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Generically Partisan: Polarization in Political Communication

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Abstract

American political parties continue to grow more polarized, but the extent of ideological polarization among the public is much less than the extent of *perceived polarization* (what the ideological gap is believed to be). Perceived polarization is concerning because of its link to inter-party hostility, but it remains unclear what drives this phenomenon. We propose that a tendency for individuals to form broad generalizations about groups on the basis of inconsistent evidence may be partly responsible. We study this tendency by measuring the interpretation, endorsement, and recall of category-referring statements, also known as *generics* (e.g., "Democrats favor affirmative action"). In Study 1 (n = 417), perceived polarization was substantially greater than actual polarization. Further, participants endorsed generics as long as they were true more often of the target party (e.g., Democrats favor affirmative action) than of the opposing party (e.g., Republicans favor affirmative action), even when they believed such statements to be true for well below 50% of the relevant party. Study 2 (n = 928) found that upon receiving information from political elites, people tended to recall these statements as generic, regardless of whether the original statement was generic or not. Study 3 (n = 422) found that generic statements regarding new political information led to polarized judgments--and did so more than non-generic statements. Altogether, the data indicate a tendency toward holding mental representations of political claims that exaggerate party differences. These findings suggest that the use of generic language, common in everyday speech, enables inferential errors that exacerbate perceived polarization.

Significance Statement

As polarization between the major parties in American politics continues to grow, and the perception of polarization also grows, it is important to understand the psychological factors underpinning these gaps. The use of category-referring statements, also known as generics (e.g., "Democrats want to defund the police"), may contribute to polarization by encouraging the adoption of broad conclusions about political categories that ignore variation within each political party. The results of three studies (N = 1,767) indicate that generic language expresses political claims that exaggerate party differences. These findings suggest that the use of generic language, common in everyday speech, enables inferential errors that exacerbate perceived polarization.

Generically Partisan: Polarization in Political Communication

"*Democrats want to defund the police and take your guns. Republicans want to #BackTheBlue and protect your rights.*" - Rep. Jim Jordan (R-Ohio), 2021

Recent years have seen a sharp increase in political polarization in the U.S. (1-7), leading to deadlock in Congress (8), distorted beliefs about fellow Americans (9-10), and distrust, hostility, and even violence toward outgroup members (11-13). Although ideological polarization seems to be largely concentrated among political elites (14), affective polarization, or a general disdain for the other party, is pervasive among ordinary voters (15-16). This disdain for those identifying with a different political party is found not only in obviously political contexts such as elections (17) but also in seemingly unrelated contexts, such as dating behavior (18), neighborhood selection (19), evaluation of job applicants (20), and communication within families (21).

Modern-day polarization characterizes not only gaps between parties' ideological positions but also perceptions of those gaps, also known as "perceived polarization" or "false polarization" (22-23). Not only do Democrats and Republicans differ in their perspectives on many issues, but they also believe such differences to be greater than they actually are (10-11). These biases are not limited to beliefs about ideological differences (e.g., how far apart the parties are in support of gun control), but also in how they perceive the fundamental makeup of both parties. For example, when surveyed, respondents estimated that 39% of Democrats were union members, compared to 10% in reality, and that 38% of Republicans earned over $250,000 per year, compared to 2% in reality (9). Such exaggerated perceptions are thought to play a role

in some of the negative consequences of polarization, as they are more prevalent among strong partisans, and associated with increased hostility and even support for partisan violence toward members of the out-party (13, 22, 24-26).

Given the scope and consequences of polarization, there is much interest in identifying how it occurs and how it fits within citizens' understanding of the two parties. Many factors have been proposed to contribute to polarization and its effects, including historical patterns of immigration, social identity, shifting cultural norms, media consolidation, genetic dispositions, and both racial and economic inequality (27-33).

Here we examine an additional factor that may foster political polarization but that has received little attention to date, namely, a common form of language used to communicate about political parties and issues. Specifically, we focus on expressions that make claims about a category as a whole (e.g., "*Democrats* want to defund the police" makes a claim about the category of "Democrats"), also known as *generics* (34-38). In contrast to statements about specific individuals (e.g., "*The Democrats on our city council* want to defund the police"), generics express ideas that are inherently general and abstract, extending beyond any particular time or place. Given the centrality of categories in human reasoning (39), generics are a fundamental means of human expression, frequent in everyday speech, attested in all the world's languages, and emerging early in childhood; see (40) for a review.

Generics have several distinctive features that may exaggerate perceived divides between political parties. Because generics are notable for the absence of tense, aspect, or other indicators of specificity, they imply that the properties expressed are universal, timeless, and nonaccidental (35). Because generics allow for exceptions–indeed, they can express properties that are more typically false than true (e.g., "Birds lay eggs" is considered true, even though male birds and

baby birds do not lay eggs)—they minimize variability within a category (41-43). Experiments have found that hearing or reading generics about novel categories results in: high levels of within-category inferences (44-45); treating the features expressed as especially central (46); and essentializing the category in question (47-49). Moreover, if two categories (A and B) contrast with one another, then a generic true of category A is assumed to be not-true of category B (50-52).

Prior work has speculated that generic language may have implications for political discourse and public opinion, as in this quote from (44) (p. 1473):

> "Take, for example, political discourse...generics are a powerful means of manipulating public opinion. Since these generalizations are legitimized even by scant evidence, their truth is rarely questioned. Yet, after they become part of accepted discourse, they take on a life of their own, turning what may have originally been a nuanced, contextualized fact into a definitive pronouncement: A few cases of successful school voucher programs morph into 'School vouchers work'; a few salient incidents at nuclear power plants become 'Nuclear power plants are dangerous'; and so on."

Despite these potential links, we are unaware of any studies to date that have examined generic language in the context of political claims. We do not think this is because generics are rare in political speech; to the contrary, informal scanning of speeches, rallies, op-ed pieces, and conversations suggests that generics are common when discussing political parties and issues. Given that generics express universalizing claims, and given that the political facts on the ground are rarely so stark, it is possible that generics may be used in a manner that adds to political polarization. Thus, our goal was to examine generic language expressing political claims, as a

first step toward understanding how it may contribute to polarization within the current U.S. context.

The Present Studies

In the hyper-polarized context of U.S. politics**,** studying how generic language is understood and recalled may help explain how individuals communicate about political parties, and how generic language may contribute to oversimplifying and exaggerating perceptions of party differences. To begin unpacking the dynamics of generic language in political communication, we present three studies on the use of generic language in politics, one examining *endorsement* of generic claims, one examining *memory* for generic claims, and one examining the *polarizing effect* of generic claims. We selected these aspects of generics–endorsements, recall, and polarization effects–as especially relevant in the political realm, for public opinion and transmission of polarized beliefs and attitudes.

As noted above, one distinctive signature of generics is that, despite expressing general claims that gloss over exceptions, they are endorsed in the face of variable or even minimal evidence. Applying this to politics led to our prediction that, when considering opposing political parties (here, Democrats and Republicans), people's judgment of a generic will reflect their belief about the relative standing of the two parties regarding the generic content. Generics will be judged more often true for the party perceived to be higher in prevalence and less often true for the party perceived to be lower in prevalence. Thus, people would deem generic statements regarding the higher-prevalence party as true, even when they believe such statements to hold for less than half of the relevant party (e.g., endorsing “Democrats believe that we are spending too little on space exploration programs”), and would deem generic statements regarding the lower-

prevalence party as false, even when they believe such statements to hold for more than half of that party (e.g., rejecting "Democrats believe that the federal income tax they pay is too high.").

In Study 1, we tested this hypothesis by comparing endorsements of generics for properties that varied widely in their prevalence, both in the "target" party (e.g., Democrats, for favoring affirmative action) and in the "opposite" party (e.g., Republicans, for favoring affirmative action). More specifically, we measured respondents' beliefs regarding the level of support in both parties for a set of ideological and policy stances (e.g., What percent of Democrats favor affirmative action? What percent of Republicans favor affirmative action?). The gap between the two parties provided a measure of perceived polarization. We then compared these perceptions to participants' willingness to accept generic statements about support for each stance (e.g., "Democrats favor affirmative action"; "Republicans favor affirmative action"). We expected people's prevalence estimates to be exaggerated relative to the ground truth (i.e., people would estimate a larger gap between the parties, as compared to results from existing public opinion poll data) and that the gap between parties would be greater in people's endorsement of generic statements relative to their prevalence estimates. As will be seen, we found strong evidence supporting both these predictions.

A second distinctive signature of generics documented in prior research is that they tend to be how generalizations are later recalled, even when generalizations are stated in more precise, quantified ways (e.g., "Most bears climb trees" tends to be recalled as "Bears climb trees"; 53). This tendency in people's memory converts more nuanced (quantified) messages into categorical (generic) claims, and thus may contribute to the social transmission of polarized views. In Study 2, we measured participants' memory of generic and non-generic (quantified) statements attributed to Democratic or Republican politicians. As predicted, and consistent with prior

research outside the political domain, participants displayed a strong tendency to recall both generic and quantified statements as generic.

Study 3 tested two hypotheses: that generics regarding new information would lead to polarized judgments (e.g., a generic about Democrats would lead people to infer that the property is generally true of Democrats, and generally not-true of Republicans), and that such polarized judgments would be greater upon reading a generic than upon reading a non-generic, quantified statement. We obtained support for both hypothesized patterns.

To preview the bottom line: The present studies support the conclusion that generic language expresses and evokes polarized political judgments. For a range of familiar issues, people believed that the two parties were further apart than they actually are, and generic endorsements were predicted by people's beliefs about the relative standing of the two parties on an issue. We also obtained evidence for a memory bias that converts quantified statements (e.g., "Many Republicans...") into generics (e.g., "Republicans..."). Finally, reading novel generic statements has a polarizing effect, leading people to assume that the two parties are opposite in their endorsements or beliefs. This pattern was stronger for generics than for quantifiers (including 'many'). Therefore, the memory bias that converts quantified statements into generics may further exacerbate polarization.

The research questions, coding, analyses, and participant exclusion criteria were preregistered at AsPredicted. Preregistrations, stimuli, data, and code are publicly available at https://osf.io/kdrq6. The studies were approved by the Columbia University Institutional Review Board, "Generics and Quantifiers: AAAT2351" and "Survey on Generics and Political Polarization: AAAT9361." Informed consent was obtained from all participants.

Study 1: Endorsement of Generic Claims

Study 1 was designed to assess how people's generic endorsements regarding Democrats and Republicans would compare to the degree of actual and perceived polarization between the two parties (as assessed by public opinion polls and participants' own judgments, respectively; items and sources are available in the SI Appendix). We hypothesized that generics would amplify differences between the two parties. We illustrate with an example: Polls find Republicans and Democrats to be fairly close in their belief that the federal income tax that they pay is too high (57% and 51%, respectively). Yet given the gap between the two parties, do people endorse opposing generic claims: that Republicans believe that the federal income tax that they pay is too high, and Democrats do not? We predicted that generic acceptance would be higher for Targets (the party that is higher; in this example, Republicans) than for Opposites (the party that is lower; in this example, Democrats), even at equal rates of true prevalence, and even at equal rates of perceived prevalence.

We measured two outcomes: generic endorsements (agreeing or disagreeing with each of a series of generic statements, e.g., "Democrats believe that the federal income tax that they pay is too high: Agree or Disagree") and prevalence estimates (estimating the percent of Democrats or Republicans for which a series of attributes are true, e.g., "What percent of Democrats believe that the federal income tax that they pay is too high?").

Method

Participants. 417 participants were retained in the final sample recruited via CloudResearch panels (Litman et al., 2017): 215 self-identified Democrats and 202 self-identified Republicans. Sample size was decided based on the results of a simulation study (see the SI Appendix, which also includes details regarding recruitment, sample demographics, and excluded participants).

Design. We used a within-subject design with two tasks (prevalence estimate; generic endorsement) x two sentence types (Target, i.e., the party for which public opinion data indicated greater endorsement, such as, "Republicans believe that the federal income tax that they pay is too high"; Opposite, i.e., the party for which public opinion data indicated lower endorsement, such as, "Democrats believe that the federal income tax that they pay is too high") for each participant. For half the items, the Target party was Democrats, and for half it was Republicans. The design also included two between-subject factors (Task order: generic endorsements or prevalence estimates first) and Participant party (Democrat or Republican).

Materials. We generated 64 statements expressing attitudes, beliefs, or ideologies held by Democrats and Republicans (see SI Appendix, Table S1). The statements were primarily drawn from the General Social Survey (GSS; 54) and the Cooperative Congressional Election Survey (CCES; 55). Additionally, three items were drawn from Pew Research, two from the Kaiser Family Foundation, and one from a MorningConsult/Politico poll (56-61). Two of the GSS items were dropped due to errors in survey creation, resulting in 62 statements in total (31 Democratic targets, 31 Republican targets). Each of the retained 62 items indicated a gap between the two parties (based on prior public opinion surveys; range = 2-76 percentage points), and Democrat and Republican target sentences were overall equivalent in endorsement of the target party in the prior public opinion surveys (Means = 63% for both).

Procedure. Respondents completed a Qualtrics survey, consisting of two tasks, presented in separate (counterbalanced) blocks. In one block (the prevalence estimation task) they were asked to estimate the prevalence of each public opinion stance, separately for Democrats and for

Republicans[1] (e.g., “What percent of Democrats support euthanasia?”; “What percent of Republicans support euthanasia?”). In the other block (the generic judgment task) they were asked if they agreed or disagreed with a series of generic statements about Democrats and Republicans (e.g., “Democrats support euthanasia”; “Republicans support euthanasia”). For both tasks, each predicate appeared once for Democrats and once for Republicans. The order of items within a task block was randomized by Qualtrics, separately for each participant. Altogether there were 64 target items and 64 opposite items in each block, yielding 256 questions in total, of which 248 were analyzed (due to errors with two items, mentioned above).

Results

First, we present participants’ prevalence estimates and how they compared to true prevalence (as in prior research on perceived polarization). Then we examine data relevant to our primary question: how generic endorsements compared to both true prevalence and prevalence estimates. In each case, we first characterize the data descriptively and then present the statistical models.

The first two columns of Figure 1 show true and average estimated prevalence for each of the 62 items in the study. The length of each line corresponds to the size of the gap between target and opposite prevalence.

[1] At the beginning of the survey, we informed participants that "Democrats" and "Republicans" referred to ordinary Democratic and Republican voters, not politicians. Comprehension checks at the beginning and end of the survey assessed whether respondents knew and remembered this information. Anyone who answered either comprehension check question incorrectly was excluded from the study.

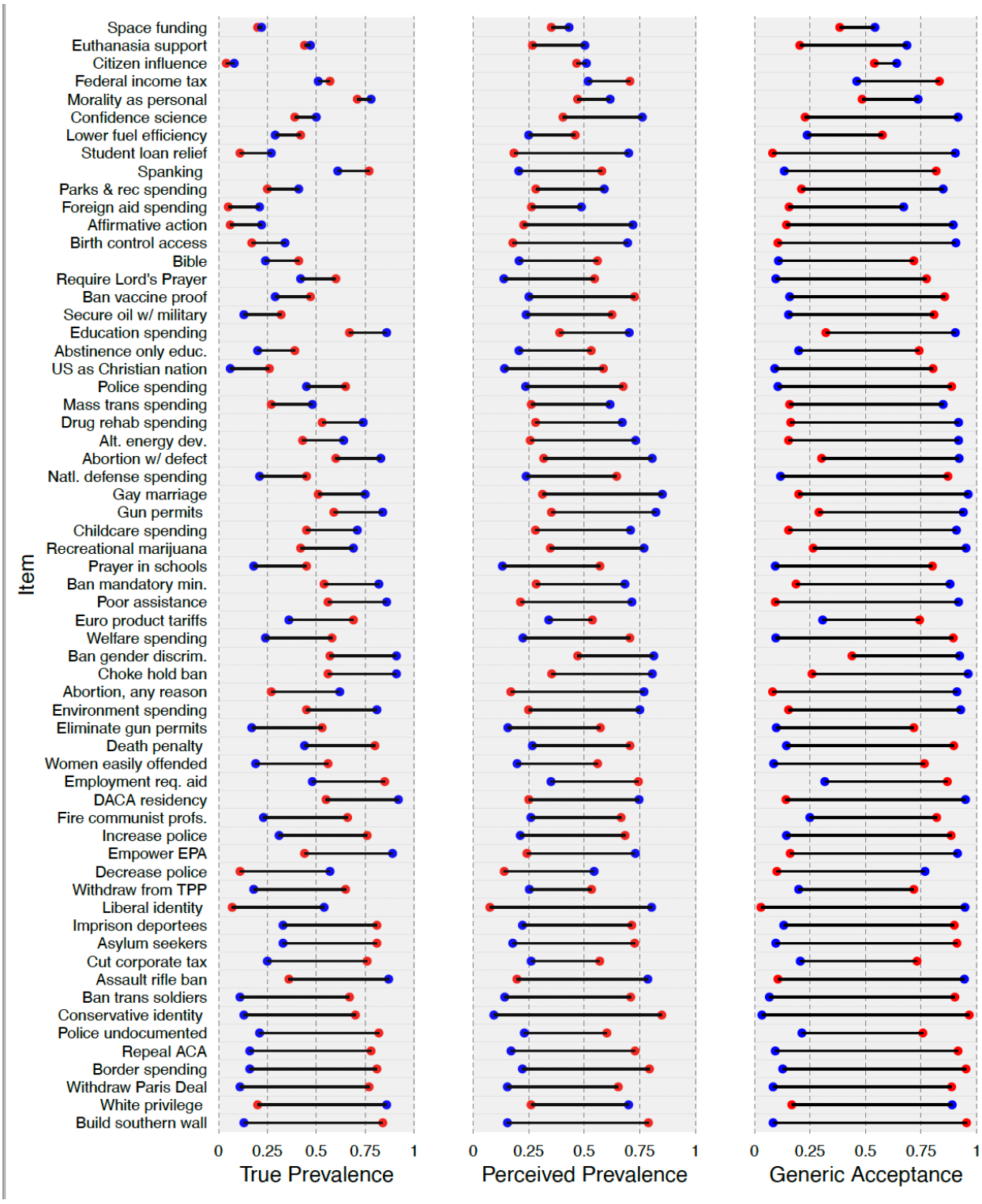

Figure 1. From Study 1, for each item, the true proportion for each party expressing agreement (as estimated by national opinion polls), the average perceived prevalence as estimated by the participants in our experiment, and the average rate of generic acceptance of our participants. Issues are ordered in increasing size of the true gap in opinion between the two parties (where

red denotes a Republican item and blue denotes a Democratic item).

Respondents on average slightly overestimated support for policy stances in the target party and underestimated support in the opposite party. The average perceived prevalence was 67% for target items and 25% for opposite items; both these numbers were more extreme than average true prevalence, which was 63% for target items and 32% for opposite items. The standard error of the difference between average perceived and true prevalence was 2% for target items and 2% for opposites. For comparison, true prevalence and perceived prevalence estimates are plotted for target and opposite items in Figure 2.

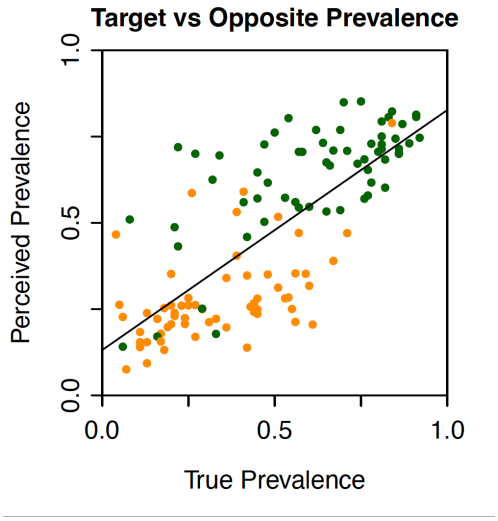

Figure 2. From Study 1, true and average perceived prevalence estimates for each of the 124 issue items. The green dots represent prevalences among the target party, and the orange dots represent prevalences among the opposite party.

Respondents showed a strong pattern of accepting generics for the target party and rejecting generics for the opposite party. Even for comparable levels of perceived prevalence, respondents were far more likely to endorse the generic for the target party than the opposite

party. For example, when respondents estimated the prevalence of a target issue to be between 20% and 30%, they accepted the corresponding generics at a rate of 56%, whereas when they estimated the prevalence of an opposite issue to be between 20% and 30%, they accepted the corresponding the corresponding generics at a rate of only 15%.[2] Likewise, when respondents estimated the prevalence of an issue to be between 45% and 55%, they accepted target generics at a rate of 74%, while accepting opposite generics at a rate of only 40%. When prevalence was estimated to be between 70% and 80%, acceptance of the generic form was 94% for target items but only 66% for opposite items.

By binning prevalence estimates, we can plot the rate of generic acceptance as a function of estimated prevalence.[3] This makes the gap between target and opposite generic acceptance clear (see Figure 3), and this gap occurs across all combinations of the respondent's political party affiliation and the party to which each statement was attributed (see SI Appendix, Figure S1).

[2] One might wonder why people ever accepted low-prevalence "opposite" generics (e.g., "Republicans want to decrease police spending"). We suspect that some participants may have made use of additional knowledge or beliefs (e.g., focusing on how Republicans tend to express opposition to government spending; or thinking of a particularly vocal Republican family member with a beef against the police; or not wishing to pigeonhole Republicans).

[3] Binning was required in order to display meaningful generic acceptance rates. A plot of unbinned estimates could not be meaningfully interpreted, as each individual response was binary (either accepting or rejecting the generic), thus yielding only scores of 0 or 1.

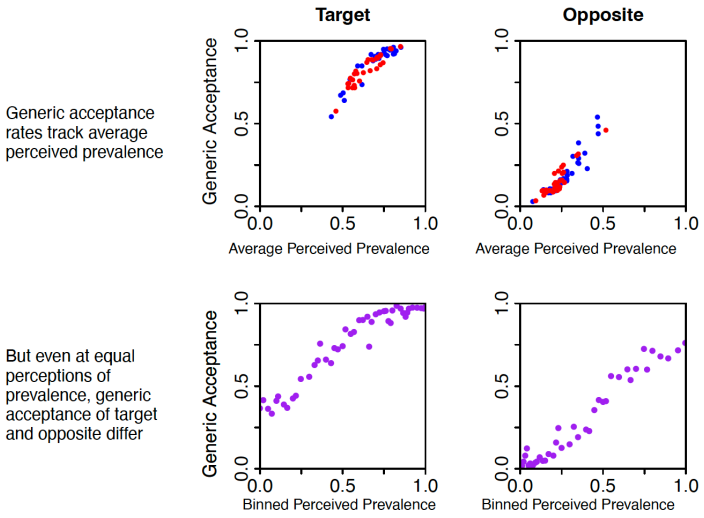

Figure 3. From Study 1, proportions of generic acceptance for each item, averaging over respondents. In the top line, each dot represents an issue question, with red and blue corresponding to issues that are relatively more associated with Republicans or Democrats, respectively. In the bottom line, each dot represents the average generic acceptance at a given perceived prevalence level, across all items and respondents.

To model the relation between perceived prevalence and acceptance of the corresponding generic, we ran a multilevel logistic regression predicting generic acceptance from the following predictors: whether the item corresponded to the target or opposite party, the true prevalence of the item, party identification of the respondent (D vs. R), party expressed in the item (D vs. R), and the interaction of these two party identifications. The model also allowed the intercept, the coefficient for true prevalence, and the indicator for target/opposite to vary by item and person, following the general principle in regression to consider variation among the coefficients for the most important predictors.

The fitted models shown in Table 1 are consistent with our general findings that both perceived and true prevalence drive participants' generic acceptance. They also highlight the major influence that being a target item has on generic acceptance: an item is about 50% more

likely to be accepted if it is associated with the target party, holding all other factors constant. Respondents accepted the generic statements at higher rates for target items than either their perceived prevalence or their actual prevalence as measured by public opinion polls. As shown in the table, when perceived prevalence is included in the model, true prevalence loses its predictive power, and both individual and average perceived prevalence are strong predictors of generic acceptance.

Table 1. From Study 1, estimated coefficients and 95% intervals for three pairs of logistic regressions predicting probability of accepting a generic statement under Target and Opposite conditions, given characteristics of the statement and respondent.

Predictors	**Target Acceptance (1)**	**Opposite Acceptance (2)**	**Target Acceptance (3)**	**Opposite Acceptance (4)**	**Target Acceptance (5)**	**Opposite Acceptance (6)**
Intercept	0.7 (0.2, 1.2)	-2.0 (-2.6, -1.4)	-1.6 (-1.9, -1.2)	-3.4 (-3.9, -3.0)	-3.3 (-4.0, -2.4)	-4.9 (-5.6, -4.2)
True prevalence	1.6 (0.6, 2.7)	1.7 (0.6, 2.8)	0.8 (0.1, 1.4)	0.9 (0.1, 1.7)	-0.0 (-0.5, 0.5)	-0.4 (-1.1, 0.3)
True partisan gap	1.4 (0.1, 2.8)	-1.8 (-3.0, -0.6)	0.9 (0.1, 1.7)	-1.1 (-1.9, -0.3)	0.5 (-0.1, 1.2)	-0.4 (-1.2, 0.3)
Republican item	-0.6 (-1.0, -0.2)	0.0 (-0.4, 0.4)	-0.4 (-0.6, -0.1)	-0.1 (-0.4, 0.2)	-0.1 (-0.3, 0.0)	-0.2 (-0.4, 0.1)
Republican respondent	-0.4 (-0.6, -0.3)	0.6 (0.4, 0.9)	-0.3 (-0.4, -0.1)	0.4 (0.2, 0.6)	-0.3 (-0.4, -0.1)	0.4 (0.2, 0.6)
Respondent-statement party match	-0.2 (-0.3, -0.1)	0.3 (0.3, 0.4)	-0.1 (-0.2, 0.0)	0.2 (0.1, 0.3)	-0.1 (-0.2, 0.0)	0.2 (0.1, 0.3)
Perceived prevalence			4.8 (4.6, 5.0)	5.2 (5.0, 5.3)	4.7 (4.5, 4.9)	5.1 (4.9, 5.3)
Perceived partisan gap			0.3 (0.1, 0.5)	-0.3 (-0.5, -0.1)	0.3 (0.1, 0.5)	-0.3 (-0.5, -0.1)
Collective perceived prevalence					3.7 (2.7, 4.7)	5.3 (4.0, 6.6)
Collective perceived gap					-0.3 (-1.5, 0.9)	0.8 (-0.8, 2.3)
Varying intercepts,	**Estimated SD**	**Estimated SD**	**Estimated SD**	**Estimated SD**	**Estimated SD**	**Estimated SD**
417 participants	0.8	1.4	0.6	0.8	0.6	0.8
62 items	0.4	0.6	0.1	0.3	0.1	0.1
Number of observations	25854	25853	25854	25853	25854	25853
Marginal R^2, Conditional R^2	0.07, 0.33	0.06, 0.41	0.31, 0.44	0.31, 0.48	0.35, 0.46	0.35, 0.49

Party identification for respondents and items added little predictive power, but we did find a small but consistent pattern of the match between respondent party and item party. After adjusting for party of item and respondent, when respondent party and item party matched, we observed lower rates of accepting target generic statements and higher rates for accepting opposite generic statements; see Table 1.

We also hypothesized that the bigger the gap between Target and Opposite in perceived prevalence, the more likely participants would be to endorse the generic statement for the target party, and the less likely they would be to endorse it for the opposite party. To examine this relation, we ran a similar model as for perceived prevalence alone, but with predictors for the true gap in prevalence between the parties and the perceived gap in prevalence between the two parties (see Table 1). Here are some key findings. Items with higher perceived prevalence consistently resulted in higher rates of generic acceptance. Furthermore, the larger the gap between the parties in perceived support for an issue position, the more likely respondents were to accept the generic form of the statement for the target party, and to reject it for the opposite party. This result held even when prevalence among both parties was high, and when prevalence among both parties was low. We estimate the expected difference to be about 5% when comparing no gap to a 50% gap. This pattern is displayed in Figures S2 and S3 in the SI Appendix.

We did not initially have predictions regarding how the average perceived gap of all respondents within the sample at the item level (what we call "collective prevalence estimates") would correspond to individuals' generic acceptance of the corresponding item. However, we suspected that this measure might produce less noisy estimates than the perceived gap at the

individual-level. We ran the same model again, but this time adding the mean perceived prevalence gap. As shown in Table 1, both individual and collective prevalence estimates contribute strongly to the prediction of generic acceptance, and when both are included in the model, true prevalence adds no additional predictive power.

Discussion

In Study 1, participants estimated the prevalence of a series of attitudes, beliefs, or ideologies regarding both Democrats and Republicans, and indicated whether they accepted as valid generic statements regarding these beliefs. We then compared actual prevalence levels, perceived prevalence levels, and generics, and we did so for contrasting political groups (Democrats and Republicans).

We found that perceived polarization was greater than actual polarization, in two key respects: (1) for nearly every issue, people believed that the two parties were further apart than they actually are, and (2) patterns of generic endorsement were more polarized (i.e., revealed a greater gap between the two parties) than perceptions of prevalence. Each of these patterns can be seen in how participants judged contrasting political parties (target [the party with a higher level of actual endorsement] vs. opposite), and in how responses corresponded to the actual and perceived gap between target and opposite. In their endorsements of generics, people converted small differences between contrasting political parties into categorical divides: if Democrats endorse a position, Republicans do not, and vice versa. This tendency was either slightly moderated or slightly exacerbated by the respondent's own partisanship and the party that the statement was attributed to. When there was a match, such that respondents were assessing statements about their own party, they were more reluctant to endorse generic statements. On the

other hand, when assessing statements about the other party, respondents were more likely to endorse generic statements.

These findings provide new insights regarding the interpretation of generics in a political context. Prior work outside the political domain emphasized that generics can be endorsed based on variable or even minimal evidence. We found this pattern in the present data, as well: Generic statements about political parties were often judged as true, even when participants believed such statements to hold for well below 50% of the relevant party. Regarding opposing categories, we found the reverse pattern: Generic statements about the opposite political party were often judged as false, even when participants believed such statements to hold for well above 50% of the relevant party. In other words, when considering opposing political parties, the same level of variable evidence will either support a generic claim or not, depending on whether it is for the higher- or lower-prevalence party.

The key point here is not simply that generic acceptance rates depart from prevalence estimates. Rather, what is notable is that the two measures depart in a systematic manner that reflects perceptions of polarization (i.e., attention to the relative standing of the two parties). Generic acceptances depart from prevalence estimates in diverging ways: When taking prevalence estimates as the baseline, generics are accepted more frequently for targets, and less frequently for opposites. Additionally, the size of the gap between prevalence estimates for target vs. opposite items predicts endorsement of the target generic, and rejection of the opposite generic. This finding suggests that, at least in the context of a two-party, polarized political system, generics capture beliefs about the distinctiveness of one party over another. People thus appear to be thinking about Republicans when asked to evaluate a generic about Democrats (and vice versa).

Although distinctiveness has been theorized to influence generic use (36), relatively little empirical work has directly examined this effect (see 62, for review). Moreover, prior studies experimentally manipulating distinctiveness have typically provided this factor explicitly (e.g., "On this planet, very few other animals perform this behavior. This behavior is extraordinary." vs. "On this planet, many other animals also perform this behavior. This behavior is unremarkable."), leaving open whether people would draw on distinctiveness to interpret generics without such overt cues. By contrast, in this study distinctiveness was not even mentioned, and indeed the contrasting category was not mentioned either. Nonetheless, we found that people spontaneously made use of it in their judgments.

Study 2: Memory for Generic Claims

A second signature of generic language is that it is privileged in people's memory. That is, when hearing quantified statements (e.g., "All/most/many bears climb trees", there is a tendency to default to recalling them as generic ("Bears climb trees").[4] Given that generic statements are less nuanced than statements prefaced with "Many" or "Some," while also more tolerant of exceptions than statements prefaced with "All," a tendency to default to generics in recall would suggest a tendency toward representations that are simultaneously more absolute and more robust against counterevidence.

We tested whether this pattern would hold for statements in a political context. If people tend to recall statements about political positions as generic, it would suggest that the polarizing language of generics (established in Study 1) is how information about groups tends to be stored

[4] The generic advantage does not simply indicate better memory for one word vs. two (e.g., "Bears" vs. "All bears," when recalling "All bears climb trees"; see also 77). If it did, then we would expect a generic advantage regardless of what is expressed, but the generic advantage holds only when the quantifier is broad in scope (e.g., "all" vs. "some"; 53), and only when the property expressed is generalizable (e.g., fur color vs. getting muddy; 78). Moreover, the generic advantage holds, even when the generic and quantified statements are equal in length (79).

in memory. Given prior research demonstrating that categories exaggerate perceptions of between-group differences (51), and that generic beliefs about category features are more predictive of people's predictions and explanations than are statistical beliefs (63), a generic bias in recall of political statements could be a mechanism for increasing political polarization. A secondary purpose of Study 2 was to examine whether the tendency to convert more nuanced statements into generics would be heightened when the purported speaker was a member of the opposing political party to oneself. This might be predicted on the basis of prior research indicating that ingroups are viewed as more heterogeneous than outgroups (64).

The basic approach was to present a series of statements that were identified as having been stated by either Democratic or Republican politicians (party varied between subjects), and after a brief delay, to ask participants to recall the statements. The statements had political content, but did not make reference to any political parties, for example, "Americans are sick of Congress playing by a different set of rules than the rest of the country" (generic) or "Many Americans are sick of Congress paying by a different set of rules than the rest of the country" (quantified).

Method

Participants. 928 participants were retained in the final sample recruited via CloudResearch panels: 482 self-identified Democrats and 446 self-identified Republicans. An additional 167 participants completed the survey but were dropped for not providing sufficient numbers of codable responses (n = 166; see Coding, below) or failing the memory check (n = 1). See SI Appendix for details regarding recruitment, sample demographics, and excluded participants.

Design. There was one primary between-subject experimental factor, Speaker party (the party of the unidentified politicians who purportedly made the statements), with two levels (Republican or Democratic). Participants were randomly assigned to one of these two levels. There was one primary within-subjects experimental factor, Statement form, with two levels (generic, such as "Ohio farmers depend on trade" or quantified, such as "Many Ohio farmers depend on trade"). We also included a between-subject experimental factor of Assignment set, to counterbalance assignment of a given statement (e.g., regarding "Ohio farmers") to Statement form (generic or quantified). This factor is not of theoretical interest but was included in the analyses for completeness.

Materials. We presented 12 statements to participants, derived from actual tweets written by members of the U.S. Congress (see SI Appendix for details of the selection). Most of the tweets were originally in generic form. We minimally altered some for conciseness. A quantified ("Many Xs") version of each statement was also created. A simple black-and-white image accompanied each statement. Table S2 in the SI Appendix lists the statements, their source, and the accompanying pictures. A word search was included as a distractor task (65).

Procedure. Participants read a series of 12 statements, attributed to politicians from either the Democratic or the Republican party (varied between subjects via random assignment). Each statement appeared on a separate screen along with a simple black-and-white drawing related to the content of the statement (e.g., a farmer, for "[Many] Ohio farmers depend on trade"); the picture would later serve as a memory retrieval cue. After reading all statements, participants were given four minutes to complete a word-search distractor task, to ensure that sentences were not retained in short-term memory or rehearsed. Participants then were provided

with the cue image for each statement, one at a time, and asked to type in what they remembered of the corresponding statement.

Within each party condition, participants were randomly assigned to one of two statement sets. The sets manipulated whether a given statement was presented in generic or quantified form (within each set, six of each). The presentation order of the statements was randomized for each participant, separately for the initial presentation phase and for the recall phase.

Coding. Participants' typed responses (i.e., their recall of each statement) were coded in two phases. First, we identified whether each response was codable (e.g., referred to the appropriate category and contained both a noun phrase and a verb; see SI Appendix for more details). Next, each codable response was coded as generic (e.g., "Ohio farmers need trade"), quantified (e.g., "Many Ohio farmers depend on trade"), or other (e.g., "The farmers in Ohio are for free trade"). Interrater agreement among the three coders was at least 92% per item, with kappas above 0.90. For a participant's data to be included, they were required to have produced at least 3 codable responses (out of 6) in each experimental condition (generic-presented, quantified-presented).

Results

Generic and quantified codes were converted to the following: (a) correct form (generic recall for generic sentences, quantified recall for quantified sentences), and (b) opposite form (quantified recall for generic sentences, generic recall for quantified sentences). Table S3 in SI Appendix displays the number of generic and quantified responses for each type of sentence provided. We fit a multilevel logistic regression to the codable responses, predicting whether the response was recalled either correctly or in the opposite form, and with speaker's party,

participant's party, the interaction between the parties, statement form, assignment set, and varying intercepts for participants and statements as predictors.

We predicted a generic bias in participants' responses, with correct responses higher for statements presented as generic vs. quantified, and opposite responses higher for statements presented as quantified vs. generic. This prediction was supported. The estimated coefficients for the statement form variable ("Generic Form") from our models in Table 2 demonstrate a strong bias toward recalling statements as generic, whether they were initially presented as generic or quantified. We also predicted an interaction, such that the generic bias (more correct responses for generics vs. quantified statements, or more opposite responses for quantified vs. generic statements) would be greater when there was a mismatch between the respondent's party and the politician speaker's party. This prediction was not confirmed. Instead, we found a small interactive effect in the opposite direction, with participants slightly more likely to correctly recall generic sentences as generic when the participant and politician party matched (90%) than when they mismatched (88%). Finally, we predicted that generic recall would be higher in the generic condition than the quantified condition, reflecting sensitivity to the manipulation. This result was confirmed (see Table S4).

Table 2. From Study 2, estimated coefficients and 95% intervals of a hierarchical logistic model predicting the probability of a correct response, and with statement form, speaker's party, respondent's party, and match between speaker and respondent party as predictors. In other model specifications, the assignment set was included as a predictor, but the estimated effect size was zero.

Coefficients:	**Estimate (95% interval)**
Intercept	0.21 (-0.17, 0.59)
Generic form	2.16 (2.06, 2.27)
Republican speaker	-0.14 (-0.28, -0.01)
Republican respondent	0.09 (-0.05, 0.23)

Respondent-speaker party match	0.09 (-0.04, 0.23)
Respondent-speaker party match * Generic form	0.21 (0.01, 0.40)
Varying intercepts:	**Estimated SD**
928 participants	0.59
12 statements	0.46
Number of observations	9225
Marginal R^2, Conditional R^2	0.21, 0.40

Discussion

Study 2 demonstrates that when presented with claims with political content, participants were biased toward recalling them as generic, whether they had been expressed as generics or as quantified statements. In this regard, their representations of political claims were biased toward absolute, universalizing claims that may be especially resistant to counterevidence. Along with Study 1, which indicated that people tend to endorse opposing generic claims on the basis of even slight party differences in prevalence, the generic bias in recall obtained in Study 2 suggests a mechanism for increasing polarization. Study 3 tests this mechanism more directly.

Study 3: Polarized Interpretation of Generic Claims

Study 3 examines whether generic statements about political parties in the U.S. noticeably affect people's interpretations of the two parties, and, if so, how this compares to non-generic (quantified) language. More specifically, we test whether reading a novel generic about one political party (e.g., "Democrats support House Bill 858") leads to the inference that the statement is broadly true of the named party (in this case, Democrats) and broadly *not* true of the unnamed (contrasting) political party (in this case, Republicans). We hypothesized that this gap in prevalence estimates between the named and unnamed party would be greater in response to generic statements than in response to non-generic (quantified) statements.

Method

Participants. 422 participants were retained in the final sample recruited via CloudResearch panels: 215 self-identified Democrats and 207 self-identified Republicans. An additional 38 participants completed the survey but were dropped for failing attention checks. See the SI Appendix for details regarding recruitment, sample demographics, and excluded participants.

Design. We used a within-subject design with three wording conditions (generic, "many," and "some") x two statement parties (Democrats, Republicans) x two prevalence estimate parties (Named party, i.e., the party regarding the named (provided) sentence, such as, Democrats for the statement "Democrats support House Bill 858"; Unnamed party, i.e., the other party (in this example, Republicans)). Finally, the design also included one between-subjects factor: Participant party (Democrat or Republican).

Materials. We generated 18 statements expressing fictional attitudes, beliefs, or ideologies held by Democrats and Republicans[5] (see SI Appendix, Table S5). The predicates in the statements were intended to be unfamiliar but plausible in a political context (e.g., "... support increases in mid-year congressional activities").

Procedure. Respondents completed a Qualtrics survey consisting of 18 items. For each item, participants read a statement about one political party and provided prevalence estimates regarding each of the two parties. For example, a participant who read, "Some Republicans believe in returning to FY2015 levels," was asked to estimate the percent of Republicans and the percent of Democrats who believe in returning to FY2015 levels. There were three items for each

[5] As in Study 1, we informed participants that "Democrats" and "Republicans" referred to ordinary Democratic and Republican voters, not politicians. Only those who indicated understanding and remembering this information were included in the final sample.

of the six cells of the design (3 wording conditions x 2 statement parties). The order of items was randomized in Qualtrics, and the assignment of predicate content to design cell was fully counterbalanced using a Latin square design.

Results

The results of Study 3 can be seen in Figure 4. Under all three wording conditions, respondents assessed a higher prevalence estimate to the party named in the information provided. The generic wording resulted in the largest estimates of the named party, followed by the "many" wording and the "some" wording, respectively. Generic wording resulted in exaggerated prevalence assessments in both directions; respondents also provided the lowest estimates to the unnamed category when they were provided generic wording. We thus found support for both of our hypotheses. For generics, rates for the named category were well above 50% and for the unnamed category were well below 50%, indicating that participants inferred that if a generalization is true of one party, it will *not* be true of the opposite party. This pattern was also found for "many" but not for "some" (where both estimates were below 50%).

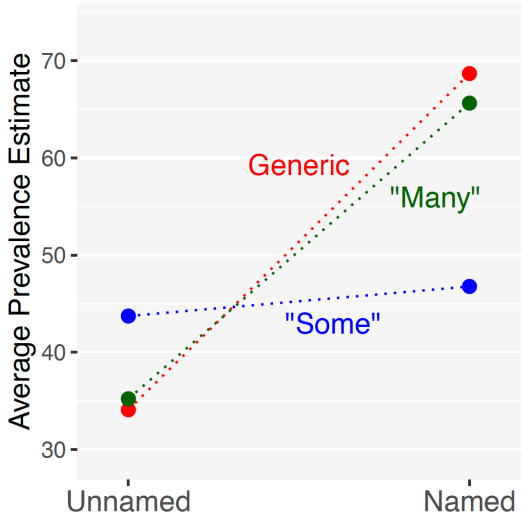

Figure 4. From Study 3, the average of six prevalence estimates that respondents provided for both named and unnamed parties across three different statement types (generic, “many,” and “some").

We fit two multilevel models with varying intercepts for respondents and statements to the data to estimate the effects of statement wording and whether a party is named or unnamed in the information provided. The results of these models are displayed in Table 3. The effect of naming a party in the information provided was estimated to be about a 35% increase in estimated prevalence. Among named parties, switching from a statement with generic wording to a statement quantified by the word "many" lowered estimated prevalence by about 4%, and switching to a statement quantified by the word "some" lowered estimated prevalence by about 31%. Responses to the generic wording reliably differed from both "many" and "some", as can be seen from the 95% intervals in model 2 in Table 3, which exclude 0, as generic is the comparison condition.

Table 3. From Study 3, estimated coefficients and 95% intervals for two hierarchical logistic models predicting the prevalence estimate when there was a match between the party of the “speaker” and the respondent and whether the original statement was provided as a generic statement, a statement quantified with “many,” or a statement quantified with “some.”

	Prevalence Estimate	**Named/Unnamed Prevalence Difference**
Coefficients:	*Estimates (95% interval)*	*Estimates (95% interval)*
Intercept	51.4 (49.7, 53.1)	34.6 (32.7, 36.4)
Party named	34.6 (31.1, 38.0)	
Respondent-statement party match	0.0 (-0.7, 0.7)	5.8 (4.7, 6.9)
"Many"	-1.0 (-3.4, 1.5)	-4.2 (-6.7, -1.5)
"Some"	-6.2 (-8.5, -3.6)	-31.5 (-34.0, -29.0)
Party named * "Many"	-4.2 (-9.1, 0.7)	
Party named * "Some"	-31.4 (-36.5, -26.7)	
Party named * Party match	5.8 (4.4, 7.2)	

Varying intercepts:	**Estimated SD**	**Estimated SD**
422 participants	0.5	3.1
36 statements	7.8	6.9
Number of observations	15176	15174
Marginal R^2. Conditional R^2	0.27, 0.28	0.14, 0.15

We also modeled the relation between respondent partisan identification and the party named in the information provided. Respondent party and statement party congruence corresponded to a larger gap between the prevalence estimated for the named party and the unnamed party, and did so in both directions: respondents provided larger prevalence estimates of the named party and smaller estimates of the unnamed party when the information given centered on the party they align themselves with.

Discussion

The results of this study support the conclusion that generic language leads to polarized judgments regarding political parties, and does so more than non-generic language. We obtained three key results: (1) For generic statements (e.g., "Democrats …"), prevalence estimates were larger for the named party (e.g., Democrats, when the generic statement was about Democrats) than for the unnamed party (e.g., Republicans, when the generic statement was about Democrats); (2) For generic statements, prevalence estimates were above 50% for the named party and below 50% for the unnamed party; (3) The gap between named and unnamed prevalence estimates was larger for generic statements than for non-generic statements (such as "Many Democrats support House Bill 858" or "Some Democrats support House Bill 858"). In brief, generic language about one political party implied that the two parties held opposing viewpoints, and this effect was stronger for generic language than quantified language.

Participants' judgments showed a small but consistent difference as a function of whether the new information provided was about their own party or the contrasting party: The estimated prevalence gap between parties was slightly bigger when there was a match (e.g., a Republican providing prevalence estimates after reading "Republicans support House Bill 858") than a mismatch (e.g., a Republican providing prevalence estimates after reading "Democrats support House Bill 858"). We speculate that the pattern may reflect a belief that the other party is more polarized than one's own party. In other words, if "my people" think X, then "those people" are more likely to think the opposite; whereas by contrast, if "those people" think X, then "my people" are more reasonable and independent-minded, and thus less polarized. Such an effect would be consistent with the greater prevalence gap, as well as the lower prevalence estimates for the unnamed (other) party. Why then were estimates for the *named* party higher when there was a match vs. a mismatch? Here we suggest that the new information provided was treated as given, and so participants' judgments focused on their beliefs about the polarization of the second (contrasting) party. At the same time, their responses to the *pair* of items were an assessment of how polarized they thought the unnamed party to be. As a result, when the unnamed party was not one's own, their judgments were pushed further apart for the pair, raising estimates for the named party up and lowering estimates for the unnamed party.

General Discussion

In this paper, we bring together ideas from political science and cognitive science to address how ordinary communication in the form of generic language may be one factor that heightens political polarization.

A common means of communicating about groups is with generic language, everyday statements that make generalizing claims about the world: *Birds lay eggs; Women are nurturing;*

Republicans are conservative. Generics are common in both ordinary conversation and written scientific communication, and concerns about polarization and political stereotyping suggest that generics are common in political speech as well. Use of generic language is problematic to the extent that it treats groups as monolithic and unvarying and glosses over exceptions (66), perhaps comparable to people underestimating variation in attitudes among people in the opposite party (67). Moreover, generics regarding contrasting groups can heighten perception of group boundaries (68), and generics regarding one group can result in contrasting beliefs about another group (51-52). Accordingly, we hypothesized that generic language may be a vehicle for social transmission of political polarization.

In Study 1, we examined how endorsement of generic claims about contrasting political parties (Democrats, Republicans) compared to actual and perceived prevalences of the properties expressed. For example, we examined the extent to which people endorsed "Democrats favor affirmative action" and "Republicans favor affirmative action," and how such endorsements related to both: (a) the actual rates at which Democrats and Republicans favor affirmative action (as assessed by public opinion survey data), and (b) participants' beliefs about the rates at which Democrats and Republicans favor affirmative action. We found that generic language heightened polarization in two key respects. First, small differences in prevalence rates between Democrats and Republicans mapped to contrasting generic statements (Democrats believe X, Republicans do not believe X, or vice versa), above and beyond the actual or even perceived levels of prevalence. And second, endorsement of contrasting generics was sensitive to the distance between the two parties (the greater the gap between the two parties in perceived prevalence, the higher the use of contrasting generics). Additionally, both patterns of heightened polarization were greater when judging claims that were attributed to politicians from a party contrasting with

that of the respondent (e.g., Republican speaker judged by a Democrat; Democratic speaker judged by a Republican), though this estimated effect was small.

In Study 2, we found that there was a bias in recall of statements provided by politicians: Not only were generics typically recalled as generic, but also more nuanced, non-generic statements that qualified a generalization ("*Many nurses…*") tended to be converted to generic in recall (*"Nurses…"*). Further research would be needed to test more precisely the mechanism underlying people's better recall of generics than quantifiers on this task. Regardless, it is notable that information provided in a political context was typically stored in memory with the polarizing language of generics. This result suggests that, even if politicians use more careful (quantified) language, individuals will still remember them as generics. However, because in Study 2 the sentences were pretested to ensure that each was rated as plausibly stated by either a Democratic or a Republican politician, the content of these sentences was not strongly tied to political positions. In future research, it would be interesting to see whether the effects would be larger if the sentences provided were more overtly political.

In Study 3, we found that reading a novel generic statement about one party led people to assume that the property applied broadly to that party but *not* to the contrasting party (e.g., a generic about Republicans was assumed to apply broadly to Republicans but not to Democrats). This polarization effect was stronger after reading a generic than after reading a quantified statement about "many" or "some" Republicans or Democrats, suggesting that generics may be especially polarizing in their implications. The use of generics thus suggests some kind of distinctiveness of the ascribed party, without making it clear what that is. This can allow

incorrect inferences in already polarized situations--inferences that might be harder to make if one knew more specific information.[6]

Altogether, the data indicate a tendency toward holding mental representations of political claims that exaggerate differences between parties. These findings suggest that the use of generic language, common in everyday speech, may encourage inferential errors that exacerbate perceived polarization. Attitudes or positions that are slightly more common in one party than the other lead to *overestimates* of prevalence and strong endorsements of generics, whereas attitudes or positions that are slightly less common in one party than the other lead to *underestimates* of prevalence and weak endorsements of generics. This is in stark contrast to the well-known finding that people tend to anchor estimates at the midpoint of a scale (69), that is, to underestimate high values and overestimate low values. The extent to which the present pattern is due to having opposing categories, or to the polarized nature of these categories, is an open question.

We speculate that these patterns of language use may constitute one small but consistent mechanism contributing to the transmission of polarization. If there is no political cost to using generic language, then political elites may be motivated to use it over more precise, qualifying means of expression. Presumably this strategy would be neither conscious nor explicit, but perhaps simply an intuition that generics sound more powerful, confident, important, or persuasive (70). More research would be needed to see if this is indeed the perception; see (46, 66) for support outside the political domain. Yet even if politicians are careful to use more precise language, our data suggest that others are likely to remember statements about groups as generic anyway.

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[6] We thank a reviewer for this point.

Despite the biases revealed in these studies, the current results reinforce prior findings from studies of American politics, indicating that even relatively uninformed individuals generally recognize “what goes with what." That is, they have a roughly accurate picture of the associations among political parties, issues, stances, and ideology (71-75), an understanding dubbed the “associative network” (74). The findings of both tasks in Study 1, in which participants provided prevalence estimates and judged the appropriateness of generic statements, illustrate this knowledge among U.S. adults both in the aggregate and at the individual level. That is, participants were consistently accurate in inferring the relative stance of the two parties with respect to the attitudes, beliefs, and ideologies tested (e.g., participants consistently judged the Target party to be higher than the Opposite party).

Although the present studies focused on political communication in a U.S. context, we are not assuming that generics operate differently in other political contexts, or even outside the domain of politics. Instead, these findings open up a host of questions regarding how broadly the current phenomena extend to other political contexts or non-political domains. For example, it would be interesting to examine how generics operate in countries with multiparty systems (e.g., Canada) or differing levels of political polarization (e.g., Japan or Sweden) (76). Other open questions include whether the effects observed here are more prevalent in more contentious party systems, whether they are intensified in a political context, whether they are intensified for those with strongly held political positions, etc.

In summary, our results indicate a tendency for people of both major parties in the U.S. toward holding mental representations of political claims that exaggerate differences between parties, an effect that is slightly heightened when the claims are regarding a political party to

which a person does not belong. The use of generic language, common in everyday speech, may encourage inferential errors that exacerbate perceived polarization.

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