10-15-2024

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PNAS Nexus, 2024, 3, pgae413
https://doi.org/10.1093/pnasnexus/pgae413
Advance access publication 15 October 2024
Research Report

Measuring norm pluralism and perceived polarization in US politics

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Edited By Sherry Li

Abstract

Recent research has shown how norms shape political and economic decision-making. Much of this work assumes that a single norm influences the behavior of all people, but in fact, many situations are characterized by the existence of competing normative viewpoints. We apply a method for measuring belief in the simultaneous existence of multiple norms. Such multiplicity arises naturally when norms are associated with distinctive groups, and thus political polarization can be characterized, in part, as a product of diverging norms between groups. We thus assess the validity of our measurement technique by testing whether it can recover polarization on seven salient political issues on which US Democrats and Republicans tend to hold different views. We then compare the norms elicited by our method to the norms of Democrats and Republicans elicited in a separate sample using an established and validated—but methodologically less rich—measurement approach. Our study uncovers a wide range of co-existing views between and within political groups. Partisans understand their group's norms and hold personal views that align with them. They can also recognize the diversity and polarization in US public opinion by identifying norms specific to political parties and acknowledging the variety of views within their own parties, which may indicate internal divisions. This research underscores the importance of nuanced approaches to political norms that go beyond party lines. By acknowledging a plurality of views, we can encourage productive discussions and bridge ideological divides.

Keywords: social norms, polarization, belief elicitation

Significance Statement

In politics, views of right and wrong are often defined in opposition to the norms of other groups. How do we measure such views? We test a method for measuring people's perceptions of US public opinion, and how it is divided along and within party lines. The method is able to capture between-party differences in beliefs about which policy proposals are and are not appropriate and reveals sharp polarization on several issues. The results also reveal considerable heterogeneity of beliefs within parties, suggesting opportunities for compromise and highlighting the importance of examining the internal dynamics of different groups.

Introduction

Political polarization poses a credible threat to democratic values. The existing political divide runs deep, affecting our perceptions of and interactions with others, which can be challenging to correct (1–7). Crucially, polarization is exacerbated by the strong identities that people derive from group membership, and the drive to conform to group norms. Members take cues from others in their group about what they ought to do and what they ought to believe (see for instance (8–11)) and are expected to support the group's agenda as well as to differentiate their group from others (12, 13). The motivation to adhere to group norms, in turn, can lead to divided societies characterized by racial disparities, identity-based conflicts, and deep-seated partisan hostility (14–17).

Individuals' choices tend to strike a balance between self-interest and a desire to live up to (perceived) group norms (e.g. (18–21)). When these motivations conflict, individuals must resolve this conflict by weighing the strength of each (22–24). When individuals' actions are only loosely linked to outcomes, as in politics (25), norms play an especially important role in shaping behavior and beliefs (26). Since individual donations or votes are unlikely to sway an election or change the discourse on an issue, the influence of self-interest on decisions becomes negligible, and the influence of norms comes to dominate. Thus, to understand political polarization, we need to understand how group members perceive norms within and across political factions. In particular, we need to measure group members' perceptions of

Competing Interest: The authors declare no competing interests.
Received: April 1, 2024. **Accepted:** September 1, 2024

injunctive norms, namely shared beliefs about what is appropriate or inappropriate on a given issue for "people like us" (8, 27).[a]

Typically, injunctive norms are observed on two levels. The first level consists of individuals' personal *views* about what is appropriate or inappropriate: these are first-order beliefs ("what I think"). We refer to first-order beliefs as "views". The second level involves *expectations* about what other members of the group do and do not approve (21, 29–31): without these shared expectations, norms would simply not exist. These are second-order beliefs ("I think others think"). We refer to second-order beliefs as "normative expectations". Generally, norms emerge when several individuals who share a common view form normative expectations. Therefore, we will consider views that carry normative expectations as norms.

This two-level distinction works whenever it is possible to specify ex ante the group or groups within which norms are shared. But sometimes we may want to measure norm perception without defining what groups exist in the population. This may be useful, for example, when it is unclear which members of the population share the same views, or when groups are dynamically changing. In addition, even when groups are clearly identifiable, researchers may suspect that there is significant within-group heterogeneity (i.e. different views exist in the group), or that known groups are composed of unknown subgroups.

With this in mind, Ref. (32) introduces the "Norm-Drawing Task" method of measuring norm perception when beliefs in the population are heterogeneous and groups are unknown. The key innovation of the Norm-Drawing Task is to incentive-compatibly measure beliefs about what views exist in a reference group, and their prevalence. Respondents are asked to draw a set of views that might be held by different subgroups and to estimate what share of the reference group holds each view that they draw. Respondents' payments depend on how closely their own guess corresponds to the average guesses made by other respondents. At the individual level, the data reveal how people think others perceive the normative landscape within the reference group. At the group level, the data tells us how much respondents agree on this landscape. To the extent that respondents recognize their own views as supported by normative expectations, they should report their own views. In addition, they should report other views that they think others recognize as normative within the group. When respondents report norms they do not personally follow, they are expressing beliefs about the second-order beliefs of others (e.g. a Republican thinking that a Democrat thinks that other Democrats think that abortion is always appropriate). Recognizing the complexity of these layered judgments, we sometimes refer to this distribution as third-order beliefs.

In the earlier study, the method elicited a multiplicity of views in simple, abstract laboratory tasks used to study prosociality (e.g. heterogeneous views about the appropriate amount of windfall money to give to a stranger in a dictator game; see also (33)). However, in these simple tasks, neither the extent of multiplicity nor its relation to known identity groups could be predicted ex ante. That is, the method could show that multiplicity was perceived by participants, but that multiplicity could not be verified *ex post* by comparison to the norms of known groups. Here, we apply the method to the US political landscape, a context in which groups are known *ex ante* to hold distinctive norms. We assess the extent to which the Norm-Drawing Task can recover those beliefs.

Our first goal is to elicit different views about important policy issues in the US population without specifying *ex ante* the political groups that compose it. We elicit views in US public opinion using the Norm-Drawing Task of (32), and then we compare the reported views to the norms of Democratic- and Republican-leaning participants elicited in separate samples using the method due to Krupka and Weber (21). This task incentivizes respondents to guess the single most common norm held by other respondents.[b] Variants of this latter method have been shown to elicit norms that are predictive of behavior in a variety of settings, including among reference groups composed of members of political identity groups (23, 34). Thus, our approach is to ask whether the Norm-Drawing Task elicits views that (approximately) match the norms elicited in the Krupka–Weber method, without having to specify an identity-based reference group.

Our approach is loosely analogous to the process of parameter recovery used in the validation of statistical models. Our parameters to be recovered are the norms *within each reference group* (Democrats and Republicans). We have strong priors that Democrats and Republicans will report different second-order beliefs (i.e. different normative expectations) about a variety of social issues. We expect that responses in the Norm-Drawing Task should recover the norms of both Democrats and Republicans, without naming them explicitly.

As an attempt to illustrate why this ability to elicit group-specific norms from a general reference group may be valuable, we also designed a portion of our study to show that the Krupka–Weber method faces difficulties revealing norms when the reference group is composed of several subgroups within which norms exist. Thus, we ask a separate group of respondents to identify the single most common norm, in a reference group that includes all US political identities. Because we expect most of the issues tested to be polarizing, we predict that these responses will be less informative about public opinion than responses in the Norm-Drawing Task, which should better capture the heterogeneity of views and polarization.

Our second goal is to investigate the perceived political divide *within* political groups. Indeed, whether theory suggests that partisans may support (or oppose) particular policies and candidates, in practice this remains a point of debate (35, 36). We again use the Norm-Drawing method to ask partisans about views within a reference group composed only of co-partisans, and we measure whether these views are similar to each other or differ considerably.

We find that:

1. When asked to report the single most common norm using the Krupka–Weber task, Democrats and Republicans generally agree with group members on norms that distinguish their group from the other, and they personally hold views that, on average, are close to their group's norms. This confirms prior findings that the Krupka–Weber task ably identifies shared norms within clearly identified reference groups.
2. When allowed to report multiple views among Americans using the Norm-Drawing Task, respondents are generally able to identify party-specific norms, as well as additional heterogeneity that is not captured when we ask just for a single norm among Americans via Krupka–Weber. The recovery, both qualitative and quantitative, of the views of known subgroups (i.e. political parties) provides preliminary evidence that the Norm-Drawing Task can also recover the views of unknown subgroups.
3. When allowed to report multiple views *within* their own parties via the Norm-Drawing Task, both Democrats and Republicans identify diverse views, some of which differ only slightly from one another and some of which arguably

reflect even within-party polarization about certain issues. This suggests that even when groups are clearly defined and polarized, on the whole, subgroup heterogeneity may dampen these differences.

Our evidence suggests that the normative landscape of American politics is quite complex and that it is risky to treat partisans' views as monolithic. We suggest that within-party disagreement may provide fruitful ground for political actors who seek to unify views among party members or to attract defectors to other parties whose views on certain key issues are out of alignment with the typical member of their current party.

Methods

The experimental design, original hypotheses, and analyses were pre-registered on the website of the Open Science Framework. The study received ethics approval from Maastricht University (IRB number: ERCIC_457_31_05_2023). Written consent was not directly obtained from participants since the participants were registered survey takers on Prolific.co, and they gave consent to participate in surveys when they registered there.

We adopt a standard 5% significance level to test against the null hypotheses. Post hoc tests and multiple analyses were corrected for multiple comparisons using a Benjamini–Hochberg correction (37).

Experimental design

We selected seven issues around which there is an active public debate in the United States: abortion, same-sex rights, marijuana legalization, federal spending, gun violence, immigration, and energy investments. The issues were selected based on their currency in the political discussion and the disagreement they generate between as well as within the Democratic and Republican parties. We included and adapted questions from prior surveys (full list available at osf.io/xg2sm) about specific policies (e.g. the legalization of medical marijuana) and asked respondents to evaluate their appropriateness. A policy's appropriateness was evaluated on a three-point scale: appropriate, neither, or inappropriate. The number of policies varied by issue.[c]

To understand how respondents perceive public opinion, they were asked questions about the views of other US citizens or sympathizers with either the Republican or Democratic party. The reference group was determined based on respondents' self-reported political identities; we treated as Democrats (Republicans) both subjects who explicitly identified as Democrats (Republicans) and those who identified as Independents but lean Democrat (Republican). Self-identified Democrats and Democratic-leaning respondents answered questions about the beliefs of either other "Democrats" or "Americans". Republicans and Republican-leaning respondents answered questions about the beliefs of either other "Republicans" or "Americans". Finally, respondents who did not identify with either party answered questions about Americans.

Respondents were given a series of affirmative policy statements about a particular issue (e.g. for marijuana "legalize recreational use" and "legalize medical use"). We measured either the most common norm (second-order belief) or a distribution of views (third-order belief) about the appropriateness of these policy positions.

The method of elicitation was randomized across participants. Half of the respondents were asked to guess a single norm among people in the reference group regarding each policy presented ("the views that the majority of [reference group] have about [· · ·] political issues"). Each policy could be rated "appropriate", "inappropriate" or "neither appropriate nor inappropriate". The responses were incentivized to elicit shared norms using the method developed by (21), in which respondents are paid a small bonus (in our case, 1 USD) if their guess on a randomly chosen policy corresponds to the most common guess made by other participants ("a group of other [reference group]" in the instructions). We call this the Krupka–Weber task. It is designed to elicit shared second-order beliefs about what is appropriate or inappropriate; if such shared beliefs exist, they can serve as a focal point that resolves the coordination problem created by the incentives. The average reported beliefs over all the policy statements can be pictured as one path through the policy×rating space, which captures the group's injunctive norm: a single, representative norm shared by group members.

The other half of the respondents instead answered questions about the distribution of views within the reference group (the "different views that [reference group] might have about [· · ·] political issues"). We call this the Norm-Drawing Task. Respondents were asked to represent views about these policies with a graphical interface. As above, a view consisted of a set of ratings of all the policy statements about an issue, where each could be rated "appropriate," "inappropriate," or "neither appropriate nor inappropriate." For example, respondents may believe that some Americans hold the view that medical marijuana is appropriate but recreational marijuana is inappropriate. To report this view in the Norm-Drawing Task, a respondent would click the relevant rating under each policy on the graphical interface shown in the left panel of Fig. 1. They would then click "add," and that view would be displayed in a thumbnail image below the interface. They could then draw another view. When they had added all the views they wanted to draw, they would then click "finish" to finalize their response.

Respondents were restricted to draw a maximum of nine views about any given issue. This was chosen to balance the goal of allowing respondents to report a sufficiently rich set of views about each issue against limitations in screen real estate for displaying views that were drawn. The data suggests that the vast majority of respondents did not use the full range (85–98%, depending on the issue and reference group). For two of our issues, marijuana and same-sex relationships, this restriction was nonbinding since there were only 2 policies under each issue (with 3 possible ratings of each policy and 2 policies, there are $3^2 = 9$ possible views).

Respondents were then asked to report the prevalence of each view within the reference group (Fig. 1, right panel). Participants indicated how many members of the reference group out of 100 would endorse that view. Responses had to sum to 100. The Norm-Drawing Task was also incentivized to elicit shared beliefs, based on the method developed by Panizza et al. (32) in which the overlap between the views drawn by the respondent and the average set of views drawn by other participants ("other [reference group] respondents from Prolific" in the instructions) determines their probability of receiving a small bonus payment.[d]

In a nutshell, we compared the share of people $s_{i,j}$ placed by the respondent j for each particular view i to the average of the shares placed by other respondents on that same view, $E[s_{i,k\neq j}]$. We define overlap as the sum of the minima $\sum_{i=1} \min\{s_{i,j}, E[s_{i,k\neq j}]\}$ for all views reported by participants. If the respondent did not report view i, or if only the respondent reported view i, then $\min\{s_{i,j}, E[s_{i,k\neq j}]\} = 0$. Their payment depends on a lottery that pays the bonus with a probability equal to the overlap divided by 100 and nothing otherwise. This incentive mechanism ensured that respondents were motivated to report all those views and

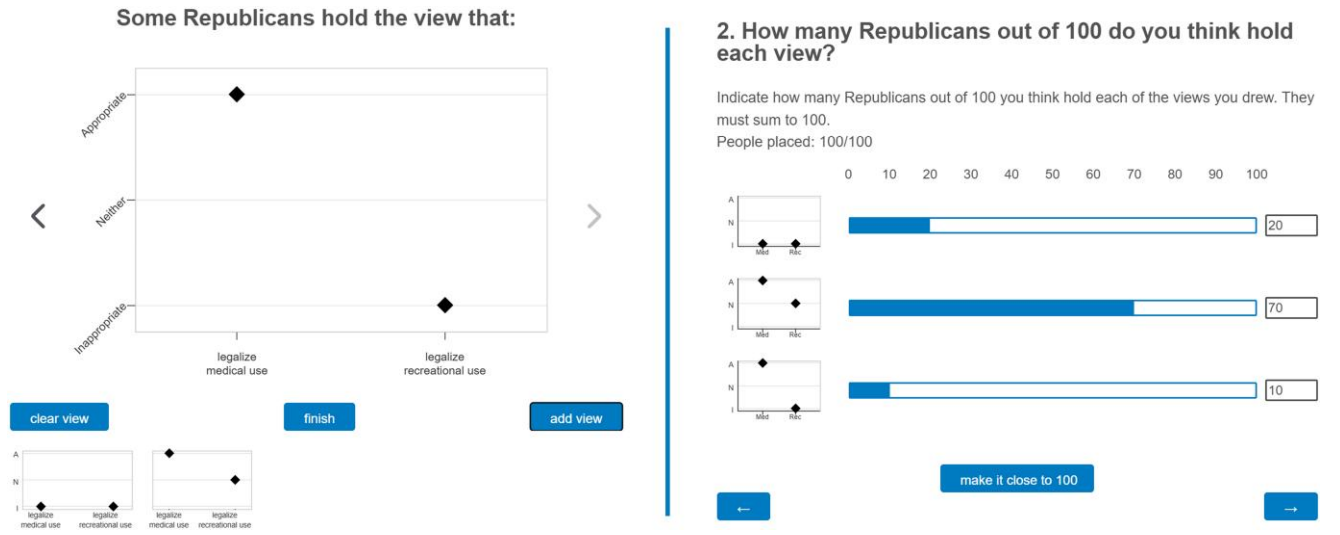

Fig. 1. User interface for the Norm-Drawing Task. Illustrated as an example is the case of marijuana legalization. First (left panel) respondents drew the different views using the graphical interface. Participants could edit their responses and navigate through the views drawn; second (right panel), respondents reported the prevalence of each view using the sliders. Responses had to add up to 100.

only those views that they believed would be reported by other respondents. This should reduce the risk of respondents under- or over-reporting views.

Overlap determined the probability of receiving the bonus (1 USD), but it can also be used to measure the level of agreement among respondents about the distribution of views in the group.[e,f]

Therefore, the survey was conducted using a 3 (reference group: Democrats versus Republicans versus Americans) by 2 (task: Krupka–Weber vs. Norm-Drawing) between-subjects design. The survey proceeded as follows. Participants first answered a series of demographic and political identity questions (including questions about the strength of their partisan identity). They then answered questions about three of the issues, which were randomly selected. For each issue, participants first expressed their personal view and then guessed the views in the assigned reference group using one of the two tasks described above. Participants responded using a graphical interface where they mapped each policy into a rating (watch a video of the interface here). Lastly, participants completed a six-item version of the Cognitive Reflection Test (41). As part of the instructions, participants had to practice using the interface to make normative judgments. This ensured that they understood how to register their views. Instructions also included detailed rules about how bonus payments were determined. The survey took approximately 9 min to complete in the Krupka–Weber version and 16 min in the Norm-Drawing version, and participants were paid $1.60 for completing the survey and could earn an additional $1.00 bonus based on their response to the Krupka–Weber or Norm-Drawing Task.

Results

We recruited a politically representative sample of US respondents ($N = 996$, 49% female, 75% college educated;[g] mean age = 46 years, SD = 15) stratified by age, gender, and political orientation. Participants were recruited on the online platform Prolific between 2024 March 8 and 9 using the representative sampling feature. Fifty percent of respondents identified with the Democratic Party, 36% identified with the Republican Party, and 14% reported other or no affiliation.

Do democrats and republicans have distinct norms?

We begin by reporting participants' views (i.e. first-order beliefs elicited using self-report responses) and norms (i.e. second-order beliefs elicited using the Krupka–Weber task) among reference groups of Democrats and Republicans on each of the issues. This gives us a basis for comparison with the data from the Norm-Drawing Task.

Figure 2 displays the average of participants' self-reported views (first-order beliefs, in grey) and norms elicited in the Krupka–Weber task (second-order beliefs, in black) for each reference group. Here, we focus on the bottom two rows of the figure which show the data for the Democrat and Republican reference groups.

The figure shows a fairly close correspondence between first- and second-order beliefs among both reference groups, which suggests that partisans' own stated views are similar, on average, to the most common norm they expect co-partisans to hold. For each of the 48 reference group × issue × policy combinations, we conduct a χ^2 test of the null hypothesis that first- and second-order beliefs are drawn from the same distribution. For 39 of 48 comparisons, we fail to reject the null (multiple hypothesis corrected P-values > 0.05). That is, on a large majority of issues, among respondents who identify as partisans, the distribution of participants' views is statistically indistinguishable from the distribution of norms about co-partisans. This close correspondence between participants' views and norms comports with previous evidence that partisans are frequently aware of and prone to conform to group norms (26).[h]

The exceptions are intriguing: Republicans report more personal approval of abortion, gun background checks, mental health support, and recreational marijuana than they expect to receive from their co-partisans. Democrats report more personal approval of deporting illegal immigrants and of investments in nuclear power than they expect from their co-partisans. These points of disagreement suggest that there may actually be more heterogeneity in beliefs within-group than is assumed by the Krupka–Weber task, a possibility to which we will return below.

By contrast, χ^2 tests can sharply reject the null hypothesis that the norms of Democrats and Republicans are drawn from the same distribution for all 24 issue × policy combinations (all P-values < 0.01).[i]

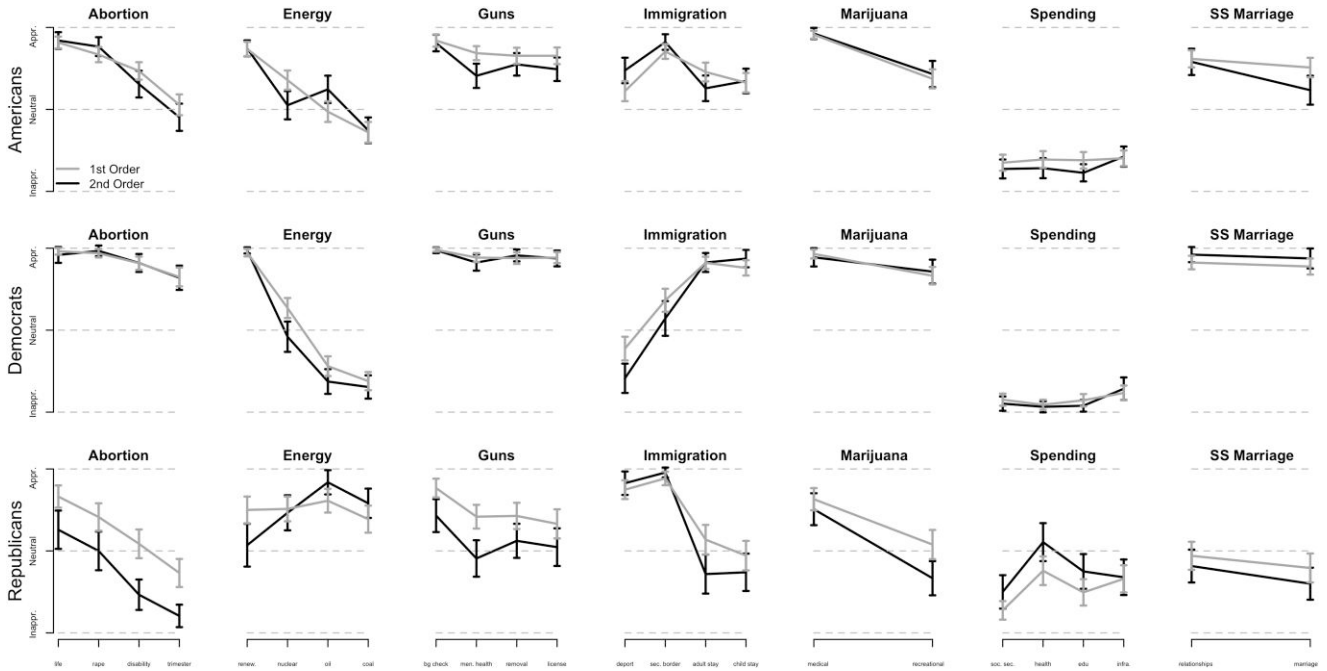

Fig. 2. Correspondence between self-reported views (first order) and norms elicited via the Krupka–Weber task (second order). Means ± 2 SEs. Each row of the figure corresponds to a single matching group, and each column to a single issue.

This suggests that not only do members of each group hold coherent normative expectations on the issues we selected, they also hold expectations that differ from those held by members of the other party: norms elicited via Krupka–Weber are polarized.

Finding 1: *The Krupka–Weber task reveals distinct norms among partisan groups.*

Can we recover democrats' and republicans' distinct norms with the Norm-Drawing task?

The Norm-Drawing Task with Americans as the reference group offers us an opportunity to test to what extent the norms of salient subgroups can be recovered from a sample that contains multiple such groups. As such, we ask whether the views reported in the Norm-Drawing Task include the norms elicited with the Krupka–Weber method in the Democrat and Republican reference groups.

To illustrate the output of the Norm-Drawing Task in finer detail, consider participants' predictions about views regarding immigration policy in the US population (Fig. 3, left panel; see Figs. S1–S6 for analogous figures for the other issues). Figure 3 shows the three views thought to be most prevalent in the population: one view that strongly favors increasing restrictions on immigration, another view that favors making it easier for immigrants to integrate into the country, and another view that favors both types of policies. The view to which respondents assign the highest prevalence in the Norm-Drawing Task (left panel) is similar—though by no means identical—in shape to the average norms of Republicans in the Krupka–Weber task (right panel, red line), and the view with the second highest weight is quite similar to the average norms of Democrats (right panel, blue line). This provides qualitative support for the idea that the Norm-Drawing Task can recover the norms of each reference group.[j] In the Supplementary analyses, we build on these qualitative findings by providing quantitative support for the recovery capabilities of the Norm-Drawing Task (Supplementary Analysis F).

While the Norm-Drawing Task is able to recover the norms of subgroups, it also reveals that Americans perceive considerable heterogeneity in views beyond the distinct norms identified by the Krupka–Weber method. Using again immigration as an example, respondents expect only 35% of Americans to hold one of the two views presented above.[k]

Another subset of respondents was instead asked to guess the single most common norm among *Americans* for each policy using the Krupka–Weber task; see the top row of Fig. 2. This offers an opportunity to test whether, when views are polarized, the Krupka–Weber task will struggle to capture the diversity of opinion in the population. Unsurprisingly, when asked to predict a single norm among all Americans on issues where Democrats and Republicans are polarized, the responses were not very informative. The right panel of Fig. 3 exemplifies this problem: while respondents were able to express the presence of contrasting views on immigration in the Norm-Drawing Task, the Krupka–Weber data are unable to summarize this diversity of views when the reference group does not correspond to a group with clear norms.[l]

More broadly, the ability of respondents to coordinate in the Krupka–Weber task is lower on those issues and in those reference groups where, on average, more diverse views are reported in the Norm-Drawing Task. The relation between these two variables is confirmed by a logistic regression with diversity as a predictor of coordination in the Krupka–Weber task ($\beta = -8.75$, $z = -6.78$, $P < 0.001$, see also Supplementary Analysis C).

Finding 2: *The Norm-Drawing Task with Americans as a reference group can recover distinct norms corresponding to the norms of partisan groups. The task reveals more diversity of views than the Krupka–Weber task allows.*

Can we use the norm-drawing task within each reference group to enrich our picture of group differences?

Next, we ask what can be learned from the two versions of the Norm-Drawing Task that used Democrats and Republicans as the reference group.

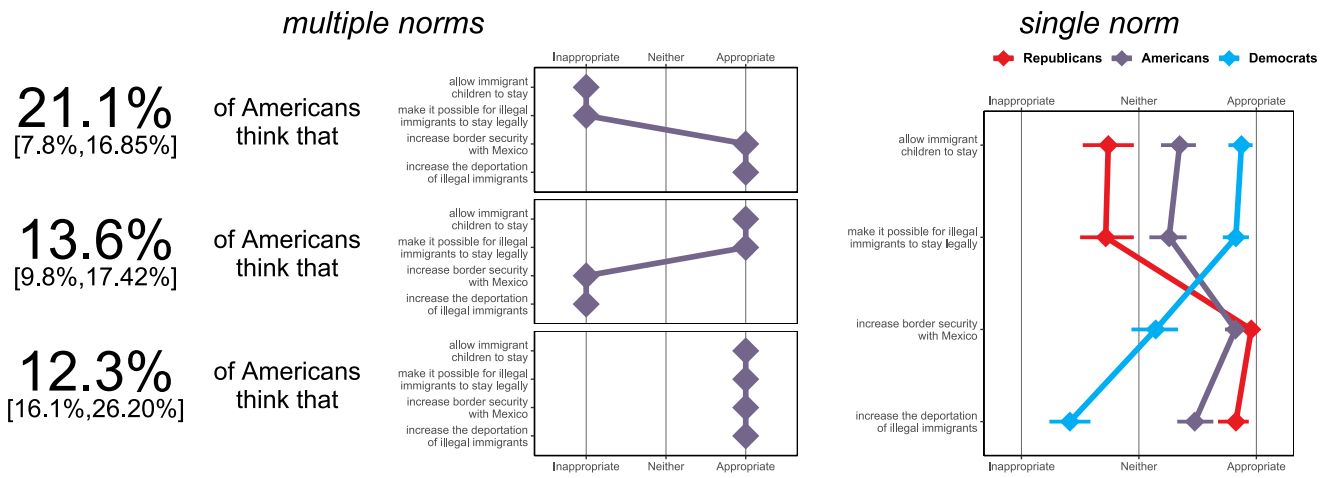

Fig. 3. Perceived polarization in the US population on immigration policy. Left: The three views believed to be most common among Americans, as measured by the Norm-Drawing Task. Percentages indicate the predicted average share of the population believed to hold that view. Percentages in square brackets indicate the 95% CI. Right: the average of responses in the Krupka–Weber task about the same issue, by reference group. Error bars indicate bootstrap-estimated 95% CIs.

Polarization between partisan groups

One sanity check on the data is whether the views reported in the Norm-Drawing Task reflect the same kind of polarization between partisan groups that was identified in the Krupka–Weber task. This is indeed the case, as the Norm-Drawing Task confirms that Democrats and Republicans perceive their respective parties to hold very different views: for instance, the predicted share of Democrats finding abortion always appropriate is much larger than the predicted share of Republicans holding the same view (Dirichlet regression, $\beta = 1.82$, $z = 10.86$, $P < 0.001$), and vice versa; the predicted share of Republicans finding abortion always inappropriate is much larger than the predicted share of Democrats holding the same view ($\beta = 0.80$, $z = 4.43$, $P < 0.001$). Similar differences are observed across issues (Table S1).

Polarization within partisan groups

If Republicans' and Democrats' self-perceived views are so different, is it also true that they perceive their groups to hold a single, group-specific norm about each issue? If so, then we would expect respondents in the Norm-Drawing Task with a partisan reference group to agree upon a single norm, corresponding to the one elicited in the Krupka–Weber task.

Contrary to this prediction, we found evidence of multiple views within each partisan group (Fig. 4, central and right panel; Figs. S7–S12). The similarity of responses among co-partisans varied considerably by group and issue. For example, the highest level of agreement in responses was measured among Democrats predicting their own party's views on same-sex rights: the most commonly reported view (that same-sex couples should have the right to both date and marry) was reported by 95% of respondents, with a mean share (the proportion of members believed to hold that view) of 76% (Fig. S7, top left). The lowest level of agreement was measured among Republicans predicting their own party's views on gun control: the most frequently reported view (that all proposed policies to reduce gun violence are appropriate) was reported by only 50% of respondents and had a mean share of 13% (Fig. S12).

As a result of this disagreement, Democrats and Republicans differ in how well they are able to coordinate with group members, and consequently earn money from the task (Fig. 4, central panel, and Supplementary Analysis G). Democrats are more likely to agree on what the most common views are within their group than Republicans are (mixed-effects linear regression, $\beta = 0.15$, $t(478) = 9.07$, $P < 0.001$). If we overlay a participant's guess with the average guess of other participants, the overlap would be on average 15 percentage points (95% CI = [11.8*pp*, 18.7*pp*]) larger if the participant was a Democrat rather than a Republican. Respondents in the Americans reference group, composed of respondents across the entire political spectrum, agree less than Democrats ($\beta = -0.98$, $t(476) = -7.30$, $P < 0.001$) but more than Republicans ($\beta = 0.55$, $t(478) = 3.41$, $P < 0.001$). Interestingly, there appears to be one issue on which Democrats tend to agree less on their views than Republicans: immigration, where the average agreement is 23.5% (95% CI = [20.7%, 26.9%]), compared to an average agreement of 29.5% ([25.1%, 33.9%]) among Republicans and 29.0% ([25.8%, 32.3%]) in the Americans reference group (see also Fig. S8).

In Supplementary Analysis H, we report how views predicted in the Norm-Drawing Task differ from the actual views reported by Democrats and Republicans in the sample, showing how Democrats' predictions are closer to reported views than Republicans. Secondly, in Appendix S11.9, we also report regression analysis examining if subjects' ability to coordinate differs *between* tasks. We show that coordination rates are highest in the Krupka–Weber among Democrats; coordination is lower in the Norm-Drawing Task and generally lower when the reference group is Americans or Republicans. Subjects with higher CRT scores are better able to coordinate.

Issues and groups differed not only in the extent to which respondents shared a common perception of their group's views but also in the extent to which group members' *own* views were perceived as polarized or fragmented (Fig. 4, right panel).

Consider the views reported by respondents about same-sex rights and marijuana legalization (Fig. S7). In the case of same-sex rights, views are clearly divided along party lines, with Democrats

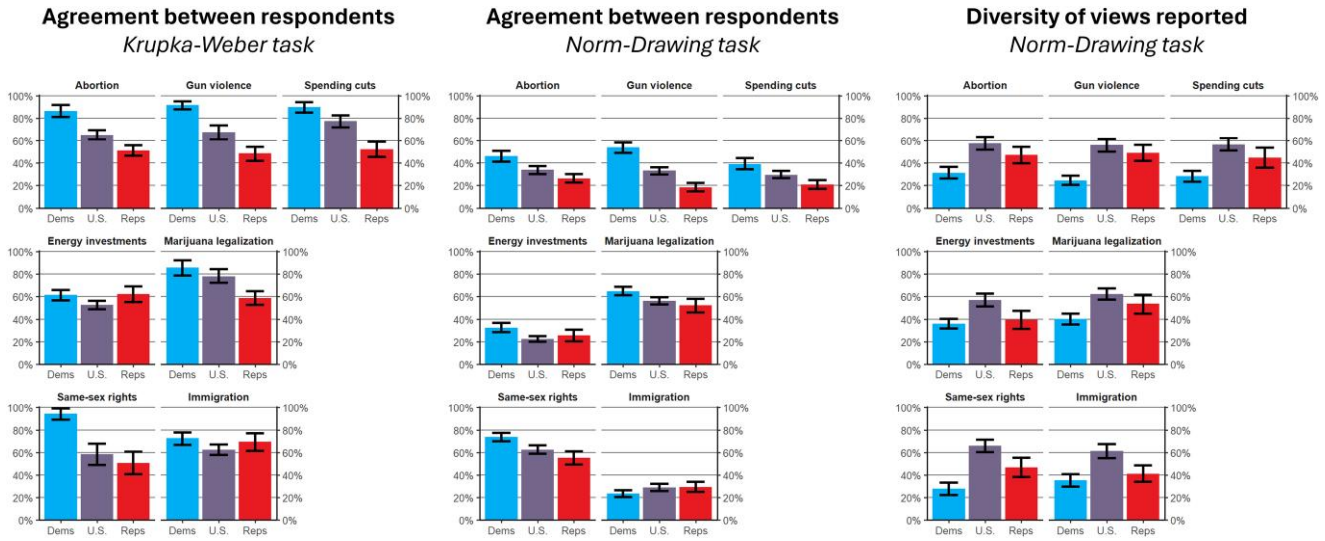

Fig. 4. Agreement in responses and diversity of views. Left: The probability that a respondent's predicted norm actually matches the most common prediction among other respondents in the same reference group in the Krupka–Weber task, by issue. A higher likelihood of a match indicates greater agreement on the norm in that group. Center: The overlap of respondents' predictions with the average of other respondents in the same reference group, by issue in the Norm-Drawing Task. Higher overlap indicates greater agreement in the views reported. Democrats tend to agree much more than Republicans on all issues, except for immigration policy. Right: Diversity of views reported by respondents in each reference group, by issue in the Norm-Drawing Task. Respondents predicting US public opinion consistently report a higher diversity of views than respondents predicting views within Democrats or Republicans, as measured by the distance from the average view of that group (see Supplementary Analysis C for a detailed description of the calculations). Error bars indicate bootstrap-estimated 95% CIs.

thought to rally behind the view that same-sex relationships and marriages are appropriate, whereas Republicans think that a vast majority of them would disapprove both. When dealing with the issue of marijuana legalization, however, views are much more spare, especially among Republicans, who perceive themselves as much more divided. Fragmentation of views is also visible on gun violence (Fig. S12): the three views that are perceived to be most common among Republicans are that none of the listed policies are appropriate (predicted $M = 14.4\%$ 95% CI = [8.4%, 20.4%]), that all listed policies are appropriate (predicted $M = 13.0\%$ 95% CI = [6.0%, 19.9%]), or that all policies are neither appropriate nor inappropriate (predicted $M = 8.0\%$ 95% CI = [2.1%, 13.9%]). Conversely, Democrats see themselves as much more united on this issue: the two most common views are that all policies are appropriate (predicted $M = 62.0\%$ 95% CI = [54.8%, 69.2%]), or that all policies are appropriate except for increasing funding for mental health screening and treatment, which is rated as neither appropriate nor inappropriate (predicted $M = 9.9\%$ 95% CI = [4.4%, 15.4%]).

At the same time, even within the same issue, respondents may perceive consensus on some policies but disagreement on others (Fig. 5). For instance, Democrats overwhelmingly report views agreeing that investing in renewable energy is appropriate, whereas they perceive disagreement on the appropriateness of investing in nuclear energy. Similarly, Republicans perceive views that coincide more on the inappropriateness of aborting before the end of the second trimester, than they do on whether abortion is appropriate when the baby risks severe health problems.

It is noteworthy that perceived polarization and pluralism are measured not only at the group level but also at the individual level: indeed, a large majority of respondents (53–92%, depending on the issue and reference group, Table S4) report at least two views that disagree on what policy is appropriate (e.g. it is appropriate to legalize all uses of marijuana versus it is appropriate to legalize only medical use). The highest proportions of respondents reporting no conflicting views are on the issue of cutting the US government budget, where Democrats' most frequently reported view is that it is inappropriate to cut spending at all, and same-sex rights, where Republicans mostly perceive themselves as not supporting marriages and relationships.

Our data also offer an opportunity to compare the fragmentation of views reported in the Norm-Drawing Task across reference groups. We estimate linear mixed-effects regressions with view diversity as the predicted variable, reference group as the predictor, and issue and participant ID as random intercepts. To test for differences between reference groups, we performed pairwise contrasts. A test across reference groups reveals that respondents in the American reference group report views about Americans that are much more divided than the separate views of Republicans or Democrats about themselves (Fig. 4, right panel; Americans > Republicans: $\beta = 0.13$, $t(477) = 4.92$, $P < 0.001$; Americans > Democrats: $\beta = 0.28$, $t(477) = 12.35$, $P < 0.001$). In addition, Republicans tend to see themselves as more divided than Democrats do ($\beta = 0.14$, $t(478) = 5.07$, $P < 0.001$).

Finding 3: *The Norm-Drawing Task reveals both polarization between partisan groups and varying degrees of diversity within partisan groups.*

Conclusion

This study explores how pluralism of norms and polarization shape the perception of several political issues in the United States. To do so, we use a new elicitation method as introduced by (32) and apply it to the context of contentious topics in US politics. Our research reveals that US Democrats and Republicans hold distinct views on political issues, and that there is nevertheless significant within-party diversity in beliefs. Our analyses show how the Norm-Drawing Task is able to recover this nuanced political landscape by capturing the multiplicity of views both between and within political groups.

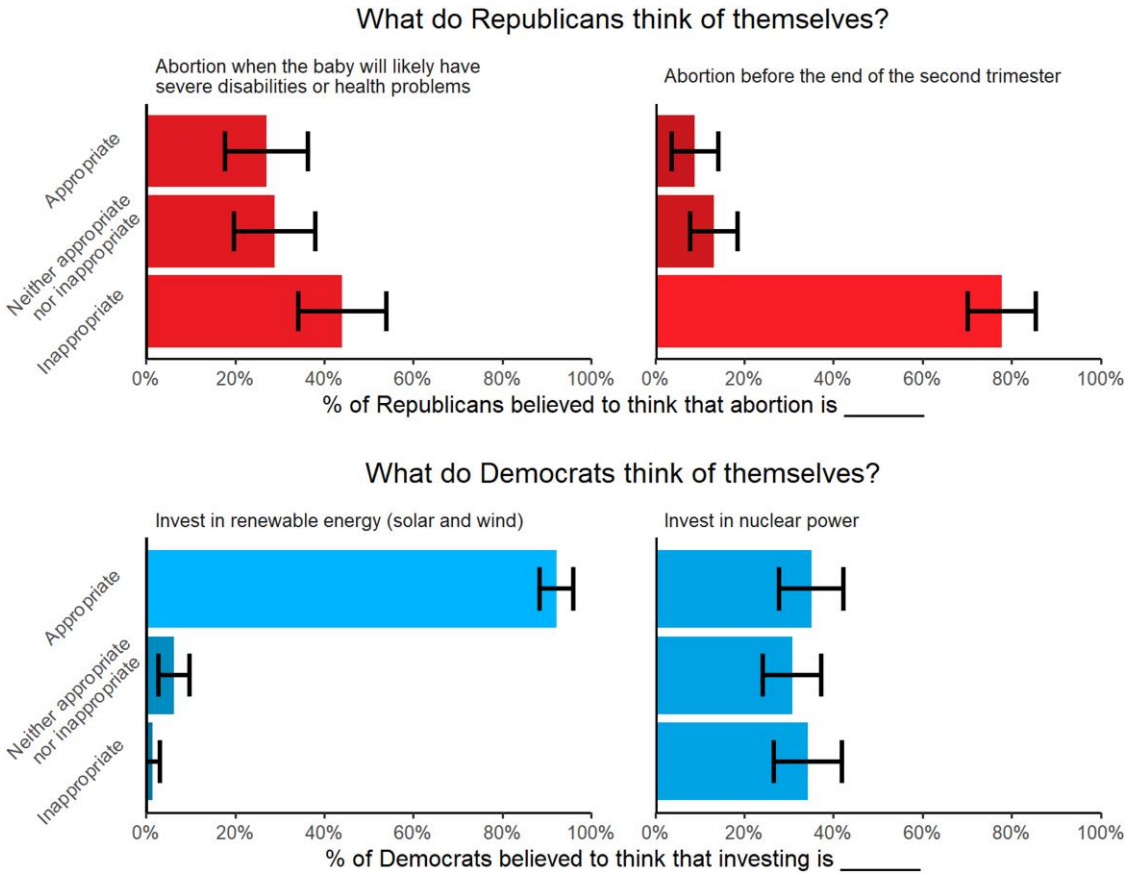

Fig. 5. Policy agreement and disagreement. Top row: Republicans perceive agreement that abortion is inappropriate before the end of the second trimester, but perceive disagreement when the baby is at risk of severe health problems. Bottom row: Democrats perceive agreement that it is appropriate to invest in renewable energy sources, but they perceive disagreement when it comes to investing in nuclear energy. Error bars indicate 95% CIs.

Our analysis in this Research Report only scratches the surface of the richness of our data, but we believe it highlights the value of exploring the whole normative landscape of American politics through the eyes of participants. On the one hand, we see clear evidence of polarization in the fact that partisan groups are generally able to coordinate on a single norm when asked to do so. But our Norm-Drawing Task raises questions about the extent to which that apparent polarization masks real within-group heterogeneity. Previous experimental work has shown that being asked to think about political group norms can increase conformity and encourage individuals to engage in forms of costly political expression (23, 24, 26, 44), but we might ask whether that is partly driven by the fact that these designs treat partisan views as singletons. Perhaps when asked to reflect on heterogeneity of belief among members of their groups partisans will be more comfortable acting in ways that do not just seek to please co-partisans.

Notes

[a] Social psychologists distinguish injunctive and descriptive norms, where the latter refers to norms of behavior that are followed simply because they are useful guides to action in a particular context and which are learned from observing what others do (28). We focus on injunctive norms as key motivators to political action.

[b] These incentives are equivalent to the Norm-Drawing Task when everyone in the reference group shares a single view, and expects everyone else to share it.

[c] The full list of policies, and their exact wordings in the survey, are included on the online repository (osf.io/2f5mh) and shown in Figs. 3 and S1 and S2 (a longer and a shorter wording of the policies was included in the instructions. Figures report the longer wording).

[d] Another approach to incentivizing responses would be to ask participants to predict the distribution of the views reported by participants themselves (30). However, since participants' views may be inaccurate or insincere, especially on sensitive issues, the above method was preferred because it asks respondents to report their beliefs about *others'* beliefs, such that any incentives to distort are weakened by "plausible deniability."

[e] see also Fig. 4 and Supplementary Analysis C.

[f] Similar to criticisms of the Krupka–Weber method, some researchers may not acknowledge that responses in the Norm-Drawing Task do reflect the views held by members of the group. Indeed, respondents could coordinate on a single, simple response pattern that is unrelated to the actual distribution of views (38). For example, participants could report only one view where all ratings are the same. However, the instructions clearly suggest that participants coordinate on a plausible distribution of views. Focusing on this ideal distribution acts as a coordinating device, reducing the risk that participants will find other response patterns on which to coordinate. Recent work also suggests that these coordination-based elicitation techniques are robust to the experimental introduction of alternative focal points (39, 40).

[g] Despite the representativeness of the sample in terms of gender, age, and political orientation, the sample has a high level of educational attainment. This is a common challenge with online samples (42, 43),

and no recruitment platform or polling company we contacted could overcome this bias. One could speculate that high levels of education may have influenced the distribution of certain responses, such as self-reported views. For example, it is possible that highly educated Republicans also have weaker conservative ideology, which could explain certain discrepancies between self-reported and predicted views shown below. However, testing this hypothesis would require collection of additional data. As our main purpose here is to offer a first look at the output of the Norm-Drawing Task among partisan groups, and there are many other things that could also be added or changed in a new survey, we leave this for future work.

[h] In Supplementary Analysis E, we compare how close beliefs elicited using Krupka–Weber are to participants' views across reference groups. We show that, on average, Democrats' reported norms are closer to their reported views than are Republicans'.

[i] We can similarly reject the null that Democrats and Republicans report the same views for 23 out of 24 items.

[j] Predictions for the US population do not vary significantly among respondents with different political preferences, Supplementary Analysis D.

[k] This dispersion of responses may raise the question of whether participants reported more views than is plausible. On average, participants in the Norm-Drawing Task reported three to four views on each issue about which they were surveyed. Despite this multiplicity, participants still reported only a small subset of all the possible views, regardless of the issue or of the group for which the prediction was made (χ^2 tests sharply reject the null hypothesis that participants report random views, all $P < 0.001$). This finding suggests that respondents focused on a set of salient views that represent real views held by some part of the population.

[l] In Supplementary Analysis E, we show that participants' views and norms in Krupka–Weber are more divergent when the reference group is Americans than when it is Democrats; perhaps surprisingly, there is no significant difference in the gap for the Republican reference group.

Acknowledgments

The authors would like to thank Marco de Carlo, Eric Groenendyk, and Mark Pickup for valuable advice on the design of the survey.

Supplementary Material

Supplementary material is available at *PNAS Nexus* online.

Funding

This work is supported in part by funds from the International Foundation for Research in Experimental Economics (Small Grants Program, recipients F.P., A.V., and E.O.K.).

Author Contributions

Conceptualization: F.P., E.D., E.O.K., A.V.; Methodology: F.P.; Software: F.P.; Investigation: F.P.; Analysis: F.P., E.O.K., A.V.; Data curation: F.P.; Writing - original draft: F.P., E.O.K.; Writing - review & editing: F.P., E.D., E.O.K., A.V.; Visualization: F.P., E.O.K.; Funding acquisition: F.P., E.O.K., A.V.

Preprints

A preprint of this article is published at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4779225.

Data Availability

Pre-registration, experimental materials, and anonymized data are available at: osf.io/yh6gd. Experimental instructions are also included as an Appendix (Supplementary Material).

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