Partisan Political Beliefs and Social Learning

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Abstract

American politics is currently characterized by polarized beliefs about otherwise verifiable realities, a pathology often ascribed to the influence of "echo chambers" on like-minded partisans. Partisans will seek out the views of like-minded individuals for either instrumental reasons, that is, because co-partisans are presumed to know more, or for expressive reasons, to learn or confirm "partisan congenial" beliefs. We conducted an online experiment to characterize the demand for, and use of, social information about political beliefs. We find that participants are responsive to the cues of both co-partisans and mixed partisan groups, but are less disposed to consult opposing partisans or to follow their beliefs. However, when a reliable source of outside information becomes available, participants were much less likely to seek social information of any kind, consistent with an instrumental rather than expressive motive. In short, there is mistrust across partisan lines but also a willingness to consult social information in pursuit of "correct beliefs." The further observation that those who do consult peers are not correct more often underscores the importance of reliable private information as a bulwark against some of the pernicious effects of echo chambers.

Introduction

American politics is currently characterized by a polarization of reality along party lines (Alesina et al., 2020). Democrats and Republicans disagree not only about policies, but about basic – and largely verifiable – political facts, ranging from the severity of COVID-19, to the number of immigrants living in the country, to opportunities for intergenerational mobility. A common explanation for the polarization of beliefs is selective exposure to information. This could be intentional, as in the case of individuals who deliberately seek the opinions of co-partisan acquaintances or biased news sources, or incidental, as partisans tend to have more close contacts who share their political affiliation. To the extent that partisans intentionally take their cues from members of their own party, there are at least two broad reasons to do so: they believe that co-partisans are more likely to be factually correct or they wish to conform to the views espoused by members of their own party (Bullock and Lenz, 2019).

We conduct an online experiment to assess the effect of social influence on the partisan gap in beliefs and the extent to which partisans rely on such signals for their informational content versus a desire to conform to partisan norms. Our work relates to several strands of literature across the social sciences. The economics literature has considered two distinct explanations for imitative behavior or *herd formation*. In the case of uncertainty about the best course of action, there is informational value in the behavior of others, such that it may be rational to ignore private information and follow in the footsteps of others (Banerjee, 1992; Bikhchandani et al., 1992), producing an "information cascade." Additionally, individuals may have an intrinsic preference for conformity, apart from the social learning aspect (Bernheim, 1994; Akerlof, 1997).

Laboratory experiments consistently find the emergence (but not necessarily persistence) of cascades and a small literature has emerged that attempts to distinguish between conformity

and social learning in this and other environments (Anderson and Holt, 1997; Goeree and Yariv, 2015; Duffy et al., 2019; Bursztyn et al., 2014; Goette and Tripodi, 2021).

A parallel literature in political science considers partisan use of cues about policies, whether the affirmation of co-partisan cues or, perhaps stronger, the contradiction of opposing partisan cues (Bakker et al., 2020; Arceneaux and Vander Wielen, 2017; Bullock, 2011; Kam, 2005). Such behavior can explain why citizens' views on a diverse set of issues tend to be cleanly organized along party lines (Levendusky, 2009). An online experiment (Macy et al., 2019) finds that "partisan opinion cascades" can form in preferences for previously non-partisan policies, a process that allows parties to become identified with policies as a matter of historical accident. Two competing explanations for this phenomenon have emerged, which very roughly correspond to the learning and conformity motives discussed above. The first, "bounded rationality," is that adherence to co-partisan views provides a decision making heuristic that enables ordinary citizens to circumvent the process of researching and weighing individual policies and instead accept the party line as a reasonably good cue for what someone like them should support (Lupia et al., 1998). The second is an "expressive" motive: people gain utility from expressing a viewpoint that is consistent with their partisan identity. Experiments have found that partisans will sacrifice their own material well-being to express party norms (Pickup et al., 2021) and punish co-partisans who violate those norms (Pickup et al., 2020). In this study, we extend the cue-taking framework from preferences over policies to political beliefs. If, as a result of affective polarization (Iyengar et al., 2019), "belonging [becomes] stronger than facts" (Tufekci, 2018), partisan differences in beliefs will extend to the contestation of otherwise shared and verifiable realities. In such a world, partisans depend on one another not to reduce the costs of information gathering, but to learn about, and express, their political identities (Iyengar et al., 2019).

We report the results of a pre-registered online experiment designed to assess the demand

for social information about political beliefs and its implications for the formation of partisan information cascades. To do so, we financially rewarded individuals for correct answers to factual but partisan questions in an environment where they could choose between two sources of information: "social information," in the form of a poll of five past participants, chosen at random, and "private information," embodied in a noisy signal. Across treatments, we independently varied both the nature of social information - the five individuals sampled were either co-partisans, opposing partisans, or 'general' partisans (sampled from an equal mix of both parties) - and the strength of the private signal, with details described in the next section. Scaling up the signal strength thus diminishes the instrumental "social learning" incentive to seek social information.

We find that, in the presence of an uninformative private signal, people seek out social information from co-partisans and from general partisans, but are significantly less likely to ask opposing partisans. However, as the private signal becomes more reliable, the demand for social information decreases substantially. This suggests that the dominant reason for the pursuit of social information is instrumental learning, and that, as outside information becomes more reliable, the demand for social information is much attenuated. Next, we find evidence of cue-taking for political beliefs. Once participants access information, they tend to follow the answers of both co-partisan and general partisans, and are significantly less likely to take cues from opposing partisans. We find, for example, that individuals will sometimes articulate "irregular beliefs" - beliefs that are not just incorrect, but inconsistent with traditional partisan positions - because a random sample of co-partisans did. This raises concerns that expressive cue-taking could contribute to political instability in the sense that partisan belief cascades can be both unpredictable and reversible. Furthermore, our data also reveal that participants who consulted peers were no more likely to choose the correct answer than those in an untreated "pre-sample." Finally, we document a selection effect, in which participants are more likely to

follow a majority of peers when this information is sought than when acquisition is incidental.

Experimental Design

We recruited 1150 American political partisans (66% Democrats) on Cloud Research in Spring 2021.[1] Each participant was asked five factual true/false questions about politics and were compensated $\$0.25$ for each correct answer. To select the questions and also collect data for the social information displayed to participants in the main experiment, we conducted a pre-test, in which 185 Democrats and Republicans answered a broader set of 13 questions. The five questions used in the main experiment had large differences in the percentages of Democrats and Republicans answering correctly in the pre-test and included: unemployment under the Trump administration, American deaths in 2020, evidence of voter fraud in Georgia in the 2020 election, fatalities at the Capitol riots and Black Lives Matter protests, and the educational attainment of immigrants. The correct response was "True" in three of the five questions and three of the five questions had a correct answer more favorable to (and chosen more frequently by) Democrats. The full set of questions is available in the appendix.

Prior to answering each question, participants could chose between two pieces of information: social information or a noisy signal. We independently varied both the source of the social information (either co-partisans, opposing partisans, or "general" partisans comprising an equal mix of both) and the quality of the outside signal (either correct with probability 55%, 75%, or 95%), yielding a 3x3 design. A participant who chose social information was shown five answers (e.g., "3 Democrats answered True, 2 Democrats answered False"), which were based on the answers of the pre-test participants. In the co-partisan (opposing partisan) condition we ran-

[1]We used Cloud Research's data quality filters, which have been shown to yield a subject pool that passes attention checks at a substantially higher rate than MTurk participants at large and a somewhat higher rate than Prolific participants (Pe'er et al., 2021). To recruit partisans, we asked all respondents to complete an initial survey and only those identifying as Democrats or Republicans were invited to participate in the main experiment. The anonymized preregistration plan can be viewed at: https://aspredicted.org/blind.php?x=sb9xq5.

domly drew five answers based on the relative frequency that co-partisans (opposing partisans) had chosen each answer. For example, 70.5% of Democrats correctly answered the Georgia election question in the pre-test, so the probability that a Democrat in the co-partisan condition would see 5 correct answers was 0.174. In the general partisan condition, the five displayed answers were drawn from an equal weighting of Democrats and Republicans. A participant who chose the noisy signal was shown an answer randomly drawn by the computer, which was correct with the stated probability. By varying the noisy signal strength, we systematically varied the relative informational value of social information.

In all cases, participants knew the quality of the signal and the partisanship of the social information prior to choosing their information source. For each of the five questions, participants first viewed the question and then had 15 seconds to chose either "Ask others: See the answers of 5 randomly selected [Democrats/Republicans/participants]" or "Ask the computer: See an answer that is correct [55/75/95] times out of 100." They then had an additional 15 seconds to view the requested information and answer the question. In addition to these nine treatment conditions, we conducted three control conditions in which participants did not have the option of the noisy signal and were simply shown the social information from co-partisans, opposing partisans, or general partisans.

Results

We begin by considering the demand for social information, as shown in Figure 1. When the outside signal was essentially uninformative (55% accurate), the majority of participants in the co-partisan and general population conditions sought the opinion of others. However, less than 40% chose to consult opposing partisans, significantly less than co-partisans ($p = 0.001$) or general partisans ($p = 0.002$).[2] While co-partisans were asked more than the general popula-

[2]All tests are based on regressions with standard errors clustered at the level of the subject.

tion, this difference is not significant ($p = 0.792$). Furthermore, demand for social information declines significantly as alternative information sources become more reliable ($p < .001$ for all three peer groups), suggesting that learning the correct answer was a primary driver of the pursuit of social information. When a credible and near perfect private signal was available fewer than 12.6% chose to acquire social information, with some (statistically insignificant) variation across peer groups.

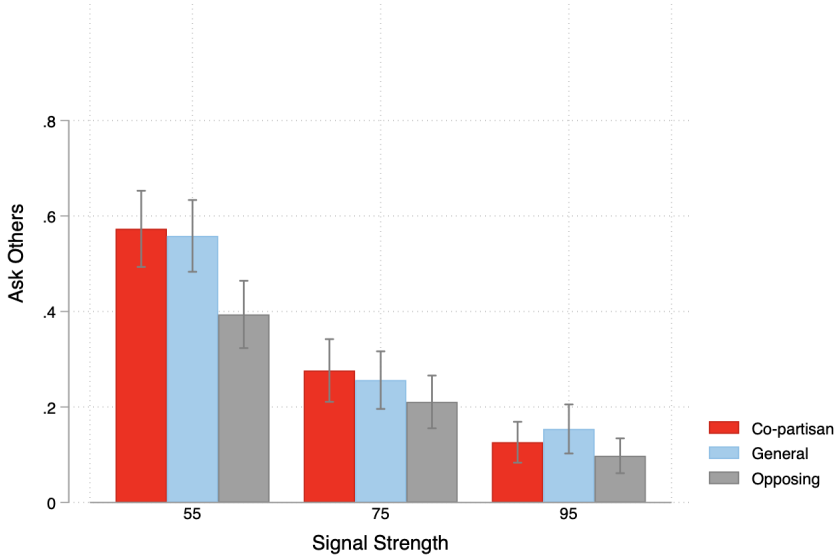

Figure 1: Proportion of participants consulting social information by peer group and signal strength. 95% confidence intervals reported with standard errors clustered by individual.

We next turn to how, once obtained, social information was used. Figure 2 shows the proportions of respondents who adhered to the majority view by peer type, in both the main experiment (when respondents actively chose social information) and the control condition (when the social information was shown to all respondents). Comparing across the main experiment and the control conditions, we find a significant selection effect. Participants were nearly 10 percentage points more likely to adhere to the majority opinion when they chose it over the private signal ($p < .001$) and this difference is significant for all three peer groups ($p = 0.003$, 0.044, and

0.058 for co-partisans, general, and opposing partisans, respectively).

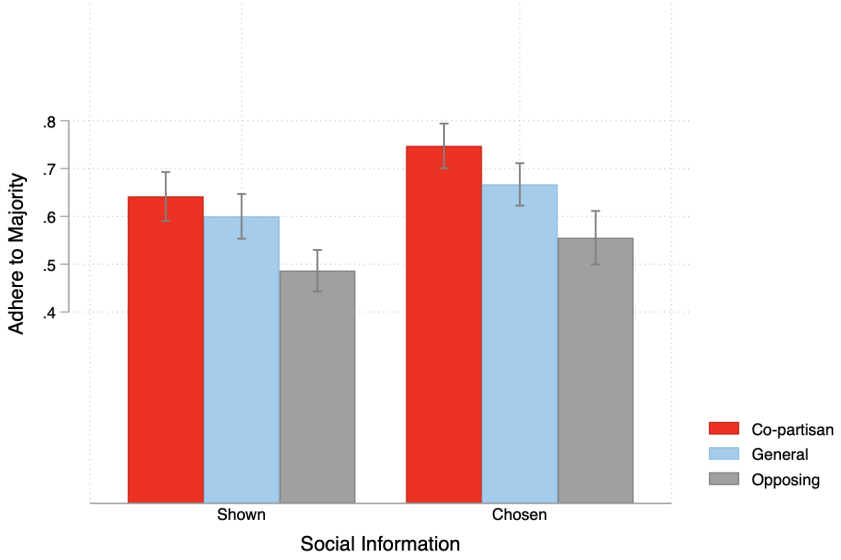

Figure 2: Proportion of participants whose answer adheres to the majority opinion after being shown (left) or selecting (right) social information. 95% confidence intervals reported with the individual as the level of observation.

Figure 2 also reveals that participants are significantly more likely to adhere to the views of co-partisans and general population ($p < 0.001$ for both comparisons and experiments) than opposing partisans, and more somewhat more likely to adhere to co-partisans than the general population ($p = 0.076$ in the main experiment and $p = 0.24$ in the control).

Before we attribute this pattern to differential adherence across peer groups, we must rule out a version of the "reflection problem" (Manski, 1993), which recognizes that the responses of individuals and co-partisan majorities would be correlated even in the absence of information. We show, however, that adherence is greater than what we should expect on the basis of reflection alone. For example, respondents who observed the majority of co-partisans provide an answer that was both incorrect *and* contrary to their partisan leanings, still adhered to the majority opinion two-thirds of the time (and 78% of the time when at least four co-partisans

gave the incorrect response).

To elaborate, we first compute a measure of *excess partisanship*, which encodes how partisan an individual's response is relative to the average response given by those with the same affiliation in the pre-test. Specifically, we define the partisanship of the response as 1 if the respondent provides the partisan-congenial answer and 0 otherwise, and then normalize this measure by subtracting the average partisanship of responses provided by their fellow partisans on that question.

Figure 3 plots excess partisanship for those who requested social information, over the partisanship of responses provided by the peer group. We see that participants follow the answers provided by co-partisans and the general population. Both groups' partisanship responds significantly to the partisanship of their peers, with the likelihood of providing the partisan response increasing by about 10 percentage points for each extra peer who reports a partisan response ($p < 0.001$ for both groups). Individuals who observed four or five co-partisans providing a response that conflicted with their shared partisan affiliation in turn provided the partisan answer over 25 percentage points less frequently than those in the pre-test, while those who observed four or five co-partisans providing the partisan response gave the partisan answer 10 percentage points more often. A very similar pattern is observed for those in the general partisan condition. However, answers are largely unresponsive to opposing partisans' answers ($p = 0.12$), even after requesting them, and the difference in responsiveness is significantly less than for co-partisans ($p = 0.004$) and general ($p = 0.015$).

Finally, we consider the consequences of social information for accuracy of stated beliefs. As with our measure for partisanship, we normalize our outcome by subtracting the likelihood that someone of the same affiliation correctly answered that particular question in the pre-test. We first note that, in the presence of a strong private signal – a signal that the vast majority of respondents access– the likelihood of a correct answer increases relative to those in the pre-test.

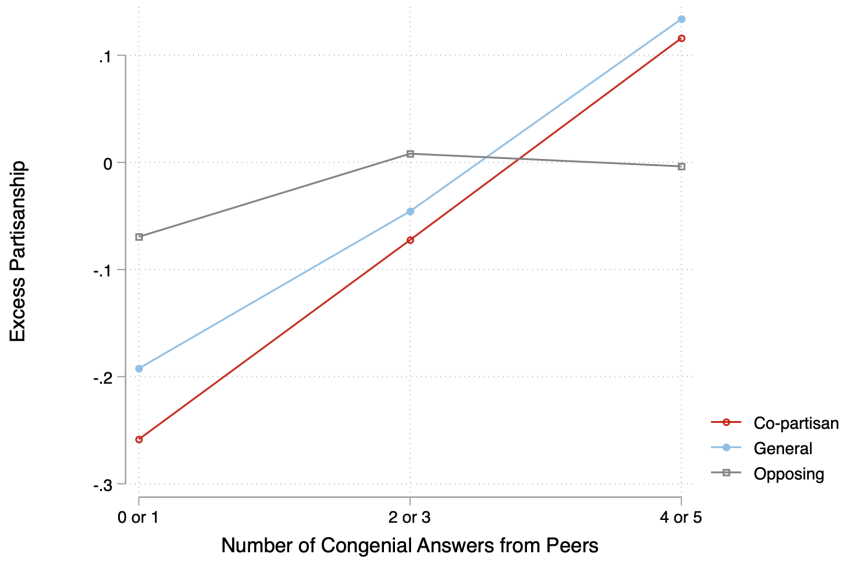

Figure 3: The excess partisanship of individual responses graphed over the partisan congeniality of the group's response, where weak indicates that 0 or 1 peers provided an answer congenial to the respondent's partisan affiliation, medium indicates that 2 or 3 did, and strong indicates that 4 or 5 did.

Across all peer types, there is a 26.1 percentage point increase ($p < 0.001$).

In contrast, behavior of respondents in the presence of the noisy (55% accurate) private signal, when most, but not all, opted to consult peers, raises doubts about the usefulness of social information. Across all peer types, respondents were no more likely to be correct than in the pre-test (1.57 percentage points, $p = 0.20$). Further, the effect was independent of the composition of peer groups: respondents were just 1.20 pp ($p = 0.587$) percentage points more likely to be correct after consulting co-partisans, and 2.8 pp ($p = 0.18$) after consulting opposing partisans.

Conclusion

We conducted an experiment to characterize the demand for, and use of, social information about factual political beliefs, and evaluate the importance of access to other reliable sources

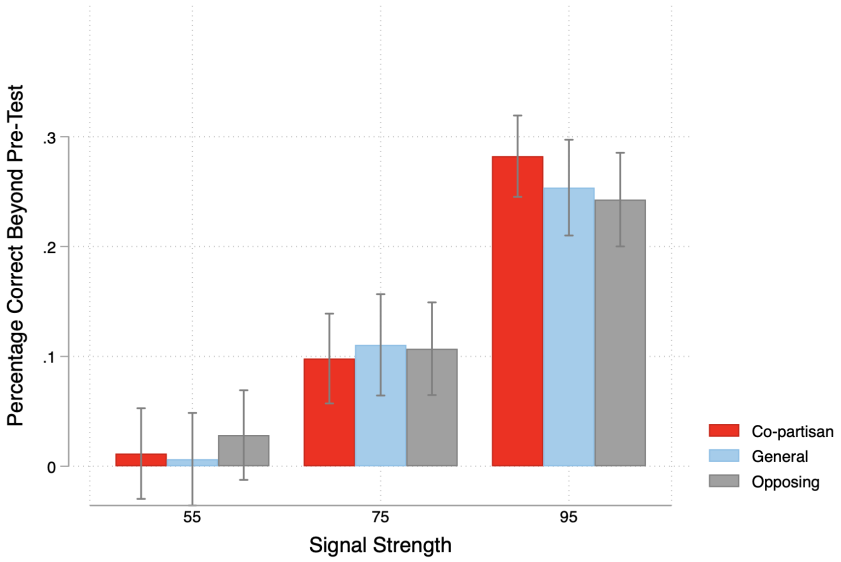

Figure 4: The likelihood of being correct, above and beyond percentage of respondents of the same party who answered correctly in the pre-test, over peer type and signal strength. The data include both those who viewed the social information and those who viewed the private signal.

of information. We find that when access is limited, most respondents consult co-partisans or a general mix of partisans, and adhere to the majority view. Opposing partisans, on the other hand, are less likely to be consulted or followed. On balance, access to social information does not improve the accuracy of beliefs relative to those who have no information at all.

When a credible alternative signal is available, however, large majorities of respondents choose to consult it, no matter what type of social information is available, and the accuracy of beliefs improves substantially. This suggests to us that a desire to learn the true state of the world is a primary motivator for the pursuit of social information, and that when more reliable information is available, this will be consulted instead, with positive benefits.

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