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A Model of Political Bias in Social Science Research

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In 2019 at the SPSP Political Psychology Pre-Conference, key stakeholders and researchers were invited to debate the question “does ideological diversity impact the quality of our research?” If Clark and Winegard's (in press) review of ideological epistemology and its significance to social science is mostly on target, it would predict that many at the debate were unconvinced by those arguing that political bias matters. Why? To the extent that social psychologists function as a moral tribal community (as Clark and Winegard argue), motivated to protect their professional and political interests, they will fight tooth and nail to defend their sacred values and professional statuses against charges of political bias. Of course, they might also do so out of a justified belief that they were unfairly accused. How can one tell the difference? In this paper we argue that this can be accomplished by identifying how political biases manifest in social psychology. To that end, we expand upon two of Clark and Winegard's (in press) arguments: 1. there are no reasons to believe that social scientists are immune to the biases, errors, and social processes that can lead to distortions that stem from tribal loyalties; 2. these tribal tendencies, combined with extreme ideological homogeneity, work to create significant problems for the pursuit of scientific truth. Specifically, we present a heuristic model of political bias that identifies ways they manifest, and we review evidence that bears on it.

### **Equalitarianism as a Primary Source of Scientific Bias**

Clark and Winegard (in press) reviewed some of the ways in which political biases undermine the validity and credibility of social science research. Their review concludes that political bias manifests as theories the field has advanced that flatter liberals and disparage conservatives, as ideologically motivated skepticism against theories and data that challenge liberal positions, and as overrepresentation of liberals in social psychology. Political bias has also emerged in the review of ideologically charged scientific articles, in exaggerating the impact of effects favorable to liberal positions, in ignoring plausible alternative hypotheses, in how some findings are framed and described, and in how findings are discussed. They argue that these problems are particularly acute when scientific findings (and sometimes, even questions) threaten researchers' sacred values. They further argue that the most sacred value for many social scientists is *equalitarianism*, by which they refer to a complex of interrelated ideas: 1. There are no biological differences between groups on socially valued traits (and, especially, no genetic

differences); 2. Prejudice and discrimination are the only sources of group differences (and anyone who says otherwise is a bigot); and 3. Society has a moral obligation to arrange itself so that all groups are equal on socially valued outcomes.

Although their analysis has merit, we also think it does not go far enough, especially with respect to points one and three. Equalitarianism can, in our view, trigger scientific biases even when claims do not involve biology. For example, arguing that cultural or religious differences between groups produces unequal outcomes can also trigger equalitarian defensiveness, accusations of bigotry, and biased science. When Amy Wax argued that differences in the adoption of “bourgeois values” explains many of the outcome differences between blacks and whites in the U.S. (Wax & Alexander, 2017), the outraged response was immediate and swift (Haidt, 2017). Why? After decades of being inculcated with the evils of “blaming the victim” (Ryan, 1971), any explanation for group differences, whether or not biological, other than discrimination is enough to trigger equalitarian outrage among some scientists. Our point is not that Wax was correct; it is that she made no biological arguments at all. This is a real-world case in which something other than an attribution to discrimination for group differences on socially valued traits produced the full-blown outrage predicted by Clark and Winegard’s perspective. The second author of the present paper also notes that simply presenting evidence of the accuracy of stereotypes (without any presumption or evidence bearing on why groups differ) has also produced similar reactions (Lehmann, 2015).

We also think their point three is too restrictive. Sacred equalitarianism may even be a bit of a misnomer. In the extreme, this may go beyond a demand for absolute equality among groups and overflow into a motivation to “turn the tables” (to compensate for past wrongs by placing formerly marginalized groups not on an equal footing, but on a superior one; e.g., Weinstein, 2018). For example, samples that skew politically left have recently been found to consider companies insufficiently racially diverse unless they have at least 25-32% black representation (Danbold & Unzueta, 2019). Because blacks only make up about 13% of the U.S. population (U.S. Census Bureau, 2018) this is plausibly viewed as a turn the tables implicit endorsement of discrimination against other groups.

Similarly, much (we suspect most) of the discourse about sexist bias in education, academia, STEM, and even psychology emphasizes the difficulties women face (e.g., Brown & Goh, 2016; Greider et al., 2019; Handelsman et al., 2005; Knobloch-Westerwick, Glynn, & Huge, 2013; Ledgerwood, Haines, & Ratliff, 2015; Milkman, Akinola, & Chugh, 2012; Moss-Racusin, Dovidio, Brescoll, Graham, & Handelsman, 2012; National Academies of Sciences, Engineering, and Medicine, 2018; Nature, 2015; Steele, James, & Barnett, 2016; Steinpreis, Anders, & Ritzke, 1999; United States National Academy of Sciences, 2007; Wenneras & Wold, 1997). Nonetheless, women now represent a majority of social psychologists, most of the leadership in at least one of the main social psychology professional organizations (SPSP, 2019), a majority of psychologists (American Psychological Association, 2015, 2018), and have been more likely to complete high school, college, and graduate degrees than have men for about 40 years (Sharp, 2010). If *absolute equality* was the only driver of motivated bias, one would be witnessing a dramatic upsurge in claims emphasizing biases against and obstacles to the success and representation of boys and men, given that inequality in these areas now favors women. That so much of the social science effort focuses on biases against women, and so little on those against men, even after women have largely turned the tables in these areas, is plausibly interpretable as indicating that, for some scholars, it is not equality per se that is held sacred.

We agree with Clark and Winegard's (in press) articulation of where political bias can emerge, and the problems it creates for social science research. Nonetheless, their review was not intended to be comprehensive, and we believe political biases can also manifest in many additional ways. In the remainder of this article, therefore, we propose and present evidence for a preliminary theoretical model of how political biases manifests in social science.

### **A Preliminary Theoretical Model for Manifestations of Political Bias in Social Science**

Building upon the evidence offered by Clark and Winegard (in press), we propose a preliminary heuristic theoretical model identifying key ways in which political biases may manifest in the scientific enterprise: who becomes an academic social scientist, the questions asked, measurement, interpretation of findings, suppression of ideas and findings, citations, and the canonization of research findings (Figure 1).

#### **Who Becomes an Academic Social Scientist**

Both informal and formal quantitative investigations indicate that social scientists (including social psychologists) are decidedly left-leaning, and that conservatives are the most underrepresented group in the social sciences (Al-Gharbi, 2018; Haidt, 2011; Inbar & Lammers, 2012; SPSP Diversity and Climate Committee, 2019; Von Hippel & Buss, 2017). For example, the Society for Personality and Social Psychology (SPSP; the largest professional organization for social and personality psychologists) released a report on diversity and the climate within their organization (SPSP Diversity and Climate Committee, 2019). Conservatives constituted 4% of the SPSP membership, whereas they constitute 35% of the U.S. population (Gallup, 2018). By comparison, African Americans constitute only 4.1% of the membership of SPSP whereas they constitute 13.4% of the U.S. population (U.S. Census Bureau, 2018; the membership of SPSP is 84% U.S., so this benchmark seems reasonable). Thus, African Americans are underrepresented by about 70% and conservatives are underrepresented by almost 90%. Further, this general pattern is common throughout the academy more broadly (Langbert, 2018; Stolzenberg et al., 2019).

**Role models.** In the academy, concerns have frequently been raised about the lack of representation and role models available for students from underrepresented groups, particularly in terms of race, ethnicity, and gender (e.g., Dasgupta & Stout, 2014; Dee, 2004; Murphy, Steele, & Gross, 2007). The core idea is that mentorship is important (Reinero, 2019); if students don't find successful role models like themselves, they are less likely to pursue a career in that discipline. For example, referring to women in STEM, Dasgupta and Stout (2014, p. 24) argue that "Young adults identify with successful female role models whose presence allows them to think: 'If she can be successful, so can I' and 'I want to be like her.'" Given the support for the gender similarity hypothesis (Hyde, 2005), we know of no reason to believe that this sort of social psychological process is unique to women, and there are many to think that they probably apply widely (Reinero, 2019), including to political role models in the social sciences (Honeycutt & Freberg, 2017; Honeycutt, Jussim, & Freberg, 2019). If non-liberal students do not have faculty who share their beliefs and values, this may dissuade some from furthering their studies, and from pursuing academic careers (Redding, 2012). It follows, then, that the social sciences may be stuck in a self-perpetuating trap whereby political bias driven by ideological homogeneity has created an obstacle

to non-liberal students becoming a part of the field. This process may create further ideological homogeneity in a self-exacerbating cycle.

**Discrimination.** Furthermore, when a field becomes politically homogeneous, the norms may shift such that it may even become normalized to express hostility towards one's ideological opponents (Prentice, 2012). These norms can emerge because "everyone" (in one's ideologically homogeneous circles) "knows" how despicable the other side is (for a report on asymmetrical mockery of Republicans and conservatives at a conference of the Association for Psychological Science, see Mather, 2018). How might this process diminish the pipeline of non-leftist students in social science? It could do so if these biases manifest in classrooms.

Three recent large sample surveys of university students suggest that such biases may indeed manifest in college classrooms. Conservative students reported greater experiences of hostility from instructors than did their non-liberal peers; furthermore, even liberal students agreed that conservative and religious students are the disproportionate recipients of hostility from university faculty (Honeycutt et al., 2019; Wills, Brewster, & Nowak, 2019). Thus, conservative students' perceptions of hostility do not reflect something unique about conservative students; instead, that students across the political spectrum perceive this hostility strongly suggests this reflects an actual classroom dynamic.

It should not be surprising, therefore, that conservative students generally try to hide their political beliefs from their professors (Honeycutt et al., 2019). Students may view their conservatism as a stigmatized identity requiring concealment (Crocker, Major, & Steele, 1998; Quinn & Chaudoir, 2009). The last thing most of these students are likely to do is pursue a career in a field in which they believe they are unwelcome (Woessner & Kelly-Woessner, 2009). Such a process may look like conservative students self-select out of social science research, but some may do so to avoid what they (justifiably) perceive as a hostile environment.

Student self-reported experiences and perceptions of political bias mirror experiences of university faculty (which were reviewed by Clark and Winegard). We summarize additional studies here that were not included in their review as further evidence supporting their perspective. A replication and extension of Inbar and Lammers (2012) found that willingness to discriminate against one's ideological

opponents (which they found among social psychologists) extended to academics across the disciplines (Honeycutt & Freberg, 2017).

Conservative faculty also reported experiencing more hostility from colleagues because of their political beliefs than did liberal and moderate faculty (Honeycutt & Freberg, 2017). These same patterns have also been found among an international sample of academic philosophers (Peters, Honeycutt, Block, & Jussim, in press).

Additionally, 50% of conservative SPSP members reported that they had experienced an incident of subtle exclusion, compared to 14.2% of liberal members (SPSP Diversity and Climate Committee, 2019). For comparison purposes, reported experiences of subtle exclusion for racial/ethnic minority and white members of SPSP were 24.9% and 12.4%, respectively. For heterosexual and sexual minority members, reported experiences of subtle exclusion were 13.8% and 20.1%, respectively. The SPSP report also concluded that conservatives felt “their social identities were less valued than either liberals or participants who reported being neither liberal nor conservative” (p. 63). Although the sample size for conservatives was small (and, therefore, should be interpreted with caution), the pattern of responses across items all point in the same direction and data from the wide variety of studies reviewed above strongly suggests that conservatives experience more hostility in academia than do liberals.

### **Questions Asked**

Do political biases manifest as a narrowing of the questions researchers can and do ask? According to one recent review, both theory and empirical evidence indicate that cognitive, motivational, and social factors can and do influence the questions researchers ask in ways that are vulnerable to political biases (Jussim, Stevens, & Honeycutt, 2018). For example, political homogeneity may lead to *premature scientific foreclosure*—the erroneous belief that science has settled some question, thereby discouraging further work on the topic that might reveal the error. For example, social psychology prematurely foreclosed on conclusions emphasizing the power of self-fulfilling prophecies (Jussim, 2012), the greater susceptibility to bias among conservatives than liberals (Ditto et al., 2018), the existence of higher levels of prejudice among conservatives than liberals (Brandt, Reyna, Chambers, Crawford, & Wetherell, 2014), and the power and pervasiveness of “unconscious prejudice” (Jussim,

Careem, Goldberg, Honeycutt, & Stevens, in press). In each case, a ‘consensus’ in support of the erroneous perspective could be found in the scientific literature that lasted decades. Each of these premature foreclosures involved conclusions flattering to liberals or validating equalitarian narratives.

Similarly, *motivated reasoning* (Kunda, 1990) may lead researchers to be more critical and skeptical of findings that challenge their preconceived notions than those that support them (Nickerson, 1998). Politics may influence scientists’ preconceptions, for example, about the rationality of conservatives or liberals, or the extent and power of bias and discrimination. If so, perhaps, research confirming those notions would be more likely to be published in prestigious journals and highly cited; research disconfirming those notions might have difficulty getting published in prestigious journals, or even getting published at all (as discussed in Clark and Winegard’s review).

Scientists are also heavily influenced by all sorts of social norms (Jussim, Krosnick, Stevens, & Anglin, in press). Norms can influence what is acceptable, popular, or stigmatized to study (Jussim et al., 2018). When deciding what to study, if one is interested in managing one’s career as an academic, topics seen as likely to be warmly received may be pursued far more aggressively than those seen as likely to be harshly received by one’s colleagues. If one understands that most of one’s colleagues are politically left, it will be far easier to manage and advance one’s career if one works on topics appealing to those on the left than on topics that might produce findings that the left opposes (for a brief discussion, see Everett, 2015).

As Tetlock and Mitchell (2015) state:

It is not the personal political values of researchers that matter, so much as the willingness of researchers to challenge orthodox ideas within a field, but if the costs of dissent outweigh the benefits of dissent then scientific competition can never drive out spurious results produced by political bias rather than by true empirical causes and effects (Tetlock & Mitchell, 2015, p. 32).

In addition to *what* questions get asked, political values can become embedded in *how* researchers ask questions (see Reyna, 2018, for a review). This issue was on full display at the 2019 SPSP Political Psychology Pre-Conference. One of the sessions addressed the question of ideological symmetry versus



asymmetry. Researchers from two camps were invited to debate whether conservatives and liberals are biased in similar ways (symmetry), or whether conservatives are more biased than liberals (asymmetry). The debate certainly reflected progress, given that for decades the field had prematurely foreclosed on the conclusion that conservatives were more biased than liberals (e.g., Brandt, Reyna, Chambers, Crawford, & Wetherell, 2014; Ditto et al., 2018). However, and here is an informal test of readers' own political biases: Do you see anything missing? (Take a minute before reading on...). We do. There was a possibility that was not even considered: Are people on the left more biased than those on the right? Given the awful history of leftwing atrocities (Soviet Union, China, Cambodia, Eastern Europe under Communism, North Korea, et cetera), many of which were enabled by all sorts of biases in reasoning and toxic social norms (Solzhenitsyn, 1973), the failure to even raise this question for consideration was a clear blind spot.

### **Measurement**

Political skew can manifest in the very measurement of key constructs in politicized areas. Although some manifestations of measurement bias might be subtle, others are more obvious. For example, liberals typically score higher on the "openness to experience" dimension of the five-factor model of personality. One of the items is "I believe that we should look to our religious authorities for decisions on moral issues" (Agree: Openness score goes down). Conservatives are more religious than liberals (Hirsh, Walberg, & Peterson, 2013; Pew Research Center, 2018), and many academics are hostile to religion (Marsden, 2015; Yancey, Reimer, & O'Connell, 2015). Therefore, a failure to recognize that an item tapping religion could spuriously inflate the correlation between the measure of openness and ideology embeds political bias into the measure (Charney, 2015).

In the most sweeping review of these issues to date, Reyna (2018) conducted a systematic march through a myriad of ways, with examples, of how political biases undermine measurement. She reviewed some of the material we just covered, but through a measurement lens. For example, if we do not measure prejudice held by minority groups towards majority groups, we will develop a skewed view of prejudice as primarily, or even exclusively, the province of majority groups.

Reyna (2018) also addressed the problem of “proxy questions,” which refers to use of questions intended to capture Phenomenon A by measuring Phenomenon B, on the grounds that B is supposed to be correlated with A. Issues related to social desirability have encouraged the rise of proxy measures in social science research; participants might not be willing to admit if they are racist or sexist, so indirect measures are needed to get around this. Symbolic racism (Sears, 1988), for example, was created to get around social desirability in the assessment of racism. Critics, however, have identified a slew of reasons that this indirect measure of racism was actually, at least in part, a measure of political conservatism and belief in meritocracy (Tetlock & Mitchell, 1993). The tangling of conservative and racial concepts in a measure intended to indirectly assess racism makes it impossible to assess the independent and interactive effects of either construct (Tetlock, 1994). If, in turn, canonical conclusions regarding prejudice become rooted in the use of indirect measures that are infused with political bias, our understanding of both prejudice and ideology may become deeply flawed (Reyna, 2018).

Reyna (2018) reviewed a wide variety of common proxy measures (system justification, symbolic racism, and the implicit association test [IAT]) and concluded that all implicitly import potentially unjustified ideological assumptions. Although a full discussion of how ideological assumptions infiltrate these and other measures is beyond the scope of this paper, it is worth noting that measurement issues have been addressed in a substantial and growing literature on political biases (Chambers & Schlenker, 2015; Duarte et al., 2015; Jussim, Crawford, Anglin, Stevens, & Duarte, 2016; Jussim, Crawford, Anglin, & Stevens, 2015; Martin, 2016; Redding, 2001; Reyna, 2018; Tetlock, 1994).

It is possible that efforts to raise awareness about biases have begun to bear fruit in the sense of researchers becoming more sensitive to their own potential for such biases, and, therefore, being better-positioned to reduce or eliminate them. Nearly two decades after introducing items for an actively open-minded thinking scale (AOT), Stanovich and Toplak (2019) discovered they had inadvertently introduced bias against religious individuals into their measure through items asking participants about “beliefs.” It was assumed by Stanovich and his colleagues that participants all interpreted “belief” in the same way, but they came to recognize that “...our own political/worldview conceptions leaked into these items in subtle ways” (p. 163). Specifically, they presumed “beliefs” referred to secular, empirically verifiable

understandings of the world. For secular academic intellectuals, this presumption is understandable. However, when they discovered unexpectedly high negative correlations of religiousness with some variations of the AOT scale, they revisited the items, and reanalyzed some existing data. Those analyses were consistent with a conclusion that religious respondents interpreted “beliefs” as “spiritual beliefs.” As a result, this led religious people to appear far less open-minded with respect to secular beliefs (which was the focus of the AOT) than they actually were.

“Are we ideologues masquerading as scientists: Have we rigged the research dice in favor of our political agenda?” (Tetlock, 1994, p. 528). For measurement, this is an important question to keep in mind. Being vigilant in the choice and construction of methods used, in addition to ensuring the validity of measures, would assist in mitigating the effect of political bias on measurement. As summarized by Reyna (2018), researchers must ensure their questions are not one-sided, that political assumptions are not embedded to the detriment of construct and face validity, and reviewers and consumers must carefully scrutinize measures to ensure that they assess what they are purported to assess (see also Flake & Fried, 2019, for a review of questionable measurement practices).

### **Interpretation**

There are few, if any, strict rules or guidelines governing how to interpret findings. Therefore, interpretations are subject to a broad array of biases stemming from many sources, including a misunderstanding of statistics, a desire for “wow! effects” (compelling narratives) to achieve fame and prestige, failure to consider alternative explanations, and more (Jussim, Crawford, Anglin, et al., 2016). As such, interpretations also constitute fertile ground for the manifestation of political biases (for theoretical reviews of how such biases can and do manifest in scientific interpretation, see Jussim et al., 2015, 2018; Jussim, Crawford, Stevens, Anglin, & Duarte, 2016; Jussim, Crawford, Stevens, & Anglin, 2016).

One simplistic way in which politically biased interpretations can manifest is by framing differences between liberals and conservatives in a manner that stigmatizes conservatives when those same differences could just as readily be described neutrally or as stigmatizing liberals. Here we augment the cases reviewed by Clark & Winegard with additional evidence. In scientific abstracts for social

psychology research, for example, conservatives and conservative ideas are described more negatively than liberals and liberal ideas (Eitan et al., 2018). Although such a pattern by itself may or may not reflect bias, other work more clearly identifies how political biases manifest as framing findings in ways that derogate conservatives. For example, Lilienfeld (2015) pointed out that the robust finding that conservatives are more sensitive to threat than are liberals has been framed as “negativity bias” or “motivated closed-mindedness” (they could just as readily been framed as liberal “positivity bias” or “motivated blindness to danger”).

Indeed, even the widespread derogatory characterization of conservatives as “rigid” is primarily based on research that has not actually demonstrated rigidity, if rigidity means an inability or unwillingness to change one’s thinking. Instead, what has generally been demonstrated is some level of mean difference between liberals and conservatives on scales measuring constructs such as dogmatism and cognitive flexibility (Jost, Glasser, Kruglanski, & Sulloway, 2003). Putting aside the possibility that infiltration of political biases in the measurement of dogmatism and rigidity (Malka, Lelkes, & Holzer, 2018; Reyna, 2018) may exaggerate differences between liberals and conservatives on these measures, how much flexibility is the “right” amount? Should people be entirely ‘wishy-washy’ (a mirror image pejorative characterization of liberals’ lower “dogmatism” and greater “flexibility”), jettisoning their beliefs at the slightest challenge? There currently are no answers to questions like this; value laden characterizations of conservatives as “dogmatic” and liberals as “open-minded” are scientifically meaningless absent standards for deciding who is dogmatic and open-minded other than ‘scores on a scale.’

Political bias can also influence the interpretation of findings through the *exaggeration* of differences between conservatives and liberals in ways that flatter liberals. Such is the case when researchers commit the high-low fallacy (Reyna, 2018). Often, researchers fall victim to interpreting small differences at one end of the scale as if the differences reflect values at the scale endpoints. For example, even though relatively few people score on the authoritarian end of the rightwing authoritarianism scale (RWA), psychologists routinely refer to conservatives as high and liberals as low in authoritarianism (Reyna, 2018). Statistically significant differences do not indicate that groups are at

opposite ends of the scale (Reyna, 2018). Instead, more valid interpretations would be that liberals score low on RWA whereas conservatives' scores are more intermediate. Of course, this problem is itself confounded with the measurement problem—is anyone shocked that *conservatives* score higher than liberals on a *rightwing* authoritarianism scale, whereas *liberals* score higher than conservatives, on a *leftwing* authoritarianism scale (Conway, Houck, Gornick, & Repke, 2018)?

Such biases may be particularly powerful when, exactly as argued by Clark and Winegard, they are driven by equalitarian motives. This may help explain why identical effect sizes (of about  $r=.11$ ) are viewed as socially important if being socially important advances social justice (by revealing that implicit bias causes "important" levels of discrimination; Greenwald, Banaji, & Nosek, 2015), and trivially small if being trivially small advances social justice (debunking discriminatory stereotypes by revealing there are few serious differences between men and women; Hyde, 2005). However, as scientific generalizations, 'socially important' is mutually exclusive with 'trivially small.' How is it possible, then, that both descriptions exist unchallenged in highly-cited articles appearing in prominent peer reviewed journals, without even acknowledgement of the contradiction, let alone attempts to resolve it? Clark and Winegard provide a likely answer: both articles advance equalitarian social justice narratives, and scientists are motivated to embrace those narratives. Explicitly acknowledging that these two equalitarian narratives conflict with each other would undercut the ability to advance at least one of them. Accordingly, their perspective predicts that few will notice the contradiction and, even among those that do, even fewer will be motivated to point it out and risk the ire of their colleagues.

A similar process may explain unjustified interpretations of the original stereotype threat research (Steele & Aronson, 1995) as demonstrating that 'but for stereotype threat, black and white test scores would be equal.' This conclusion validates the equalitarian assumptions that there are no real racial differences other than those produced by discrimination. Unfortunately, however, Steele and Aronson's (1995) findings did not support those conclusions. Specifically, the studies did not even test the hypothesis that 'but for stereotype threat, black and white test scores would be equal,' let alone provide data that supported it. Nonetheless, it was interpreted in that manner for many years, and, sometimes, still is (see Jussim, Crawford, Stevens, Anglin, et al., 2016, for a review).

Space constraints do not permit a full exposition of misinterpretations that may reflect political bias. Nonetheless, several reviews raise the possibility that, in addition to the cases reviewed here, the problem also characterizes work on environmental attitudes, stereotype accuracy and bias, self-fulfilling prophecies, rightwing authoritarianism, microaggressions, liberal/conservative differences in bias, and more (e.g., Jussim et al., 2015, 2018; Jussim, Crawford, Stevens, Anglin, et al., 2016; Jussim, Crawford, Stevens, & Anglin, 2016; Lilienfeld, 2017; Martin, 2015; Redding, 2001; Reyna, 2018).

### **Suppression of Ideas and Findings**

Political and especially equalitarian biases may operate to suppress certain ideas and findings. One of the definitions of “suppress” found on dictionary.com is “to withhold from disclosure or publication,” and that is the meaning used here. Suppression can come in two forms: self-suppression and attempted suppression by others.

**Self-suppression.** Becker (1967) is plausibly interpreted as implicitly advocating for politically-motivated self-suppression:

One can imagine a liberal sociologist who set out to disprove some of the common stereotypes held about a minority group. To his dismay, his investigation reveals that some of the stereotypes are unfortunately true. In the interests of justice and liberalism, he might well be tempted, and might even succumb to the temptation, to suppress those findings (Becker, 1967, p. 239).

If there is any doubt that Becker (1967) was advocating for political biases, including suppression, his conclusion (p. 247) leaves no doubt: “We take sides as our personal and political commitments dictate...”

Self-suppression is notoriously difficult to demonstrate, of course, because if work has been suppressed, it cannot be easily found. An absence of evidence cannot, by itself, be interpreted as suppression. However, we know of at least 17 cases of suppression uncovered that are consistent with Clark and Winegard’s analysis of how the second equalitarian assumption (prejudice and discrimination are ubiquitous) can bias the scientific literature. Zigerell (2018) discovered 17 unpublished experiments on racial bias embedded in nationally representative surveys totaling over 13,000 respondents. These

unpublished experiments failed to detect evidence of anti-black bias among white respondents but did detect pro-black bias among black respondents.

Although the role of political biases in producing this situation may never be known with certainty, two points are worth highlighting. First, an alternative explanation is that researchers obtained null results, which are notoriously difficult to publish, so they did not bother to try. However, this explanation is, at best, incomplete, inasmuch as statistically significant evidence of anti-white bias among black respondents was found and the studies still were not published. Second, regardless of the reasons for suppression, the mere fact that these findings were suppressed means that the scientific literature was biased in an equalitarian direction (overstating the extent of racial bias by its failure to include these 17 studies finding no bias among whites) until Zigerell's (2018) forensic work rediscovered these studies. This raises the following unanswerable question: How many other unpublished studies failing to find evidence of demographic biases are there?

Another example of self-suppression can be found in IAT research. In response to criticism of the ability of IAT studies to account for racial discrimination (Blanton et al., 2009), a retort emphasized the validity of the IAT and included in its title: "... Executive Summary of Ten Studies that no Manager Should Ignore" (Jost et al., 2009). Putting aside the fact that six of the ten studies did not address racial discrimination, even the four that did found almost no evidence of racial discrimination (see Jussim et al., in press, for a review). This was simply not reported in Jost et al.'s (2009) reply, or in any paper we know of that has cited that reply, until we did a deep dive into the 10 studies and discovered the almost complete absence of racial bias effects (Jussim et al, in press). Of course, it is possible that, rather than suppression, perhaps no one consider it relevant. But how could findings showing little or no bias not be relevant to establishing the importance of the IAT to predict bias?

**Suppression by others.** In addition to self-suppression, sometimes, findings are suppressed by *others*. Academia is a social enterprise—our publications, grants, invitations, jobs, and promotions hinge heavily on others' evaluations of us (Jussim, Krosnick, et al., in press). If some ideas and those who advocate them are sanctioned and punished, suppression is a likely outcome. This state of affairs was recently explicitly articulated by social psychologist Michael Inzlicht (*WTF is the IDW?*, 2018):

What if I felt that overemphasis on oppression is a terrible idea, hurts alleged victims of oppression, and is bad for everyone. What if I was outspoken about this? I suspect I would face a lot more opposition, even though not much could happen to my job security, but I'd have a lot of people screaming at me, making my life uncomfortable. And, truly, I wouldn't do it, because I'd be scared. I wouldn't do it because I'm a coward.

Our view is that Inzlicht's willingness to go public with this sort of statement means, if anything, he is less of a coward than many others—which is plausibly interpretable as suggesting that the problem extends widely. Indeed, there are more than ample documentable instances where academics have been subject to punishment (investigations, firings, retractions), not because their ideas were refuted or their data found to be fraudulent, but because other academics found their ideas offensive. Most of these cases involved findings or arguments that challenged (or, perhaps, threatened) academics' equalitarian sensibilities (race, sex, ethnicity, colonialism, et cetera, Jussim, 2018a; Quillette, 2019).

How many early-career researchers are willing to risk their careers by stepping on intellectual hornets nests? Indeed, given the political climate in the academy, and especially in the social sciences, how many even senior scientists are willing to court the type of hostility feared by Inzlicht? We speculate that Inzlicht's comments apply widely. If so, the obvious consequence is that suppression of research ideas and findings out of fear of running afoul of one's colleagues will produce a biased 'scientific literature' that provides more support for equalitarian narratives than is actually justified.

## Citations

Political motivations and blinders may also distort scientific literatures by influencing which studies researchers emphasize. This can manifest in many ways, one of which is citations. Although papers can be cited for many reasons, some are that researchers consider them relevant, valuable, or important. However, it is also possible that many researchers selectively cite and emphasize work that they agree with. Like other biases, this may, but need not, manifest as *only* citing work one agrees with; *bias* would occur when work is cited *more frequently* based on its political content rather than its scientific quality. Because Clark and Winegard only scratch the surface of citation biases, we present more such evidence here. For example, in 2012 and 2015, papers reporting studies assessing gender



biases in STEM hiring were published. Table 1 summarizes their key characteristics and citations, and shows the paper finding biases against women has been cited at a vastly higher rate even though by most conventional methodological quality metrics (number of studies, sample size) it was less methodologically sound.

This citation pattern shown in Table 1 is not unusual. Jussim (2019) examined citation patterns of ten papers published in 2015 or earlier on gender bias in peer review (Table 2). Four found biases favoring men; six found either no bias or biases favoring women. The citation patterns echoed those shown in Table 1; vastly larger-scale studies finding no evidence of biases against women are cited at a fraction of the rate of far smaller studies finding biases against women.

This pattern is not restricted to gender issues. A famous study that primed age stereotypes and found people walk down the hall more slowly has been cited over 5000 times (Bargh, Chen, & Burrows, 1996); a failed replication (Doyen, Klein, Pichon, & Cleeremans, 2012), 580 (all citation counts in the present and next paragraphs were obtained on December 10, 2019 from Google Scholar). Even if we restrict citations to 2013 and later, the counts are 2340 and 548. The first paper finding stereotype threat effects among women in math (Spencer, Steele, & Quinn, 1999) has been cited over 3800 times; a failed replication with a far larger sample size (Finnigan & Corker, 2016), a mere 33. If we restrict citations to 2017 and later, the counts are, respectively, 941 and 30.

Clark and Winegard described the dramatically higher citation count for Darley and Gross (1983) than for Baron, Albright, and Malloy's (1995) failed replication. These patterns, however, are not restricted to successful studies versus failed replications. Darley and Gross (1983) examined whether individuating information reduced stereotype biases (they found it increased bias). However, the first study framed as addressing exactly that issue was published previously, in the same journal, and found that individuating information eliminated stereotype bias (Locksley, Borgida, Brekke, & Hepburn, 1980). Locksley et al. (1980) has been cited 666 times; that is pretty high, but well under half the rate of Darley and Gross's (1983) over 1500 citations, and this is despite the fact that Locksley et al. (1980) reported two studies with a combined total of 325 participants, whereas Darley and Gross (1983) only reported a single study with 70 participants. Of course, if it is easy to reduce or eliminate stereotype biases in person

perception by providing individuating information, this undercuts equalitarian narratives emphasizing the power of such biases. This, according to Clark and Winegard's analysis, likely explains some or all of the difference in citations.

In this context, it is also interesting to note that Kunda and Thagard's (1996) review and meta-analysis finding that individuating information effects were "massive" (p. 292) is not cited in a single one of the chapters in the 2010 Handbook of Social Psychology (Fiske, Gilbert, & Lindzey, 2010). The Handbook is one of the most canonical sources in all of social psychology, and Kunda and Thagard (1996) was itself published in a major outlet (*Psychological Review*). That it was completely uncited, even though several Handbook chapters focused specifically on stereotypes, social justice, and related concepts, is an omission entirely consistent with the type of equalitarian biases identified by Clark and Winegard.

Our last example (though there are many more) are competing meta-analyses of the psychological characteristics of liberals and conservatives. Jost, et al.'s (2003) meta-analysis showing that conservatives were far higher than liberals on dogmatism and rigidity has been cited almost 4000 times; a meta-analysis showing small to nonexistent differences in cognitive styles among conservatives and liberals (Van Hiel, Onraet, & De Pauw, 2010) has been cited 176 times. If we restrict citations to 2011 and later, the counts are, respectively, 3060 and 173. Admittedly, the Van Hiel et al (2010) was published in a lower-profile journal, and that may partially account for the huge citation difference; however, from another perspective, that it was published in a lower profile journal may itself reflect political biases. More important, many of the examples used here involve comparisons of studies published in the same journal at about the same time, so that the vast citation differences reviewed here cannot generally be explained by differences in the visibility of the publication outlets.

The importance of these citation biases goes well beyond providing evidence consistent with Clark and Winegard's account of scientific equalitarian biases. They are important because they go to the heart of the scientific enterprise, which we discuss in the next section on how ideas and findings enter the scientific canon.

### **Canonization**

Canonization (Table 3, adapted from Jussim, Krosnick, et al., in press) refers to the process by which research findings and conclusions become part of a field's accepted and established base of knowledge (Jussim, Krosnick, et al., in press). The social sciences currently have processes, but no consensus or norms, regarding the standards to be used to canonize a finding or conclusion. Descriptively, the process seems to involve claims making it into journals of record (e.g., *Psychological Bulletin*, *Perspectives on Psychological Science*, et cetera), Annual Review and Handbook chapters, major textbooks, and the like. But what determines whether findings make it into those outlets of record? It is currently an unclear combination of popularity, prestige, having the right allies and supporters, compellingness of narrative, and validity (Jussim, Crawford, Anglin, et al., 2016; Jussim, Krosnick, et al., in press; Merton, 1973; Tomkins, Zhang, & Heavlin, 2017). Except for validity, none of these factors constitute grounds for claiming a finding or conclusion is actually true.

Table 3 captures this state of affairs. The *ideal* situation is when valid findings are canonized. If invalid findings are ignored, the canon is also better off, though, of course, we rarely know which findings are valid versus invalid until a skeptical scientific community has had years, sometimes decades, to fully vet the research. The other two cells are even more suboptimal: Canonization of invalid findings can lead to a Reign of Error (and psychology's replication crisis strongly suggests that is exactly what we have had in many areas for the last several decades); and failure to canonize valid findings harms the field by depriving it of valid knowledge.

Canonization is where the biases articulated in the prior sections on questions, measurement, interpretations, and citations all come together in ways that actually matter. When solid research is blithely ignored because it fails to fit liberal/equalitarian narratives, it impoverishes the social science canon. Furthermore, to the extent that the largely overlooked work is actually superior in methodological quality to the cited work (see Tables 1 and 2), it may actually contribute to a Reign of Error, whereby flawed studies of limited generalizability are taken to represent the field's general knowledge. When certain questions go unasked, the canon cannot possibly have answered them. When we use flawed or biased measures, our interpretations of findings may be distorted at best and wrong at worst. When we reach consistently unjustified interpretations, we produce a Reign of Error. And even if all this is

corrected in the scientific literature, if those corrections go largely ignored (uncited), the Reign of Error can persist.

Ellemers (2018) review of gender stereotypes can be taken as a paradigmatic case. It appeared in *Annual Review of Psychology*, one of the outlets of record for our field. It also concluded that gender stereotypes were mostly inaccurate—*without citing a single one of the 11 papers reporting 16 separate studies that actually assessed the accuracy of gender stereotypes* (see Jussim, 2018b, for details). Those 11 papers consistently found that gender stereotypes ranged from moderately to highly accurate.

We note here that it is not the case that the accuracy work could not or did not get published; it clearly did. However, to therefore assume that our science has self-corrected the erroneous claim that gender stereotypes are generally inaccurate would be to commit *the fundamental publication error* (Jussim, 2017). This refers to the mistaken belief that, just because something has been published correcting past scientific errors, the scientific record has been corrected. If the work correcting errors is ignored, no correction has taken place. It is possible, of course, that future research will vindicate the view that gender stereotypes are mostly inaccurate. Furthermore, any scientist is welcome to criticize any area of research and make the case that it is invalid. Nonetheless, reviews that claim comprehensiveness and nuance, such as those appearing in *Annual Review of Psychology*, should not be in the business of *simply ignoring* work that fails to fit equalitarian narratives.

### Conclusion

Political bias can slip in and distort the research process and scientific pursuit of truth at many stages, influencing who becomes an academic social scientist, the questions asked, the measures used, how research findings are interpreted, ideas and findings being suppressed, what is cited, and the canonization of research findings. We note here that most are readily detectable as *manifestations in the published literature* without requiring attributions to individual researcher motivations. When scale labels condemn conservatives, or certain types of studies are systematically ignored or go unpublished, or certain types of questions go unasked, *the scientific literature itself becomes politically biased*, regardless of whether individual researchers harbor such biases.

The existence of political bias in academic research can damage the reputation and credibility of individual researchers, whole fields, and academia itself. It increases skepticism among key consumers such as policy makers, judges, and the public (Cofnas, Carl, & Woodley of Menie, 2017; Duarte et al., 2015; Gauchat, 2012; Redding, 2001). The patterns of bias described in this review may also at least partially explain why there has been such a strong decline in support for science among conservatives, who, with some justification, see science on politicized issues as itself hopelessly politicized (Cofnas et al., 2017; Gauchat, 2012).

We further note that the phenomena reviewed herein likely synergistically combine to undermine the credibility of science with all but the liberal members of the lay public (though possibly with some of them as well). The lack of conservatives in the social sciences, combined with explicit endorsement of discrimination against conservatives, gives lay conservatives ample reasons to doubt the validity of conclusions seeming to support liberal, equalitarian, social justice narratives. We urge readers to imagine a counterfactual: That the social sciences included a large minority of conservative scientists, that our methods were actually capable of providing clear scientific answers to controversial and politicized issues, and that most scientists valued truth over politics. In this hypothetical world, high quality methods could lead both liberal and conservative social scientists to converge on answers to some difficult questions. In this case, we speculate that research findings from this hypothetical world would have far higher credibility among the lay public for two reasons: 1. Representation of a broad ideological range of views among scientists signals a commitment to fairness, openness, and honesty; and 2. It guarantees that a large number of scientists (if consensus is reached) on *everyone's* 'side' confirm the validity of the finding, regardless of whose political narrative it validates. This should make it far more difficult to dismiss scientific findings as partisan ax-grinding by other means. Furthermore, by virtue of experts on one's own side endorsing the research, the findings may be rendered far more palatable. Although we are not suggesting that vigorous embrace of intellectual and political diversity in the social sciences is some sort of scientific panacea, this hypothetical world—which contrasts sharply with our actual world—captures some of the potential benefits social science might reap by rectifying its political lack of diversity and taking its political bias problems seriously.

Clark and Winegard (in press) close their review and arguments suggesting that social scientists should take a moment to be introspective—to apply their own theories and scholarship to themselves. To aid in this effort, Jussim & Crawford (2017) reviewed research identifying a slew of actions that scientists can take now to limit their vulnerability to such biases. Although space does not permit a deep exposition here, in brief, those included: increase one’s own exposure to politically diverse views as espoused by those who hold them (rather than [mis]characterizations of those views by their opponents), include political views in diversity statements and programs, subject all work (including equalitarianism-validating work) to intense scientific skepticism, use *strong inference* (design studies to test competing alternative theoretical perspectives), wait to bring research-based interventions into public applications until after the underlying research has undergone a long period of skeptical scientific vetting, and develop hypotheses and research programs based on theoretical predictions that are so strong they leave little room for political biases. We echo Clark & Winegard’s hope that social scientists will become more aware of their biases. Through the type of critical introspection they called for, and by acting on some of these recommendations described, we also hope this will work toward curtailing its influence on social science research.

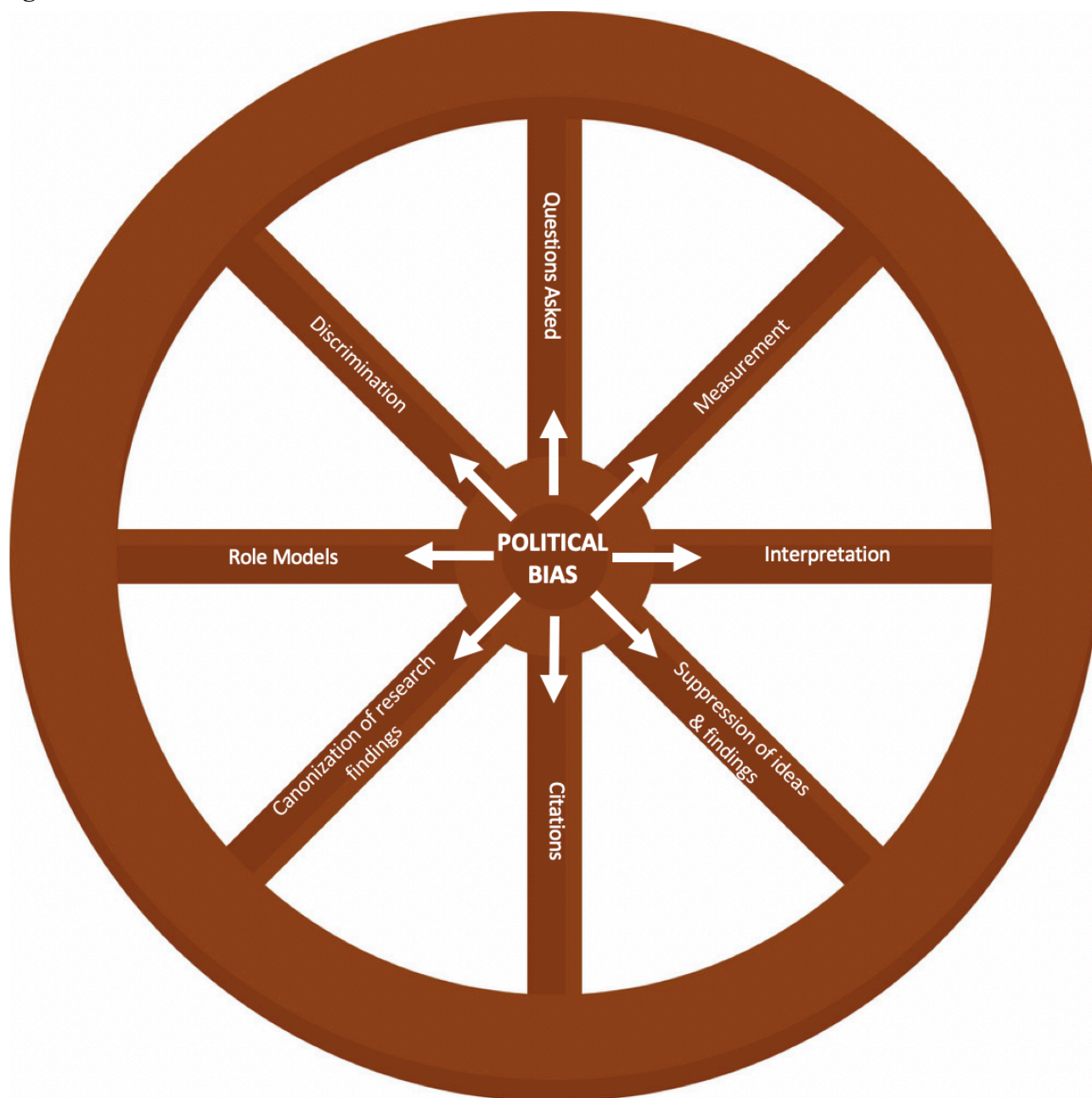
**Figures**

Figure 1: Preliminary Theoretical Model for Manifestations of Political Bias in Social Science

## Tables

Table 1: Citations to Two Papers Finding Opposite Patterns of Gender Bias

	Number of Experiments	Total Sample Size	Main Finding	Total Citations (Google Scholar, 12-9-19)	Citations Since 2015 (Google Scholar, 12-9-19)
Williams & Ceci (2015)	5	873	Bias favoring women	217	194
Moss-Racusin, et al. (2012)	1	127	Bias favoring men	1935	1470

Table 2: Citations to Papers Based on Whether or not They Found Gender Bias Favoring Men

	Found Biases Favoring Men (Four Papers)	Found Unbiased Responding or Biases Favoring Women (Six Papers)
Median Sample Size	182.5	2311.5
Citations per year	51.5	9.00

Data based on those reported in (Jussim, 2019)

Table 3: The Importance of Canonization

Published Research Is:	Ignored	Canonized
Invalid	IRRELEVANT: No Major Harm	REIGN OF ERROR: Misunderstanding, misrepresentation, bad theory, ineffective and possibly counterproductive applications
Valid	LOSS: Understanding, Theory and Applications Deprived of Relevant Knowledge	IDEAL: Understanding, Theory and Applications Enhanced by Relevant Knowledge

Adapted from Jussim, Krosnick, et al. (in press)



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