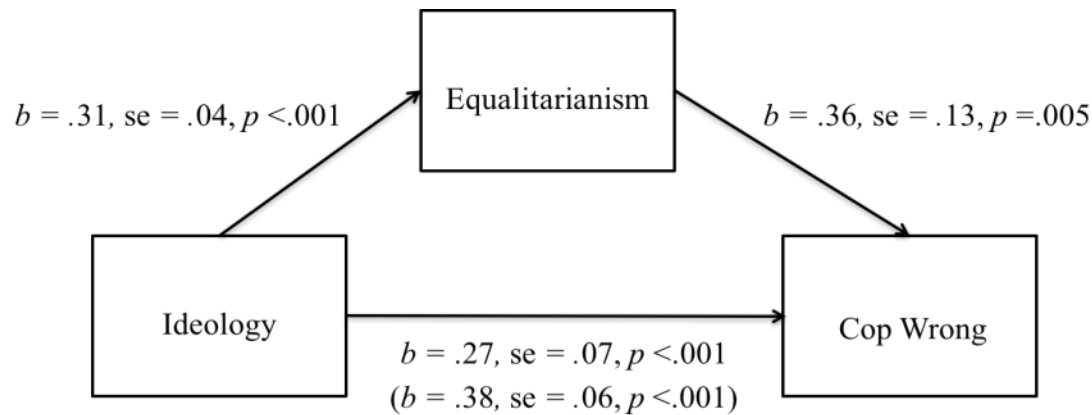


Figure 3. Influence of ideology (higher values = more liberal) on beliefs that the cop was wrong, mediated by equalitarianism. Values in parenthesis are the total effect of ideology on beliefs that the cop was wrong (i.e., prior to controlling for equalitarianism).

We next examined the relationships between ideology and agreement with the statements regarding victims' groups. As can be seen in Table 5, more liberal ideology was significantly positively related to beliefs that most police departments are racist and that Islam is a religion of peace. More liberal ideology was 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 statistically significant) negative relationship between liberal ideology and beliefs that jokes about race are offensive. There was no significant relationship between ideology and beliefs that women are smarter than men. Higher equalitarian attitudes significantly mediated all of these 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 would predict more pro-victims' groups attitudes, and that this relationship is partially explained by their stronger endorsement of an equalitarian narrative.

Table 5

Agreement with victims' groups statements, their correlation with (liberal) ideology, and mediation of that relationship by equalitarian attitudes.

Group	<i>M</i>	<i>SD</i>	<i>r</i>	<i>p</i>	Mediation 95% <i>CI</i>
Most police departments are racist.	3.26	1.83	.43	<.001	.13, .32
Islam is a religion of peace.	3.96	1.84	.53	<.001	.06, .26
Men are physically stronger than women.	4.91	1.79	-.29	<.001	-.28, -.05
Men are better at mathematics than women.	2.50	1.57	-.19	.019	-.35, -.12
The government should spy on Muslims.	2.68	1.89	-.55	<.001	-.17, .07
Jokes about race are offensive.	5.05	1.82	-.11	.172	.10, .36
A woman's proper role in society is in the kitchen.	1.66	1.25	-.24	.003	-.21, -.06
Women are smarter than men.	3.39	1.54	.03	.723	-.05, .13

Discussion

In study 2, we extended our investigation, examining answers to real world type news examples. As predicted, Liberals were more opposed to using a test that favored men than were Conservatives and this opposition was partially mediated by scores on an equalitarianism measure. Furthermore, Liberals were also more skeptical/hostile toward a police officer who shot an unarmed black person than were Conservatives; and this effect was also partially mediated by scores on an equalitarianism measure. Last, Liberals also differed from Conservatives on several questions about victims’ groups, and these differences were generally mediated by scores on our equalitarianism measure.

Study 3

So far, our results demonstrate that more 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) stronger positive attitudes toward victims’ groups. Liberals’ higher equalitarian attitudes at least partially accounted for nearly all of these outcomes. These studies suggest that

our basic account of one driver of liberal beliefs, to wit, concern about perceived victims' groups (equalitarianism), is correct. In study 3, we wanted to examine if liberalism would predict biased responses to a vignette about a college entrance exam on which either men (privileged group) or women (victims' group) perform better. Specifically, we predicted that Liberals, but not Conservatives, 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 have a sacred narrative about protecting perceived victims' groups; therefore, they 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 on the exam or that women outperform men (on average). Participants then evaluated whether it is acceptable to use the test. We predicted that more liberal participants would be biased such that they would rate the exam as more acceptable when women outperform men than when men outperform women. We expected that Conservatives would display no such bias, and would rate the exam equally acceptable regardless of whether men or women do better.

We also expected Liberals and Conservatives to evaluate the exam roughly equally when women outperform men, but that Liberals would rate the exam more unacceptable than Conservatives when men outperform women. These results would indicate that 1) Liberals, not Conservatives, evaluate information in a biased manner when that information could portray

victims' groups or privileged groups in a more or less positive light, 2) Liberals and Conservatives are equally likely to accept information when that information portrays victims' groups in a more positive light than privileged groups, and 3) Liberals are particularly motivated to disparage information that threatens cosmic egalitarianism, only when the information appears to indicate that privileged groups have some superior quality over victims' groups, but not when that information could appear to make victims' groups superior to privileged groups.

Method

Participants. U.S. participants ($M_{\text{age}} = 36.73$, $SD = 12.76$; 113 female) were recruited via Amazon Mechanical Turk (MTurk). We aimed for 100 participants per condition (200 total); 206 participated.

Procedure. As in Studies 1 and 2, order of procedures was randomized. Equalitarian attitudes, $\alpha = .90$, and political ideology were measured with the same procedures as in Studies 1 and 2. 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 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 *Not at all* to *Very much so*, which were combined into an index of test acceptability, $\alpha = .85$.

Results

Participants were slightly above the midpoint on liberalism ($M = 4.30$, $SD = 1.65$) and slightly above the midpoint on equalitarianism ($M = 4.68$, $SD = 1.02$). We first regressed test acceptability ratings on the sex condition, ideology (centered), and the interaction, controlling for sex.³ As can be seen in Table 6, there was a significant main effect of condition on test acceptability such that the test was considered less acceptable if men outperform women than if women outperform men. There was no main effect of ideology. Somewhat consistent with predictions, there was a small (but not statistically significant) interaction between the condition and ideology. Consistent with predictions, simple slopes one standard deviation above and below the mean revealed that Liberals found the test significantly less acceptable when men outperform women than vice versa ($b = -1.00$, $t = -3.51$, $p = .001$). In contrast, Conservatives found the test equally acceptable regardless of whether women outperform men or men outperform women ($b = -.38$, $t = -1.32$, $p = .190$, though they were still trending in the same direction as Liberals. Examining the interaction another way (see Figure 4), in the condition in which women outperform men, there was virtually no effect of ideology on test acceptability ($b = .00$, $t = .01$, $p = .995$). Both Liberals and Conservatives found the test highly acceptable if women outperform men. However, in the condition in which men outperform women, more liberal ideology predicted lower test acceptability ($b = -.19$, $t = -2.15$, $p = .032$).

³ Removing sex as a control does not affect the statistical significance of any effects.

Table 6

Test acceptability ratings regressed on sex condition (0: women do better, 1: men do better), ideology, and the interaction, controlling for sex.

	β	t	p	95% CI	semipartial r
Sex	-0.28	-4.25	<.001	-1.26, -.46	-.28
Condition	-.22	-3.38	.001	-1.09, -.29	-.22
Ideology	.01	.13	.893	-.17, .19	.01
Condition x Ideology	-.15	-1.53	.127	-.43, .05	-.10

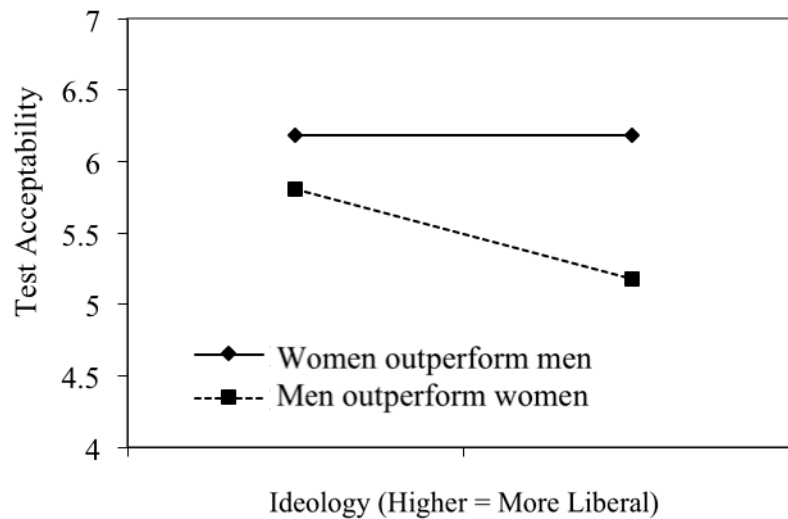


Figure 4. Interaction between sex condition and ideology on test acceptability.

We next tested whether equalitarianism mediated the interactive effect of sex condition and ideology on test acceptability using PROCESS model 5 (10,000 resamples; Hayes, 2013), specifying ideology as the independent variable and sex condition as the moderator. As expected, higher equalitarianism mediated the interactive effect, 95% CI [-.20, -.05], such that equalitarianism mediated the effect of ideology on test acceptability only in the condition in which men outperform women.

To model this interaction simply, we then tested simple mediations within each condition (PROCESS macro; 10,000 resamples; Hayes, 2013). 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 [-.19, .01], but did mediate the influence of ideology on test acceptability in the condition in which men outperform women, 95% CI [-.27, -.07]. As can be seen in Figure 5, higher equalitarianism fully accounted for the relationship between more liberal ideology and lower ratings of test acceptability in the condition in which men outperform women on the test.

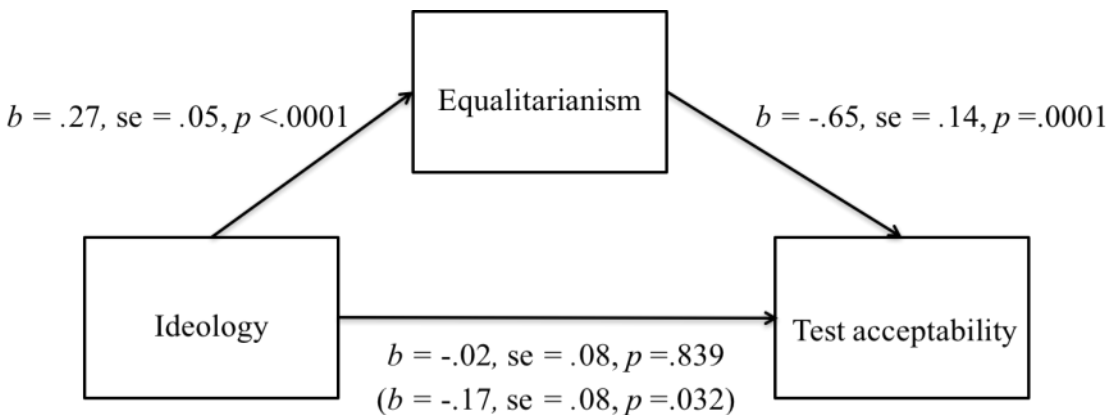


Figure 5. Influence of ideology (higher values = more liberal) on test acceptability, mediated by equalitarianism in the condition in which men outperform women. Values in parenthesis are the total effect of ideology on test acceptability (i.e., prior to controlling for equalitarianism).

Discussion

In study 3, we specifically tested for liberal bias about perceived victims' groups. Somewhat congruent with predictions, we found a trending (but not significant) interaction between condition and ideology. As predicted, we found a significant simple slope for Liberals such they were less likely to accept the test when men outperform women than when women outperform men. For Conservatives, this simple slope was not close to significant. Further, it appears as if Liberals are not biased to accept the test *more* in the women perform better

condition; but rather, they simply disparage the test more in the men outperform condition, supporting our contention that Liberals will be motivated to deny information that challenges cosmic egalitarianism *only* if that information seems to have potentially pernicious consequences for perceived victims' groups. Overall, both Liberals and Conservatives were more accepting of the test when women did better.

We should address an important challenge to our argument. Perhaps Liberals are not biased at all, but rather are using some Bayesian-type reasoning (not consciously, probably!). More women than men are going to college, so perhaps it is rational to conclude that a college test that favored men is sexist and unfair (it contradicts real base rates). However, this objection is flawed because men slightly outperform women on the most popular college exam, the SAT, according to a College Board report (2016). Another plausible objection to the bias argument is that Liberals are using a different but equally rational prior that is altering 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. This argument is difficult to refute or support because the actual rate of sexism in society is nearly impossible to measure and reasonable people would probably contend that the potential answer lies somewhere from little sexism (reasonable Conservatives) to pervasive sexism (reasonable Liberals).

The only way to address this and similar objections is to use matched materials, to ask questions that are about the matched information, to use examples in which the base rates go against the no bias argument (e.g., men perform slightly better on SAT, so it should be more not less plausible that they would outperform women on college entrance exams), and to use a within subjects' design, which is what we will do in study 6.

Study 4

Study 4 sought to replicate the results of Study 3 and extend them to another topic: race. Study 4 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 implications. In both conditions, participants read an argument about the discovery of a gene that was found to be associated with higher IQ scores and that may explain intelligence differences between Blacks and Whites. The only difference between conditions was whether it was said that the gene may therefore explain why Blacks score higher on IQ tests than Whites or why Whites score higher on IQ tests than Blacks. Whether it appears credible that a gene is associated with intelligence and could explain intelligence differences between Blacks and Whites should be independent (perhaps not completely, though, see PRE principle) of whether Blacks or Whites are said to be of higher intelligence. Thus, any differences in argument credibility would likely be due to bias against a particular conclusion (or preference for one conclusion over the other).

We once again expected that Liberals, not Conservatives, would display bias such that they would evaluate the credibility of the argument more unfavorably if the intelligence gene was said to explain why Whites have higher IQs than Blacks than vice versa (because Blacks but not Whites are a perceived victims' group). We again expected Conservatives to treat both arguments equally, and we expected ideology to be unrelated to argument credibility when the gene is said to explain why Blacks have higher IQs than Whites. Thus, we expected that Liberals would be particularly motivated to disparage information that threatens cosmic egalitarianism when that information casts a victims' group in a less favorable light than a privileged group.

Method

Participants. U.S. participants ($M_{\text{age}} = 37.68$, $SD = 12.60$; 118 female; 160 White, 17 Asian, 13 Latino, 12 Black, 1 Middle Eastern) were recruited via Amazon Mechanical Turk (MTurk). We again aimed for 100 participants per condition (200 total); 203 participated.

Procedure. Procedures were identical to Study 3 (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. 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?" [reverse-scored], "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

Participants were slightly above the midpoint on liberalism ($M = 4.53$) and slightly above the midpoint on equalitarianism ($M = 4.79$). We first regressed argument credibility ratings on the race condition, ideology (centered), and the interaction. As can be seen in Table 7, there was a significant main effect of 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 than if the gene explained why Whites are more intelligent than Blacks. There was no main effect of ideology. Consistent with predictions, there was a statistically significant interaction between the race condition and ideology. Simple slopes one standard deviation above and below the mean revealed that Liberals found the argument less credible if the gene explained why Whites are more intelligent than Blacks than if it explained

why Blacks are more intelligent than Whites ($b = -1.04$), $t = -3.39$, $p = .001$. In contrast, Conservatives found the argument equally credible regardless of whether it explained Blacks' or Whites' higher intelligence ($b = .1$), $t = .32$, $p = .747$. Examining the interaction another way (see Figure 6), in the condition in which Blacks were said to have a higher IQ, ideology was unrelated to argument credibility ratings ($b = .07$), $t = .81$, $p = .418$. Both Liberals and Conservatives found the argument fairly credible if the gene explained why Blacks have higher IQs. However, in the condition in which Whites were said to have higher IQs, more liberal ideology predicted lower argument credibility ratings ($b = -.24$), $t = -.98$, $p = .003$.

Table 7

Argument credibility ratings regressed on race condition (0: Blacks have higher IQ; 1: Whites have higher IQ), ideology, and the interaction.

	β	t	p	95% CI	semipartial r
Condition	-.15	-2.16	.032	-.90, -.04	-.15
Ideology	.14	1.19	.236	-.08, .31	.08
Condition x Ideology	-.30	-2.61	.010	-.56, -.08	-.18

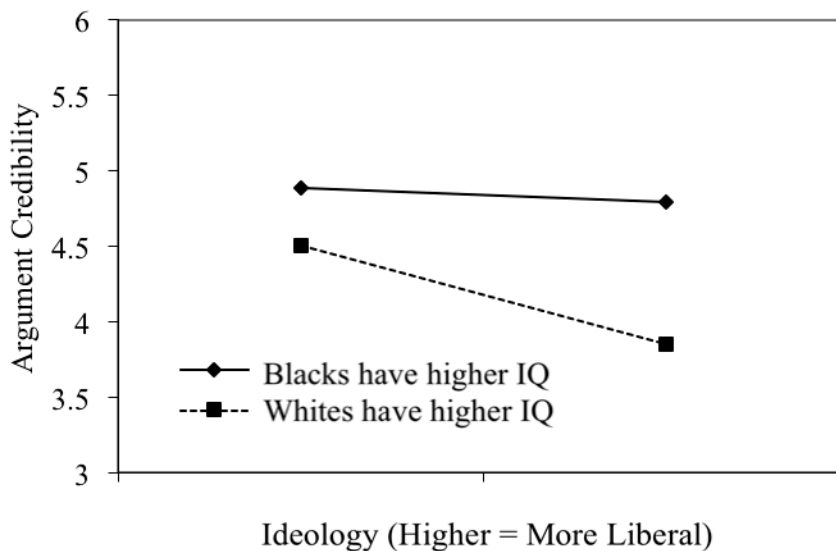


Figure 6. Interaction between race condition and ideology on argument credibility.

We next tested whether equalitarianism mediated the interactive effect of race condition and ideology on argument credibility using PROCESS model 5 (10,000 resamples; Hayes, 2013), specifying ideology as the independent variable and race condition as the moderator. As expected, higher equalitarianism mediated the interactive effect, 95% CI [-.24, -.07], such that equalitarianism mediated the effect of ideology on argument credibility only in the condition in which Whites were said to have a higher IQ than Blacks.

To model this interaction simply, we then tested simple mediations within each condition (PROCESS macro; 10,000 resamples; Hayes, 2013). Confirming the results of the moderated mediation, equalitarianism did not mediate the (non)effect of ideology on argument credibility in the condition in which Blacks were said to have a higher IQ than Whites, 95% CI [-.10, .10], but did mediate the influence of ideology on argument credibility in the condition in which Whites were said to have a higher IQ than Blacks, 95% CI [-.41, -.15]. As can be seen in Figure 7, 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.

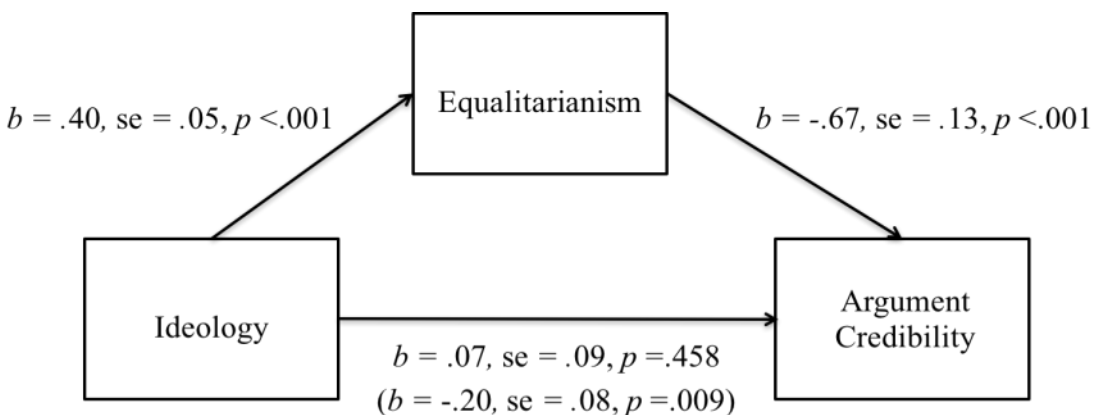


Figure 7. Influence of ideology (higher values = more liberal) on argument credibility, mediated by equalitarianism in the condition in which Whites were said to have a higher IQ than Blacks.

Values in parenthesis are the total effect of ideology on argument credibility (i.e., prior to controlling for equalitarianism).

Discussion

In study 4 we replicated the conceptual results of study 3 with materials more resistant to potential Bayesian-type counterarguments. Specifically, we 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). This largely refutes at least one version of the Bayesian counterargument because Whites actually outperform Blacks (on average) on modern intelligence tests by roughly one standard deviation (Hunt, 2011; Mackintosh, 2011; notice that both of these are highly reputed intelligence textbooks). Therefore, if anything, the genetic explanation should be *more* not less plausible when Whites outperform Blacks. However, this doesn't 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 hurts Blacks more than Whites is more likely to be unfair and racist and should not be accepted.

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?"). Therefore, in future studies, we use only the questions least susceptible to these counterarguments.

Study 5

****Study 5 will be conducted in the future, but for the sake of efficiency, the methods are written in past tense.****

Study 5 sought to replicate and extend the results of Study 4 by including a neutral control condition, in which it was said that the intelligence gene explained individual differences

in intelligence, that this gene is found in equal degrees in both Blacks and Whites, and that this explains why there are no intelligence differences between Blacks and Whites. This additional condition allowed us to determine 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 accept or reject both but to different degrees relative to a more cosmic egalitarian conclusion that there are no differences between groups. We hypothesized that once again, Conservatives would evaluate the argument as equally credible. We further hypothesized that Liberals would display bias only in the condition in which it was said that Whites have higher IQs than Blacks, but would evaluate the argument equally favorably in the Blacks have higher IQs than Whites condition and the neutral control condition.

Method

Participants. U.S. participants ($M_{\text{age}} =$, $SD =$; X female; X White, X Asian, X Latino, X Black, X Middle Eastern) were recruited via Amazon Mechanical Turk (MTurk). We again aimed for 100 participants per condition (300 total); X participated.

Procedure. Methods were identical to Study 4 with two exceptions. First, we used only the two questions from Study 4 that were the least vulnerable to Bayesian counter-explanation: “How credible do you find Dr. Berry’s argument?” and “Is Dr. Berry’s argument logical?”. We also added one additional item: “How plausible is it that a gene could explain IQ differences?”. Note that whether a gene could explain IQ differences ought to be unrelated to the direction of those differences. Second, a neutral condition was also included:

Researchers from a large research institution have discovered a gene that might explain intelligence differences within both Blacks and Whites. For many years, researchers have

found that Blacks and Whites score similarly on certain intelligence tests. Tom Berry and his colleagues have tried to find genetic causes for the similarity in intelligence scores, arguing that environmental explanations cannot explain IQ similarities. "There is simply no reasonable environmental explanation for IQ similarities 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 Blacks and Whites. "About 93% of highly intelligent Blacks and Whites carry the gene," Dr. Berry said, "whereas only 10% of relatively unintelligent Blacks and Whites carry it. We really think this might explain the IQ similarity."

Anticipated Results

We will first regress argument credibility ratings on the race condition dummy coded with the control condition as the reference category, ideology (centered), and the interactions. We expect no significant interaction between ideology and the dummy condition for Blacks have higher IQ than Whites. We expect a significant interaction between ideology and the dummy condition for Whites have higher IQ than Blacks, such that the dummy condition will have no effect for Conservatives, but Liberals will rate the argument as less credible in the Whites have

higher IQ than Blacks condition (than in the other conditions). We also expect that in the Whites have a higher IQ than Blacks condition, more liberal ideology will predict lower argument credibility ratings, but will be unrelated to argument credibility ratings in the other conditions.

We will next examine whether higher equalitarianism mediates the interactive effect of the Whites have higher IQ than Blacks dummy condition and ideology on argument credibility ratings using PROCESS model 5 (10,000 resamples; Hayes, 2013), specifying ideology as the independent variable and dummy condition as the moderator. We expect a significant moderated mediation such that higher equalitarianism will mediate the influence of ideology on lower argument credibility ratings only in the Whites have higher IQ than Blacks condition.

Discussion

Study 6

****Study 6 will be conducted in the future, but for the sake of efficiency, the methods are written in past tense.****

Study 6 sought to replicate and extend the results of Studies 4 and 5 by conducting the study within subjects. For the sake of (some degree of) simplicity, the neutral control condition was dropped from Study 5. All other materials were identical. As discussed in the introduction, if information that is evaluated differently in a between subjects design is evaluated similarly in a within subjects design, this would indicate that participants believe that their evaluations *should be* the same, suggesting that they believe it is irrational (and biased) to answer them differently. If an order effect is observed such that two arguments with identical methods but opposing conclusions are evaluated more favorably when the argument with preference consistent conclusions is presented first than when the argument with preference inconsistent conclusions is

presented first, this would indicate that participants are evincing bias despite their apparent belief that it is irrational to treat the two conditions differently.

We expected no order effect for Conservatives, such that they would evaluate the arguments as equally credible regardless of which argument they read first. For Liberals, we expected an order effect such that they would evaluate both arguments more favorably if they first read that the gene explains why Blacks have higher average IQs than Whites and that the gene explains why Whites have higher average IQs than Blacks second, than if the arguments were presented in reverse order. We also expected them to rate both race conditions similarly (unlike the between subjects results), 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.

Method

Participants. U.S. participants ($M_{age} =$, $SD =$; X female; X White, X Asian, X Latino, X Black, X Middle Eastern) were recruited via Amazon Mechanical Turk (MTurk). We again aimed for 100 participants per condition (400 total); X participated.

Procedure. Methods were identical to Study 5 with two exceptions. First, the neutral control condition was dropped. Second, it was conducted within subjects rather than between.

Anticipated Results

We believe the appropriate statistical test will be a linear mixed model. We will analyze the interactions between the race condition (within subjects), order of arguments (between subjects), and ideology on argument credibility evaluations. We anticipate a significant three-way interaction such that Conservatives will display no main effects or an interaction between the race condition and the order of the arguments, whereas Liberals will display a main effect of

argument order. We expect that Liberals will evaluate both arguments more favorably when they read the argument in which it is said that the gene explains why Blacks have higher average IQs than Whites first than when they first read the argument in which it was said that the gene explains why Whites have higher average IQs than Blacks.

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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 among ethnic groups in society are at least partially biologically caused*
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, sports, creativity).
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. With the right policies, we will increase equality in society

*reverse coded items