

POLICY FORUM

SCIENCE AND POLICY-MAKING

Partisan disparities in the use of science in policy

Documents from Congress and think tanks reflect differences in how science is cited

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Science has long been regarded as essential to policy-making, serving as one of the primary sources of evidence that informs decisions (1, 2) with its particular epistemic authority (3). Its role has become especially vital, as many pressing societal challenges today—from climate change to public health crises to technological advancement—are intricately linked with scientific progress. However, amid rising political polarization (4), a fundamental question remains open: Is science used differently by policy-makers in different parties? Here we combine two large-scale databases capturing policy, science, and their interactions to examine the partisan differences in citing science in policy-making in the United States. Overall, we observe systematic differences in the amount, content, and character of science cited in policy by partisan factions in the United States. These differences are strikingly persistent across fields of research, policy issues, time, and institutional contexts.

Understanding any potential partisan differences in the application of science to policy-making is not only of great interest to the scientific community itself, probing the role and impact of science in shaping societal outcomes, but also crucial for understanding the integrity and effectiveness of the policy-making process, promoting evidence-based decision-making (1), upholding public trust in science, and fostering bipartisan cooperation [see supplementary materials (SM) 18].

Our first dataset comes from Overton (5) and tracks 641,894 policy documents published by both the federal government and think tanks in the United States from 1995 to 2021, as well as the scientific papers and other policy documents referenced therein (see SM 1.1). There has been long-standing interest in quantifying the use of science in policy, and recent work suggests that Overton currently offers the most compre-

hensive tracking of policy documents and their citations to scientific papers (2) (see SM 1.1). We focus on the complete set of all congressional committee reports since 1995 and committee hearings since 2001 ($n = 49,345$), in addition to the 191,118 policy documents published by 121 US-based ideological think tanks after 1999 (see SM 4). We further match the scientific references ($n = 424,199$) in these policy documents to our second dataset, Dimensions (6), a large-scale publication and citation database that captures 122 million scientific publications across all disciplines. Dimensions offers us paper-level covariates for cited science, including the publication date, scientific citation counts, field- and year-normalized measures of scientific impact [e.g., hit paper and field citation ratio (FCR, reflecting citations of a paper relative to average citations of papers in the same field)], field of research labels, and whether a paper is a preprint. Linking these two databases gives us an opportunity to examine the partisan differences in the use of science in policy.

The predicted percent of policy documents that include at least one scientific reference in our data corpus is plotted here from mixed effects logistic regression models (see the first figure, left panel, and SM 7 for details). Policy citations of science have increased steadily over the 25-year period, growing from less than 20% in 1995 to >35% in 2020, with the increase being especially pronounced among think tank documents (see SM 7 and fig. S2). Yet, as we show next, this growth masks systematic partisan differences in policy citations of science.

To understand partisan differences in the propensity to cite science, we first focus on policy documents produced by congressional committees, with granular measures of political control at the committee level (see SM 1.1). These documents include reports and committee meeting documents, which primarily consist of hearing transcripts and prepared witness statements. Committees, often seen as the institutional workhorses of Congress, play an important role in informa-

tion gathering, but are also a site of partisan competition to frame issues, making them well suited to study partisan uses of science (see SM 18). We calculate the probability of a committee policy document citing science separately for Republican- and Democratic-controlled committees. Although both have increased their use of science over time, the growth patterns differ depending on which party is in control (see the first figure, middle panel). Estimating the overall partisan differences with year and committee fixed effects, we find that policy documents from Democratic-controlled committees are nearly 1.8 times more likely to cite science than those from Republican-controlled committees (see SM 8 and table S9). These results are robust when accounting for indicator variables for chamber, document type, and whether there is a copartisan president. We find that this effect is most pronounced in the House and in committee meeting documents and does not vary by committee versus subcommittee status (see SM 8).

To further validate our findings, we estimate this effect using changes in party at the committee level as a fixed-effects counterfactual estimator for difference-in-differences designs with heterogeneous treatment effects and treatment switching on a panel of 80 groups (committees) and 13 periods (Congresses). We find that committees that undergo a change from Republican to Democratic party control see an average increase of 196 additional citations to science per committee in the congressional term after the switch, an increase of 0.58 standard deviations. We find no equivalent effects in placebo tests of preceding Congresses or the Congress after a party switch occurs, supporting the identifying parallel trends assumption (see SM 10 for testing, discussion, and alternative estimators).

Although think tanks operate outside of government, many align with the ideological positions of the two major parties (7), allowing us to differentiate think tanks by this ideological alignment (see SM 4 for details regarding our coding procedure). These ide-

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ological think tanks serve as key resources for partisan policy-makers in extended party networks, providing “legislative subsidies” (information and support for policy-makers), setting agendas (8), and incubating policy alternatives. They are staffed by party operatives and researchers who frequently move back and forth between government, party, and campaign organizations (see SM 18). Focusing our analysis on think tanks that have a particular ideological bent allows us to better assess our primary question—differentiating the science-citing behavior of policy-makers with partisan or ideological commitments. However, it also excludes think tanks with centrist, ambiguous, bipartisan, or nonideological perspectives, thereby limiting our ability to make inferences about the entire think tank community.

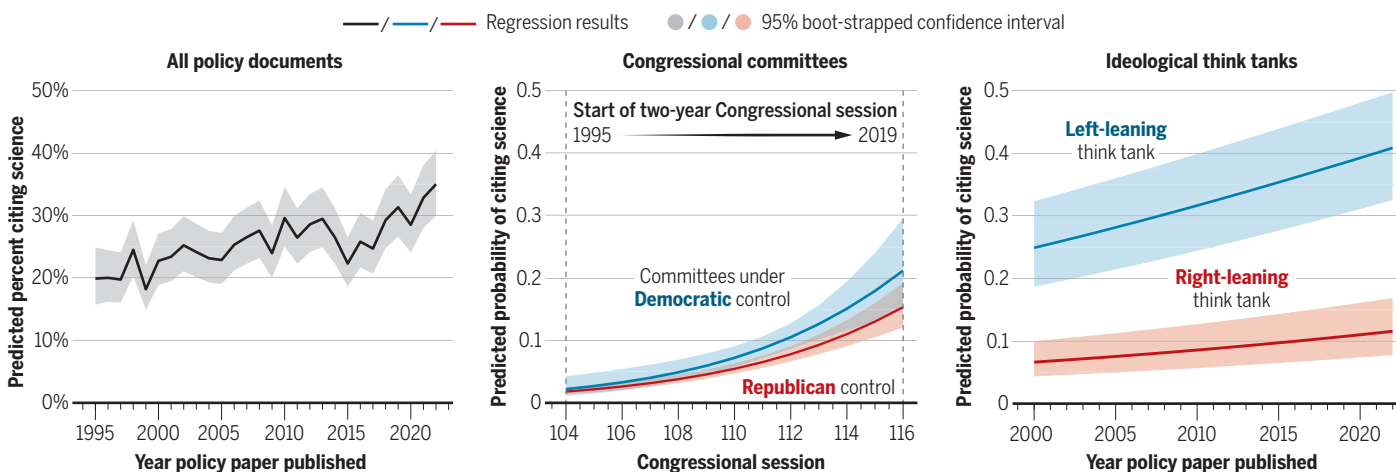
mittees across 20 of the 23 scientific fields and 15 of the 17 issue areas, and left-of-center think tanks citing science more than right-of-center think tanks across all 23 scientific fields and 17 issue areas we study (see SM 8).

These systematic partisan differences that we observe raise an important next question: Do Democratic- and Republican-leaning policy-makers draw from the same science? To answer this question, we first assess the degree of overlap in the science cited, asking what fraction of all the science cited in policy documents was cited by both parties. We find that only 5 to 6% of scientific citations are shared by Republicans and Democrats (see the second figure). It is important to note, however, that this low degree of overlap is partly driven by single-cited papers, which by construction cannot be bipartisan.

(see the second figure). We further vary the threshold for the minimum number of policy citations for inclusion, to assess how bipartisan citation varies as science receives more attention from policy-makers. In Congress, only among the science that is most widely cited in policy—publications that have at least 14 policy citations (top 99.9th percentile of policy citations)—does the rate of observed bipartisan citation ever reach parity with the expectation that, if citation patterns were uncorrelated with partisanship, it would be cited at least once by both Republicans and Democrats (see the second figure, left panel). Even more starkly, among think tanks, at no point does the observed rate of bipartisan citation ever converge with the expected rate, even as we examine papers with increasingly greater policy citations. Instead, the rate of

The increasing use of science in policy documents over the past 25 years

The estimated share of US policy documents citing science at least once has grown (left). Documents are nearly 1.8 times more likely to cite science when from Democrat-controlled committees (center), and more than five times more likely when produced by left-leaning think tanks (right). See supplementary materials.



The predicted probability of a think tank policy document citing science for left- and right-leaning think tanks separately is estimated here by logistic regression with a linear time trend (see the first figure, right panel). Given that think tanks’ ideological alignments are generally static, we address time-invariant unobserved heterogeneity at the unit level, using think tank random effects. We find that, overall, policy documents from left-leaning think tanks are more than five times as likely to cite science than those produced by right-leaning think tanks (see SM 8 and table S15), revealing an even starker partisan difference in the propensity to cite science among ideological think tanks than in the government.

Moreover, this observed tendency appears widespread across fields and policy issues, with Democratic committees citing science distinguishably more than Republican com-

To account for this, we construct an expected baseline for bipartisan citations using a permutation test that preserves the marginal distribution of citations by party and paper, to estimate what one might expect if citation patterns were uncorrelated with partisanship. Our estimate suggests that we would expect ~12 to 13% of papers with bipartisan engagement (see the second figure and SM 11). In other words, the expected level of bipartisan citation is more than double the level that is observed in the data.

To provide a more conservative test, we further restrict our analyses to papers that receive two or more policy citations—those that could potentially have been cited by both Democrats and Republicans. Under these conditions, we observe 31.1% bipartisan citation in Congress and 20.5% bipartisan citation from think tanks, compared to expected shares of 58.7% and 50.6%, respectively

overlap plateaus at less than 70% of the expected rate above at least 20 policy citations (see the second figure, right panel). Simply put, regardless of the measure we deploy, the policy citation of science appears to feature a low degree of bipartisan engagement with the scientific literature, with partisans consistently less likely to cite the same science.

Given the rising political polarization in the United States in recent years (5), we examine the temporal changes in the rate of bipartisan-cited science. We find that the degree of overlap has stayed rather stable over time (see SM 11 and figs. S13 to S16), suggesting that the low degree of bipartisan engagement with science is a long-standing but previously unknown feature of the US policy landscape. We further find that for both the US Congress and think tanks, this low degree of overlap is remarkably universal across scientific fields and policy issues (see SM 11 and figs. S17 and S18).

The fact that Republican and Democratic policy-makers rarely draw on the same scientific papers raises another important question: Do they cite substantively similar papers to inform their policy? To explore this, we assess the topical differences between the science they cite. Here we use deep-learning methods to represent scientific papers in a high-dimensional space. Specifically, we use SPECTER embeddings to represent each scientific article as a vector in a 768-dimensional space, allowing us to quantify the topic similarity between cited science (see SM 3). SPECTER is a transformer model trained on a large corpus of scientific text and citations.

Take, for example, the House Energy and Commerce Committee. We analyze the scientific papers cited by the committee reports in our embedding space, apply a clustering algorithm to group these cited papers, and

third figure, left panel). By contrast, under Republican control, the committee is much more likely to cite science about health care insurance costs, air pollution, opioids, or high-school athletic injuries, among other topics (see the third figure, right panel). Extended results, including an example of think tank documents on the topic of weather, are shown in SM 12 (see fig. S20). Of course, these differences may be driven by partisans' differing agendas and goals when in power, a point to which we will return later.

We find similar, systematic differences across nearly all congressional committees and all issue areas for ideological think tanks. The data consistently demonstrate that partisan factions draw from the different distributions of scientific topics (see SM 12 and fig. S20). Overall, the large partisan disparity that we observe appears rather universal across time, policy institutions, and issue areas.

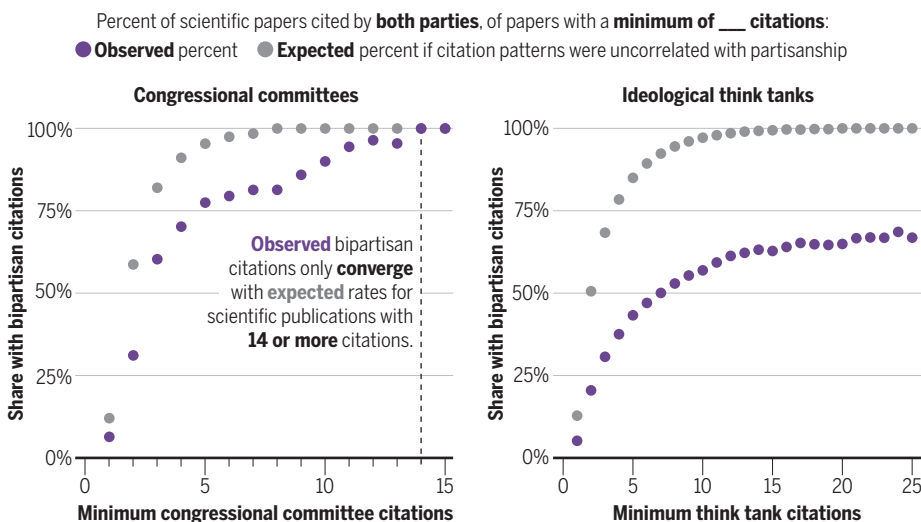
matched pairs of science-citing policy documents that are highly similar to each other (see SM 13.1). GloVe is a learning algorithm trained to obtain vector representations of words. We find that even when Democratic and Republican policy-makers produce policy documents with nearly identical titles, the overlap in cited science remains not only consistent with our findings above but also of a similar magnitude, with an overlap between $\frac{1}{3}$ and $\frac{1}{2}$ of the expectation from our permutation-based null model (see SM 11 and fig. S19).

To illustrate this, we explore an example of two matched minimum-wage policy documents, one by the left-of-center Urban Institute and one by the right-of-center Employment Policies Institute. The Urban Institute's policy document cites multiple papers about the distributional effects of minimum wage, whereas the one from the Employment Policies Institute cites science almost exclusively about the employment and labor supply effects of minimum wage increases. Indeed, although the two policy documents focus on the same issue, of the 62 papers they cite, only one is cited by both. When projecting these cited papers onto the SPECTER embedding space, the science cited by the left- and right-of-center think tanks is nearly perfectly separated. SM 13.1 presents this example (fig. S21A), as well as a similar example of two congressional hearings on paid family leave (fig. S21B).

We use a set of matched pairs of highly similar policy documents, like the minimum wage example discussed above, written by Democrats and Republicans—referred to as “out-partisan pairs”—to further test whether partisans cite different science when working on the same policy issues. We ask whether these out-partisan pairs cite science that is more different than that cited by comparable copartisan pairs (see SM 13.2 and figs. S23 and S24). Here we follow the same procedure described above to construct copartisan pairs of highly similar policy documents using GloVe embeddings of their titles, generating sets where both documents are produced by Democrats (Republicans) in Congress or left-of-center (right-of-center) think tanks. Our results indicate that in both congressional committee documents and ideological think tank documents, the copartisan documents cite science that is more similar to each other than the out-partisan pairs. These results are robust to regression analyses conditioning on dyadic policy document similarity (see SM 13.2 and tables S29 and S30). We reach the same conclusion by comparing the topical distributions of cited science (see SM 13.2 and fig. S22). We also use these matched pairs to test whether our earlier finding of large partisan differences in the rate of citing science can be explained by Democrats and Republi-

Partisans are consistently less likely to cite the same science

Only among scientific publications cited at least 14 times in congressional committee documents does the rate of observed bipartisan citation ever reach parity with the expectation that, if citation patterns were uncorrelated with partisanship, the science would be cited at least once by both Republicans and Democrats (left). Among think tanks, at no point does the observed rate of bipartisan citation ever converge with the expected rate (right). See supplementary materials.



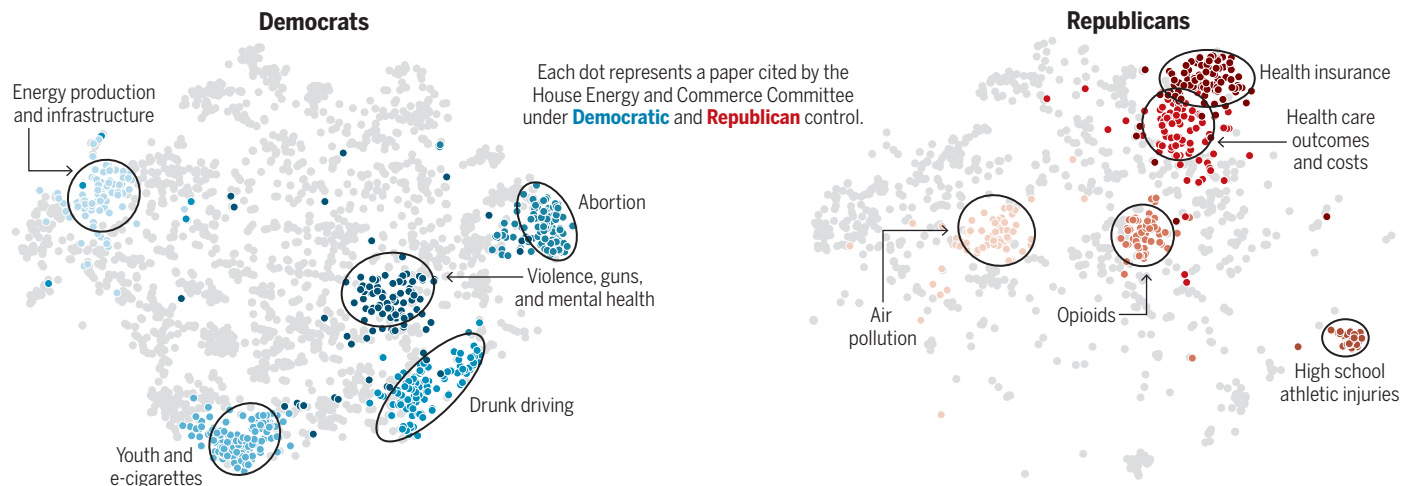
visualize them in two dimensions using t-distributed stochastic neighbor embedding (t-SNE) (see SM 5). Clusters of science are shown cited by the committee under Democratic and Republican control, respectively (see the third figure). Although there are some common areas of focus, the two plots reveal many distinctive clusters of science drawn by the committee, depending on which party is in control. Under Democratic control, the committee is much more likely to cite science on abortion, drunk driving, youth and e-cigarettes, energy production and infrastructure, or violence, guns, and mental health (see the

One explanation for these persistent partisan differences is that they may simply reflect the different policy focus and priorities between the two parties. Indeed, although science can serve as a common knowledge base to inform policy on critical issues facing society, partisans are known to have differing agendas (8). This discrepancy prompts us to perform tests that simulate the following thought experiment: If the two parties focus on the same policy, do they still differ in the science they cite?

To this end, we use GloVe embeddings to examine policy document titles and generate

Partisan factions draw from different distributions of scientific topics

Many distinctive clusters of science are drawn upon by the House Energy and Commerce Committee, depending on which party is in control. SPECTER embeddings are used to represent each scientific article cited in policy documents as a vector in a 768-dimensional space (visualized here in two dimensions). See supplementary materials.



cans focusing on different issues. We confirm that policy documents written by Democrats consistently tend to cite more science than those produced by Republicans, even when accounting for differences in the issues they work on (see SM 13.3 and tables S27 and S28).

Overall, although differences in issues partisans work on may drive some of the observed differences in the sets of science that partisans cite, our results demonstrate that these differences alone do not fully account for the partisan differences in either content or volume of science cited in policy. Another explanation is that policy-makers are citing different science because they hold different positions on the same issues. The lack of overlap in the science they cite, however, implies that politicians and ideological think tanks are not considering all the relevant science to a particular policy. Evidence-based policy-making in its idealized form synthesizes all relevant arguments and evidence (1, 3). By contrast, our analysis suggests that committees in Congress and ideological think tanks do not appear to create these broad syntheses, instead focusing on different sets of impacts for the same policy, and citing substantively different sets of science when working on the same policy issue. The observed partisan disparities hence may not necessarily reflect a different willingness to engage with science, but instead may reflect their differing priorities, goals, or stances within issues (9).

To further unpack whether the partisan disparity that we uncover is solely due to differing positions, we move beyond comparing the two factions and instead compare their use of science with a third, common reference point: science itself. We compare the characteristics of the scientific papers cited by either only left-leaning or only right-leaning

policy-makers, measuring their scientific impact in science, recency, and whether they have passed peer review (see SM 6 for metric construction). We find that papers cited by only Democratic committees are more likely than those cited by only Republican committees to be hit papers in science, defined as the top 5% of the most cited papers in their field and year ($\mu_D = 0.48$ versus $\mu_R = 0.44$, $t = 7.50$, $df = 27468$, $P < 0.0001$; see fig. S25A). Democratic committees' documents are also more likely to cite science that has passed peer review (measured as percent preprint; $\mu_D = 0.0138$ versus $\mu_R = 0.0184$, $t = -3.60$, $df = 28109$, $P < 0.001$; see fig. S25C), and tend to cite slightly older science than Republican committees ($\mu_D = 8.22$ versus $\mu_R = 7.93$, $t = 3.16$, $df = 36945$, $P < 0.01$; see fig. S25D). However, we find no difference in the field citation ratio (FCR) between Republican and Democratic committee document cited papers ($\mu_D = 30.3$ versus $\mu_R = 31.1$, $t = -0.598$, $df = 26540$, $P = 0.55$; see fig. S25B) (these results are robust to log-transforming FCR; see SM 14 and fig. S26). We see slightly greater differences for think tanks, with papers cited by only left-of-center think tanks more likely to be hit papers in science ($\mu_L = 0.444$ versus $\mu_R = 0.382$, $t = 19.4$, $df = 50320$, $P < 0.0001$; see fig. S25E), have a higher field citation ratio, be published substantially more recently ($\mu_L = 27.2$ versus $\mu_R = 23.4$, $t = 5.06$, $df = 28554$, $P < 0.0001$; see fig. S25F), and be more likely to have passed peer review than those cited by only right-of-center think tanks (measured as percent preprint; $\mu_L = 0.0165$ versus $\mu_R = 0.0344$, $t = -17.5$, $df = 47367$, $P < 0.0001$; see fig. S25G), and cite more recent science ($\mu_L = 8.20$ versus $\mu_R = 10.9$, $t = -44.7$, $df = 61822$, $P < 0.0001$; see fig. S25H). In other words, Democratic and left-of-center organizations tend to cite science that is more in line with

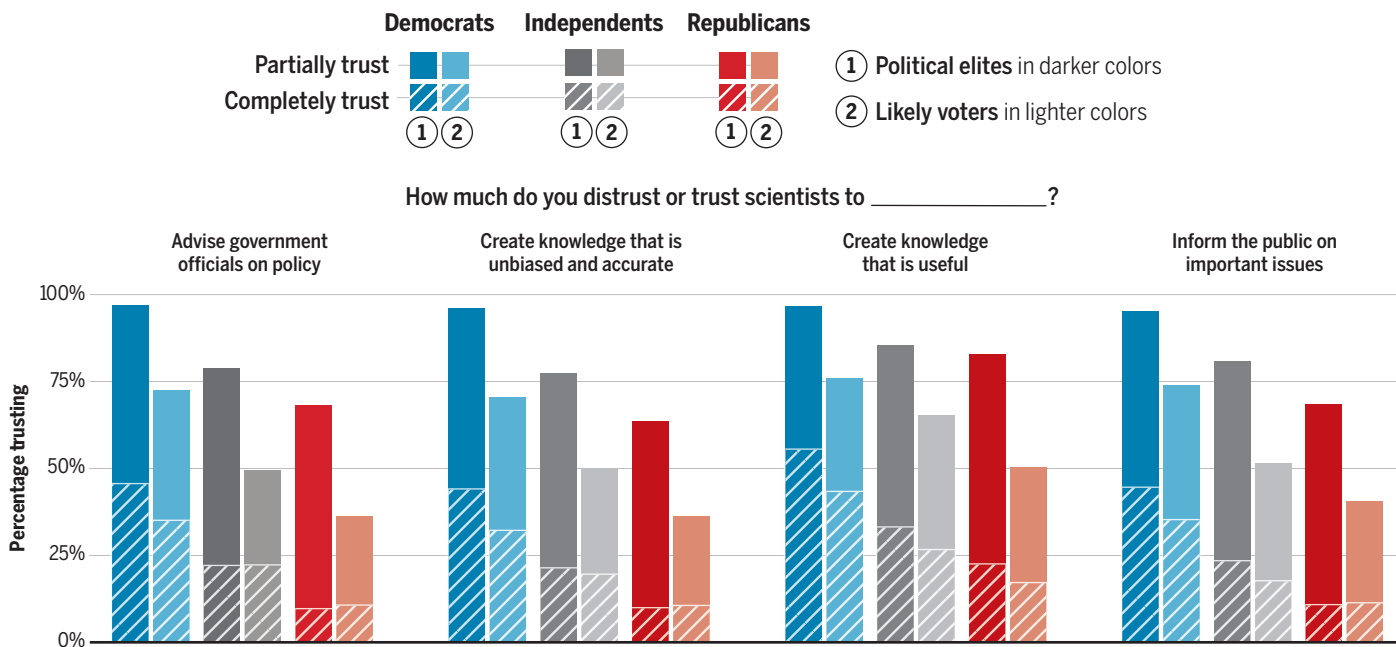
the work that scientists themselves consider important, which is true for both Congress and think tanks.

There are several possible explanations for the more pronounced differences among think tanks than Congress. Policy-makers in Congress might be especially concerned about the unintended consequences of the policies they enact in a way that think tankers are not, and this universal incentive for all congresspeople—regardless of party—may induce them to cite more highly cited science. Moreover, the selection process for including think tanks in our analysis sample includes only partisan or ideological think tanks, excluding nonpartisan or centrist think tanks. This sampling strategy may also lead to more pronounced differences in our think tank sample.

Of the myriad factors that may influence the use of science in policy-making (1), trust is often understood to be a key mediator governing the use of information (see SM 18), raising the question of whether differential levels of trust in scientists and scientific institutions may play a role. Although there is scarce empirical evidence assessing the level of trust in science among policy-makers or political elites, our hypothesis here is partly motivated by evidence that among the general public, there has been a marked decline in conservatives' trust in science in recent decades, suggesting that the rising political polarization during this period in the United States may be threatening confidence in science (see SM 18). We fill this gap to directly assess partisan differences in trust in science among policy-makers by fielding a survey of roughly 3500 US political elites and public servants (e.g., congressional staffers, bureaucrats, political journalists, lobbyists, nonprofit advocates and association leader-

Partisan disparities in the trust of science among political elites

Survey data reflect that political elites exhibit higher levels of trust in scientists than copartisan likely voters, regardless of party identification; elite attitudes toward science cannot be assumed to match those in the general public. Democratic elites trust scientists substantially more than their Republican counterparts. See supplementary materials.



ship, corporate C-suite executives, judges and clerks, and state and local government officials). By surveying the professionals who are actively involved in setting policy agendas and drafting policy documents, we can quantitatively probe their attitudes toward science (see SM 2.1). For comparison, we also conducted a contemporaneous survey of roughly 1000 likely voters (see SM 2.2). We used a standard party identification battery, as well as a series of questions about trust in scientists and scientific organizations (see SM 2).

We first asked political elites to rate how much they “trust or distrust scientists” along four different dimensions, uncovering three primary findings (see the fourth figure). First, regardless of party identification, political elites exhibit substantially higher levels of trust in scientists than copartisan likely voters, suggesting that political elite attitudes toward science cannot merely be assumed to match those in the general public. Second, Democratic elites trust scientists substantially more than their Republican counterparts ($\mu_D = 1.42$ versus $\mu_R = 0.65$, $t = 25.86$, $df = 1188.50$, $P < 0.001$), showing large, systematic partisan differences in attitudes toward scientists. For example, 96.0% of Democratic elites either completely or partially trust scientists to “create knowledge that is unbiased and accurate” compared with only 63.7% of Republican elites. The partisan differences are especially stark among those with the highest level of trust. Of Democratic elites, 44.1% completely trust scientists to create unbiased and accu-

rate knowledge, compared with only 9.9% of Republican elites. Third, despite the differences between the four dimensions that we surveyed, ranging from the knowledge scientists create to their roles in informing the public and government officials, the partisan differences we uncover are remarkably consistent across all four dimensions.

To assess the level of trust in scientific institutions, we asked political elites to rate the trustworthiness of the National Academies of Sciences, Engineering, and Medicine (NASEM) and the American Association for the Advancement of Science (AAAS, the publisher of *Science*)—two of the most prominent scientific organizations in the world—on matters of public policy (fig. S27). Nearly three times as many Democratic elites (61.2%) rate NASEM as “very trustworthy” as Republican elites (22.8%) ($\chi^2 = 427.43$, $df = 8.00$, $P < 0.0001$). The difference is even more pronounced for the AAAS, which Democratic elites rate “very trustworthy” five times more than Republican elites (40.7% versus 8.2%, $\chi^2 = 444.43$, $df = 8.00$, $P < 0.0001$). These partisan differences are robust after controlling for a range of attributes (see SM 14). Overall, these findings support the proposition that the differential attitudes toward science may partly explain the observed partisan differences in the use of science in policy.

DISCUSSION

These findings must be interpreted with care. First, despite the importance of sci-

entific evidence to policy-making, it is only one of many information sources available to policy-makers, who may also draw from regulators, industry, news media, trade publications, interest groups, and lobbyists (10). Although each source has its own potential biases and agendas, science is often seen as holding a relatively privileged position partly owing to its commitment to Mertonian norms like organized skepticism. Nevertheless, although we find that Republicans use science less than Democrats, this does not necessarily mean that Republicans use less evidence overall. To test this possibility, we conduct a preliminary analysis (see SM 16) using witness data from congressional hearings (10) to investigate whether Republicans tend to rely more on nonuniversity, nonresearch witnesses than Democrats. Our preliminary findings reject the hypothesis that Republicans in Congress rely more on such information sources. It is still possible, however, that partisans rely on sources of evidence that our data do not capture, and exploring how different information sources, especially those beyond science, are used in policy-making represents an important avenue for future research, both empirically and theoretically.

It is also possible that Republicans and Democrats use science in roughly equal measure when they are “information seeking” in committee, but Republicans may use hearings or committee activity more often as tools for partisan messaging and

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less often for information seeking. This differential use of committee time could cause their overall use of science to be lower. To test this hypothesis, we conduct several additional analyses incorporating data on partisan voting patterns and speech records to identify highly politicized issues, which we expect to serve as potential venues for grandstanding. We then measure the partisan disparities in the use of science in congressional hearings focused on these highly politicized issues, where we expect more or less “grandstanding” activity. We find that partisan differences in citing science are consistent regardless of how politicized the issues are, and partisans hold hearings on highly politicized issues at similar rates (see SM 17.1). Moreover, a hearing-level analysis finds no differences in association between grandstanding speech and citations to science conditional on party control of committees (see SM 17.2). Together, these results suggest that partisan messaging or grandstanding is unlikely to explain the differences we observe, although we believe more study is needed for dispositive results.

It is also possible that scientists, who among the US voter population are predominantly Democrats (11), may be more likely to focus on issues or policies favored by left-of-center policy-makers. As a result, these policy-makers might have a larger pool of relevant scientific findings to cite, potentially contributing to the partisan differences we observe. More broadly, understanding whether and how the political leaning of scientists may influence both the production and uptake of their work is an important avenue for future investigation.

The increasing reliance on science that we observe over a 25-year period among both parties is encouraging, especially given that many societal challenges today, from climate change to technological advancement, are deeply intertwined with the latest scientific development. This increase in citing science coincides with broader changes in committee operations, such as a decline in the number of hearings and, more notably, witnesses (10). These changes, along with a shift from proactive lawmaking to reactive oversight and an overall broadening of the congressional agenda, have challenged Congress to address more issues on shorter timescales with less in-house expertise (see SM 18). As such, the increased citation of science aligns with expectations that committees would rely more on external expertise, including scientific sources, on a per-document or per-hearing basis, rather than on expertise developed by staffers themselves.

Yet at the same time, this paper uncovers systematic partisan differences in the use and trust of science, which may have wide-

ranging implications for science and society at large. If different political parties cite different scientific sources to back their claims, it raises the question of whether science is being used selectively to support preexisting beliefs or agendas (12). This line of thinking can erode public confidence in both science and government and undermine the foundational principles of scientific inquiry and its role in informing public policy and personal choices. Above all, our findings underscore the threat to the perception of science as a politically neutral, trusted source of information.

Further, the low degree of overlap in the science cited by policy-makers across the two sides of the aisle raises concerns about the extent to which policies are always drawing on all of the best available scientific evidence. Although some of this is naturally driven by partisans’ differing positions, stances, or approaches to issues, our results demonstrate that policy-makers, both those left and right of center, are not generating broad syntheses of scientific evidence accounting for multiple perspectives on relevant issues. A failure to engage all of the appropriate, relevant science in policy-making could result in policies that fall short of their intended objectives or, worse, precipitate unintended adverse outcomes. Furthermore, the systematic disparity in the science cited by different parties then raises concerns about the efficacy of the policies and their ability to serve shared societal goals.

More broadly, in a robust democratic society, although partisans might diverge on their priorities, values, and normative judgments, their capacity for effective cooperation—and the integrity of democratic institutions—is premised on maintaining a broadly shared set of facts. The partisan differences in the use and trust of science among policy-makers suggest a potential erosion of this shared factual foundation, thereby undermining bipartisan efforts toward constructive solutions. Amid rising political polarization, the intertwining of science and partisan politics may impede constructive dialogue, hinder bipartisan cooperation, and stymie our collective ability to address many pressing societal challenges.

The results presented in this paper suggest many areas for future research. For example, although the very public nature of citations in persuasive policy documents suggests that they may be suited to capturing policy-makers’ revealed preferences regarding whether science is beneficial to their policy arguments (12, 13), future work may attempt to further unpack the purpose of those citations, helping us discern between “substantive” and “strategic” uses of science or explore the broader “conceptual” use of science in shaping policy-makers’ perspectives (14).

Moreover, although our focus has been predominantly on the US, the challenges highlighted here transcend national boundaries. All governments need accurate information to govern effectively, underscoring the need to broaden the geographical ambit of such studies. Lastly, although this paper focuses on the partisan citation of science, it also uncovers an important—albeit small—set of papers that consistently see bipartisan citation. A better understanding of this core of bipartisan-cited science could further demonstrate the value of science across the political spectrum and reveal new avenues for fostering mutual understanding in a polarized political climate.

Ultimately, science is a crucial public good and depends on both sustained public support and long-term commitments (2). By contrast, the American political landscape is characterized by inherent volatility and periodic shifts in political control. Despite recent instances of bipartisan support for science, the uncovered partisan differences in the use and trust of science highlight a profound tension at the nexus of science and politics.

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SUPPLEMENTARY MATERIALS

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