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Is research in social psychology politically biased? Systematic empirical tests and a forecasting survey to address the controversy

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ABSTRACT

The present investigation provides the first systematic empirical tests for the role of politics in academic research. In a large sample of scientific abstracts from the field of social psychology, we find both *evaluative differences*, such that conservatives are described more negatively than liberals, and *explanatory differences*, such that conservatism is more likely to be the focus of explanation than liberalism. In light of the ongoing debate about politicized science, a forecasting survey permitted scientists to state a priori empirical predictions about the results, and then change their beliefs in light of the evidence. Participating scientists accurately predicted the direction of both the evaluative and explanatory differences, but at the same time significantly overestimated both effect sizes. Scientists also updated their broader beliefs about political bias in response to the empirical results, providing a model for addressing divisive scientific controversies across fields.

He who knows only his side of the case, knows little of that.
— John Stuart Mill, *On Liberty*

Are scientific investigations of politically charged topics affected by the values of the scientists themselves? This question has been the subject of considerable debate in the social sciences, including psychology, for quite some time (Duarte et al., 2015; Eagly, 2014; Haidt, 2011; Redding, 2001; Tetlock, 1994). However, the empirical evidence that can be brought to bear on the issue is mainly indirect.

Scientists, including psychological scientists, overwhelmingly fall on the socially liberal end of the liberal-conservative dimension (Cardiff & Klein, 2005; Gross & Simmons, 2006; Inbar & Lammers, 2012; Klein & Stern, 2005; McClintock, Spaulding, & Turner, 1965; Rothman & Lichter, 2008). This does not necessarily mean that scientists engage in motivated reasoning (Ditto & Lopez, 1992; Kunda, 1990; Lord, Ross, & Lepper, 1979; Sherman & Cohen, 2002) when choosing topics and methodologies, analyzing data, or interpreting research results. However, the political demographics of academia do present a risk of intellectual homogeneity and consequent ideological bias. Scientific safeguards designed to guard against error and bias may not attenuate the natural motivated reasoning shown by all human beings enough to prevent biased research.

Critics have highlighted specific research programs putatively compromised by liberal politics (Al-Gharbi, in press; Arkes & Tetlock, 2004; Sniderman & Tetlock, 1986; Tetlock, 1994; Tetlock & Mitchell, 2009). However, these charges are typically denied by the original authors (e.g., Banaji, Nosek, & Greenwald, 2004; Sears, 1994; Tarman & Sears, 2005) and even if true do not necessarily show systematic liberal bias throughout any particular academic field. Outside of specific cases of potentially left-leaning academic research programs, the modal scientific investigation into politically charged topics may not be slanted toward any particular worldview.

In a survey of social psychologists, Inbar and Lammers (2012) found that many respondents reported a willingness to discriminate against conservative colleagues in grant and article reviews, symposium invitations, and hiring decisions. In addition, conservative social psychologists reported a work climate more hostile to their political beliefs than their liberal counterparts did. Further evidence suggests that academic reviewers evaluate findings that conflict with their own political orientation more negatively (Abramowitz, Gomes, & Abramowitz, 1975). These mechanisms could indirectly distort the

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scientific literature by reducing the population of conservative scientists or making it more difficult to carry out, publish, and disseminate research with results that challenge liberal political beliefs. Yet it remains unclear whether the output of the scientific process — the research itself — is affected by liberal values, and if so to what extent.

The present investigation leveraged a large sample of scientific abstracts from the field of social psychology to carry out empirical tests for two distinct effects of researcher politics. In Studies 1a and 1b, relying on thousands of independent raters with a wide range of political beliefs, we assess whether conservatives and conservative ideas are systematically characterized more negatively than liberals and liberal ideas. Of course, such *evaluative differences* do not necessarily reflect bias on the part of the scientists, since conservatism could be associated with objectively more negative characteristics than liberalism. Perhaps it is the case, as comedian Rob Corddry once joked, that "The facts have a well-known liberal bias" (Krugman, 2014). However, capturing differences in evaluation represents a necessary first step to establishing a political slant to psychological sciences.

In Studies 1a and 1b, we also test for a subtler effect in terms of what ideological positions are implicitly regarded as normative and non-normative. Prior research shows that groups implicitly seen as deviant from the norm are more likely to be the focus of explanation (Miller, Taylor, & Buck, 1991). For instance, gender differences tend to be explained in terms of women, not men (Miller et al., 1991), and differences in behavior between heterosexuals and homosexuals in terms of the deviance of homosexuals (Hegarty & Pratto, 2001). We therefore tested for *explanatory differences* — whether conservatives and conservative ideas are the targets of explanation more so than liberals and liberal ideas (Brandt & Spälti, 2018). Although by no means an exhaustive test of all the ways in which political values may play a role in the scientific process (Brandt & Proulx, 2015; Brandt & Spälti, 2018; Jussim, Crawford, Anglin, Stevens, & Duarte, 2016), these represent meaningful initial tests. In the General Discussion, we outline additional lines of inquiry regarding political bias in science that might be pursued in future investigations.

It is possible that politicized research is largely in the eye of the beholder, with conservative readers of scientific work perceiving a liberal bias not seen by liberal readers. This would be analogous to the well-known hostile media bias, in which opposing camps on a controversial issue both perceive neutral media reports as slanted in favor of the other side (Vallone, Ross, & Lepper, 1985). We therefore carefully took into account the political attitudes of those evaluating the scientific work for bias.

Both political and scientific debates can prove intractable, in part because contrary evidence can be discounted using post hoc motivated reasoning (Kuhn, 1962; Lakatos, 1970; Tetlock, 2005). One innovative means to render strongly held beliefs vulnerable to disproof is to use a forecasting survey to elicit prior beliefs (Dreber et al., 2015; Tetlock, Mellers, Rohrbaugh, & Chen, 2014; Wolfers & Zitzewitz, 2004). Parties to a debate are asked to make a priori predictions about future events and once the objective outcomes are revealed, those involved have the opportunity to update their beliefs (or not) in light of the new evidence. Although forecasting surveys have been used to predict future geopolitical events (Tetlock, 2005; Tetlock & Mellers, 2014), to our knowledge they have not previously been leveraged to address a scientific controversy. In Study 2, scholars with a range of positions on the role of politics in science were asked to make a priori predictions regarding the extent to which evaluative differences and explanatory differences would be found in the research reports. These same scientists were subsequently presented with the obtained effect sizes and provided the opportunity to update their positions on both the specific empirical questions at hand and broader controversy regarding the role played by scientists' political values in their research.

In the spirit of open science, and to reduce any bias on our part as much as possible (e.g., the "bias to find bias"; Krueger & Funder, 2004), the analyses for the project were pre-registered (Van't Veer & Giner-Sorolla, 2016; Wagenmakers, Wetzels, Borsboom, van der Maas, & Kievit, 2012) and the data publicly posted online (Simonsohn, 2013; Wicherts & Bakker, 2012) to facilitate re-analyses and open debate and discussion, see https://osf.io/zhf98/, https://osf.io/vtyg4/, and https://osf.io/jh47m/. The complete study materials are further provided in Supplements 1, 2, and 3, and deviations from the pre-analysis plan described in Supplement 4.

1. Studies 1a and 1b

The primary goal of these investigations was to empirically estimate evaluative and explanatory differences with regards to conservatism and liberalism in abstracts from scientific research reports. Politically relevant conference abstracts were selected first using keywords (e.g., *liberal*, *conservative*), and then rated for political relevance by a large crowd of independent coders (Study 1a). Abstracts that touched on clearly political topics were then systematically assessed for evaluative and explanatory differences by thousands of independent raters who themselves varied greatly in their political values (Study 1b). This approach allowed us to parse the extent to which the political overtones of scientific research appear to be attributable to the report itself (i.e., the abstract is consistently rated as casting conservatives in a negative light, regardless of who is doing the rating) as opposed to in the eye of the beholder (e.g., conservatives see the research report as biased against their group, whereas liberals perceive it as evenhanded).

1.1. Study 1a: methods

1.1.1. Initial selection of abstracts

To carry out the project, we took advantage of the fact that the programs for the Society for Personality and Social Psychology (SPSP) annual conference (one of the main academic conferences in social psychology) are available online dating from the 2003 meeting. We collected programs for 10 years (2003–2013) and searched the listed abstracts (which could describe either poster presentations or talks) for the search terms *liberal*, *conservative*, *democrat*, *republican*, *politics*, *political*, *conservatism*, and *liberalism* to cull a subset of the abstracts that might reflect research investigations examining the psychology of political beliefs and behavior. This process led to the initial selection of 846 abstracts. We deliberately chose a broad set of search terms to avoid missing any potentially relevant abstracts. This meant that some abstracts matching these terms might not be politically relevant, since terms like "conservative" are also used in non-political contexts (e.g., "a conservative test of the hypothesis").

1.1.2. Participants

We then recruited 934 U.S. based workers from Amazon's Mechanical Turk to rate each abstract for its political relevance on a simple dichotomous scale (Brown & Allison, 2014) (Supplement 1). We chose to use Mechanical Turk workers because they are more demographically diverse than typical undergraduate samples (Buhrmester, Kwang, & Gosling, 2011; Paolacci & Chandler, 2014; Paolacci, Chandler, & Ipeirotis, 2010). Overall, raters were 51% female. They were slightly left of center, as indicated by means below the scale midpoint of 4 (*1 = very liberal*, *4 = moderate*, *7 = very conservative*) for overall political orientation ($M = 3.52$, $SD = 1.78$), social issues ($M = 3.07$, $SD = 1.78$), economic issues ($M = 3.77$, $SD = 1.83$), as well as a mean below the scale midpoint of 3.5 (*1 = strongly support Democrats*, *6 = strongly support Republicans*) for political party preference ($M = 2.92$, $SD = 1.59$).

1.1.3. Materials and design

Raters were asked: "Is the research about how political liberals and conservatives think, about differences between political liberals and conservatives, about differences in opinion on a political issue about which liberals and conservatives typically have different opinions, or