The Parties in Our Heads: Misperceptions about Party Composition and Their Consequences

Douglas J. Ahler, Florida State University
Gaurav Sood, Washington, DC

We document a large and consequential bias in how Americans perceive the major political parties: people tend to considerably overestimate the extent to which party supporters belong to party-stereotypical groups. For instance, people think that 32% of Democrats are LGBT (vs. 6% in reality) and 38% of Republicans earn over $250,000 per year (vs. 2% in reality). Experimental data suggest that these misperceptions are genuine and party specific, not artifacts of expressive responding, innumeracy, or ignorance of base rates. These misperceptions are widely shared, though bias in out-party perceptions is larger. Using observational and experimental data, we document the consequences of this perceptual bias. Misperceptions about out-party composition are associated with partisan affect, beliefs about out-party extremity, and allegiance to one's own party. When provided information about the out-party's actual composition, partisans come to see its supporters as less extreme and feel less socially distant from them.

Partisanship is arguably the most fundamental identity in American political life. Not only does it strongly influence vote choice (e.g., Ansolabehere, Rodden, and Snyder 2008; Bartels 2000), it also colors how partisans process politically relevant information (Bartels 2002; Druckman, Peterson, and Slothuus 2013; Huddy, Mason, and Horwitz 2016; Lodge and Taber 2013; Theodoridis 2017). Partisanship also fuels animus and distrust across party lines, with roughly a third of partisans describing the other side as "a threat to the nation's well-being" (Pew 2014) and nearly as many aghast at the idea of an out-party supporter marrying into their family (Iyengar, Sood, and Lelkes 2012).

What explains the power of partisanship?[1] A long line of research suggests that people tend to think about parties in terms of other, longer-standing groups (Berelson, Lazarsfeld, and McPhee 1954; Campbell et al. 1960; Converse 1964; Green, Palmquist, and Schickler 2002; Hetherington and Weiler 2009). According to this account, people's feelings toward the groups that constitute the parties or parties' sociopolitical brands drive their feelings toward the parties, and ultimately their partisan attachments (Green et al. 2002; Hetherington and Weiler 2009, chap. 9; Kuo, Malhotra, and Mo 2017; Mason and Davis 2015; Zaller 2012; cf. Abramowitz and Saunders 2006).

However, most supporting evidence for the theory is circumstantial—for example, aggregate stability in party affiliation in the face of changing economic conditions or economically consequential policy shifts by parties (e.g., Achen and Bartels 2016; Gamm 1989; Green et al. 2002). We still largely lack direct evidence that the parties' social composition drives partisanship (though see Kuo et al. 2017; Mason 2016). The group account of partisanship is also at odds with the fact that the parties do not look very different. Majorities of both parties' supporters are white, middle class, and heterosexual, and both parties' modal supporters are middle aged, nonevangelical Christians.[2] Given these similarities, how can differences in party composition explain the heft of partisanship?

Douglas J. Ahler (dahler@fsu.edu) is assistant professor of political science, Florida State University, Tallahassee, FL 32306. Gaurav Sood (gsood07@gmail.com) is an independent scholar based in Washington, DC.

The title is inspired by Walter Lippmann's (1922) observation that we interpret the world through "pictures in our heads." Many thanks to the Institute of Governmental Studies at University of California, Berkeley, for financial support through the Mike Synar Graduate Research Fellowship. Studies presented in this article using human subjects were conducted in compliance with relevant laws and the ethical standards contained in the 1964 Declaration of Helsinki and its later amendments and were deemed exempt by Stanford University and the University of California, Berkeley. Data and supporting materials necessary to reproduce the numerical results in the paper are available in the *JOP* Dataverse (https://dataverse.harvard.edu/dataverse/jop). An online appendix with supplementary material is available at http://dx.doi.org/10.1086/697253.

1. For a discussion of different theories of partisanship, see Johnston (2006).
2. According to data from the 2012 ANES. See the online appendix (OA) secs. 1.3 and 2.8 for further details.

The Journal of Politics, volume 80, number 3. Published online April 27, 2018. http://dx.doi.org/10.1086/697253
© 2018 by the Southern Political Science Association. All rights reserved. 0022-3816/2018/8003-0016$10.00

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

The answer, as we discover, lies not in the actual composition of the parties, but in how people perceive the parties to be composed. People make large, systematic errors when judging party composition, considerably overestimating the extent to which partisans belong to party-stereotypical groups. For instance, Americans believe that 32% of Democrats are gay, lesbian, or bisexual (only 6.3% are in reality), and that 38% of Republicans earn over $250,000 per year (just 2.2% do in reality). These misperceptions are also consequential: they affect partisans' beliefs about and feelings toward the parties. Across multiple experiments, partisans who received information about the actual share of party-stereotypical groups in their out-party rated its supporters as less extreme and reported warmer feelings toward them.

PARTIES AS SOCIOPOLITICAL BRANDS

People tend to think about parties in terms of other, longer-standing groups (Berelson et al. 1954; Campbell et al. 1960; Converse 1964; Goggin and Theodoridis 2017; Green et al. 2002; Hetherington and Weiler 2009). When evaluating political parties, Americans are thought to ask: "What kinds of social groups come to mind as I think about Democrats, Republicans, and Independents?" (Green et al. 2002, 8).

The groups that come to mind when people think about the parties tend to be shared, with Democrats, independents, and Republicans often associating the same groups with the parties (Green et al. 2002; Rothschild et al. 2018). Group-party associations also tend to endure. For example, associations between the working class and Democrats and the wealthy and Republicans have endured for nearly a century (Green et al. 2002).

We posit that these widely shared and enduring associations reflect a tendency to think about parties in terms of prototypes—abstract composites of characteristics associated with the party, akin to Lippman's "pictures in our heads." For instance, when thinking about the parties, one may call to mind a Southern, evangelical Republican or a young, nonwhite Democrat. Prototypes are a kind of schema—a mental representation of a category. They "provide the organizing structure for interpreting (new) information" (Norman 1979) and therefore help people remember more about groups, recall information about groups faster, and make inferences about new people and situations (Lodge and Hamill 1986). They also help people more quickly assess where they sit in relation to groups in society (Lippman 1922; Mutz 1998; Turner et al. 1987).

To help people quickly categorize others, prototypes tend to reflect characteristics that distinguish groups from each other (Rosch and Mervis 1975; Tajfel 1959). Relying on a prototype-based approach to stereotyping, Bordalo et al. (2016) formalize this as follows: a characteristic (c) is likely to be stereotypical to a group (g) "when it scores high on the likelihood ratio" $\Pr(c|g)/\Pr(c|\neg g)$. These discriminating characteristics, however, need not be common within groups. For example, even though Americans tend to associate blacks with the Democratic Party (Green et al. 2002), just a quarter of Democrats are black.

Further, when "picturing" groups, people tend to fixate on prototypical characteristics and ignore other relevant information such as the prevalence of prototypical characteristics in the population, a tendency Kahneman and Tversky (1972) describe as representativeness bias. Reliance on representativeness, in turn, leads to "distorted distributions" of beliefs about group composition, in which people "overweight representative types" (Bordalo et al. 2016, 3). Thus, if people think about the parties primarily in terms of other social groups, they are liable to overestimate the percentage of partisans belonging to groups they perceive as core to the party brand.

But how do people learn about these discriminating traits and form beliefs about group-party associations? Political parties cannot be experienced firsthand—we cannot literally meet the party. Learning about the parties is necessarily mediated. As Mutz (1998, 12) notes, "while (personal-level knowledge) comes to us primarily through personal experience, (societal-level knowledge) usually reaches us by means of abstracted discussions conveyed through impersonal channels." The most common of these interpersonal channels for politics continues to be the mass media (Olmstead et al. 2013). Mass media's role in popularizing certain images of parties (e.g., Levendusky and Malhotra 2016) potentially explains why partisan prototypes are widely shared. It also suggests that interest in political news will be positively correlated with beliefs about the share of partisans belonging to party-stereotypical groups.

Not only are the most voracious news consumers most likely to encounter party stereotypes in the information environment, but they are also most likely to process information about the parties in a schema-consistent manner (Lodge and Hamill 1986). The politically sophisticated are liable to encode new information that comports with their preexisting party prototypes while overlooking information that does not. Thus, those who pay the most attention to political media may not just be more likely to recall political facts but also the likeliest to possess the most misinformation about party composition (also see Achen and Bartels 2016; Luskin, Sood, and Blank 2013; Pasek, Sood, and Krosnick 2015; Roush 2016).

Finally, because of partisan homophily, partisans are less likely to have personal information about the out-party (Halberstam and Knight 2014; Mutz 2006), rendering impersonal

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

information like media portrayals of the parties more important. Thus, we hypothesize that people will overestimate the share of party-stereotypical groups in the out-party more.

PERCEPTIONS OF PARTY COMPOSITION

In March 2015, we surveyed 1,000 Americans through YouGov. (For additional details on sampling and comparisons to established benchmarks, see the online appendix (OA) 1.1 and OA 1.2.) For both parties, respondents estimated the percentage of supporters belonging to four party-stereotypical groups.

We turned to existing research to identify stereotypically Democratic and Republican groups. The most enduring images of the parties are from the New Deal: the association of the rich with Republicans and the working class with Democrats (Green et al. 2002). And, for a long time, Republicans have been seen as the party of older Americans (Lewis-Beck et al. 2008, 148). Over time, however, additional social cleavages have become aligned with partisanship. Most notably, as a consequence of partisan racial sorting in the mid-twentieth century, African Americans have come to be seen as prototypically Democratic. Events half a century ago also precipitated the end of the long-standing association between the South and the Democrats, replacing it with a new linkage between the region and the GOP (Green et al. 2002). Separately, the rise of the evangelical movement in the 1980s led evangelical Christians to become more closely linked to Republicans, and the secular to Democrats (Claassen 2011). Given the recent politicization of gay rights, and the longer-standing linkage between minority groups and Democrats, we added gays, lesbians, and bisexuals to the list of groups associated with Democrats.[3] Reassuringly, after we conducted this study, Rothschild et al. (2018) administered open-ended items about the types of people who belong to the parties, and the groups selected here were frequently cited. To make measurement tractable, we exchanged vaguely defined groups for similar precisely defined groups. For example, we substituted "earning more than $250,000 per year"—a contemporary signpost for great wealth in the United States—for "rich."

In all, we asked respondents to estimate the percentage of Democrats who are black, atheist or agnostic, union members, and gay, lesbian, or bisexual, and the percentage of Republicans who are evangelical, 65 or older, Southern, and earn over $250,000 per year. Respondents typed their estimate, required to be between 0 and 100, in a box next to each group.[4] The order of Democratic and Republican batteries was randomized, as was the order of items within the batteries. We compared respondents' reported perceptions to the actual shares of these groups in the parties, estimated from Pew's 2012 Religion and Public Life Project (for the two religious party-group dyads) and the 2012 American National Election Study. (See OA 1.3 for details.)

People overestimate the share of party-stereotypical groups in the parties

People's perceptions of party composition contain large, systematic errors. In particular, people overestimate the share of party-stereotypical groups in the parties (see fig. 1 and table 1). On average, respondents overestimated these groups' prevalence by 342% (95% confidence interval (CI): [327%, 358%]). Not only are misperceptions large, they are also widespread.[5] For all party-group dyads, a majority of respondents considerably overestimated the group's share, and for six of the eight, over 70% did so (see OA 1.7).[6]

Looking separately at individual groups, little distinguishes misperceptions about old and new social cleavages. Respondents thought that 39.3% of Democrats belonged to a labor union—only 10.5% do. Even more egregiously, they estimated that 38.2% of Republicans earned over $250,000 per year when just 2.2% of GOP supporters do. But misperceptions were equally common on more recent cleavages. For instance, respondents thought that the share of Democrats who are gay, lesbian, or bisexual was roughly five times greater than it actually is (31.7% vs. 6.3%). Similarly, though by a considerably less dramatic margin—a bit more than 20%—respondents overestimated the share of evangelicals among Republicans.

While most people overestimate the share of party-stereotypical groups in the parties, the extent to which they overestimate varies by partisanship. As columns 3–4 of table 1 show, Republicans' perceptions of Democratic composition exhibit significantly more bias than Democrats'. (Independents' perceptions about party composition are roughly

3. The list is neither comprehensive nor systematic, but it covers prominent groups associated with the parties. Such a list is adequate for the purposes of our study—to describe the degree to which certain prominent prototypes bias assessments of partisan composition and what, if anything, we may gain by clearing up such misperceptions.

4. Data from a follow-up study suggest that the number of items presented on a single screen does not have a large effect on reported perceptions (see OA 1.5).

5. To assess whether outliers drive the results, we compared median estimates to the truth (see OA 1.6). Medians are generally lower than means but only by a few percentage points. More pertinently, differences between median estimates and true proportions remain vast. Box plots, split by party, are presented in OA 1.8.

6. Are people thinking about party elites instead of rank-and-file supporters when answering these questions? Evidence presented in OA 1.4 suggests not. Furthermore, even if people were thinking about party elites (variously defined), their perceptions would still be inaccurate—sometimes more so (see OA 1.4).

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

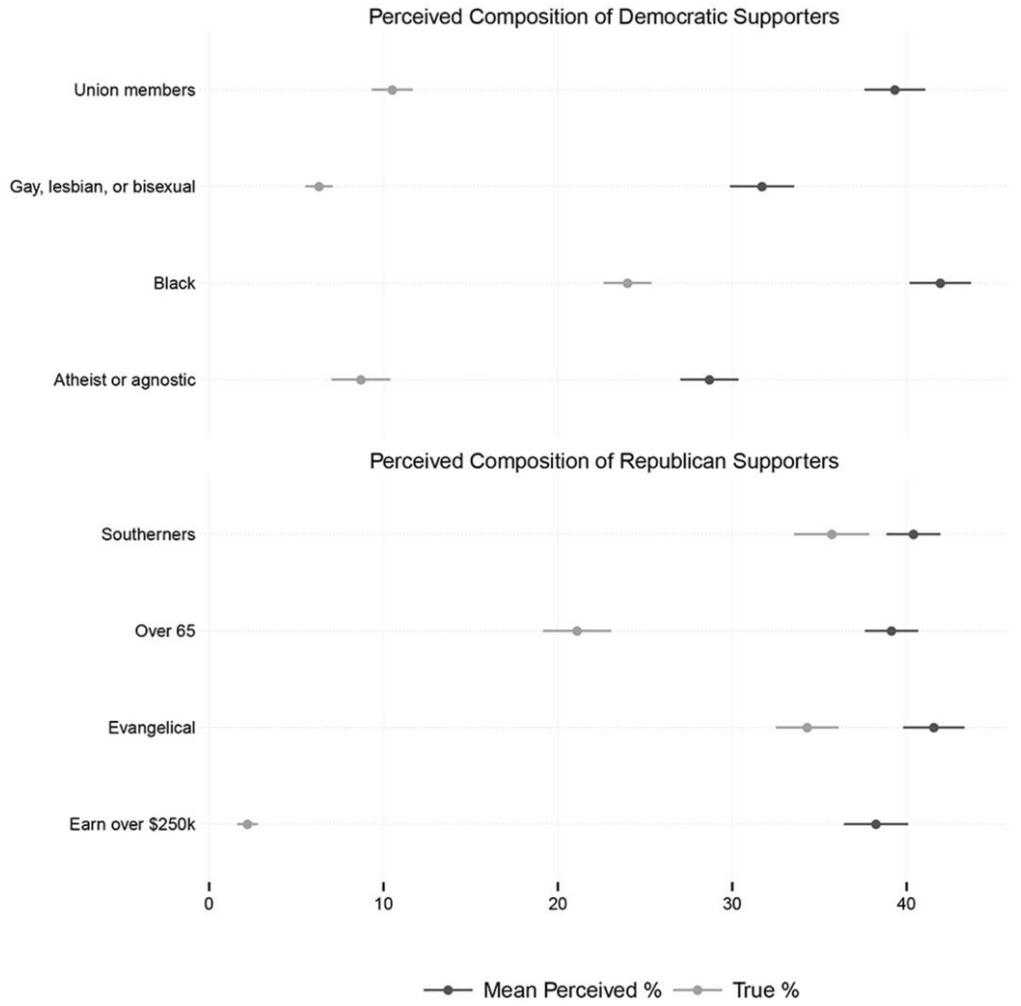

Figure 1. People overestimate the share of party-stereotypical groups in the parties; 95% confidence intervals depicted

as accurate as in-party estimates; see fig. OA 1.2 in OA 1.9). For example, while Democrats overestimate the percentage of copartisans belonging to a union by 25.2 percentage points, Republicans overestimate by an additional 8.3 percentage points. Similarly, Democrats' perceptions of Republicans tend to be more error prone. (Excluding leaning independents does not change results systematically or appreciably, as OA 1.6 shows.)

To formally test for differences between in- and out-party perceptions, we compare mean bias in perceptions by partisanship. Democrats overstate the share of party-stereotypical groups in the Democratic Party by 214%, while Republicans do so by 306%, a 92-point difference (95% CI: [58, 126]). Similarly, Democrats err about the degree to which the Republican Party is composed of prototypical supporters by 515%—134 percentage points worse than Republicans (95% CI: [82, 184]). In line with our hypothesis, the data suggest that out-party perceptions are more biased. But consistent with the notion that people rely on commonly shared, impersonal information to arrive at these judgments, people are not especially accurate when thinking about their own party; they are just more biased when thinking about the main opposing party.

Finally, the data suggest a potential source of these misperceptions. We asked respondents how interested they were in politics.[7] Political knowledge generally increases with interest in politics (e.g., Ellis and Stimson 2012; Zaller 1992), but in this case, perceptual bias about party composition increases with political interest (see fig. 2). For seven of the eight

7. The exact question wording was: "Some people seem to follow what's going on in government and public affairs most of the time, whether there's an election going on or not. Others aren't that interested. Would you say you follow what's going on in government and public affairs … Most of the time (42.0%), Some of the time (31.5%), Only now and then (18.1%), or Hardly at all (8.5%)?"

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

Table 1. Perceptions of the Share of Partisan Identifiers Belonging to Party-Stereotypical Groups across Different Studies

		YouGov			Amazon Mechanical Turk		
		Main Survey, March 2015			Alternate Interpretations	Extremity Experiment	Affect Experiment
	True (1)	Full Sample (n = 1,000) (2)	Democrats (n = 438) (3)	Republicans (n = 336) (4)	November 2014 (n = 382) (5)	April 2014 (n = 1,036) (6)	November 2014 (n = 821) (7)
Democratic Party groups:							
Black	23.9	41.9	39.4	46.4	37.7	41.5	41.4
	[22.5, 25.5]	[40.2, 43.7]	[36.8, 41.9]	[43.4, 49.4]	[35.3, 40.1]	[38.9, 44.2]	[38.4, 44.4]
Union members	10.5	39.3	36.8	43.5	36.4	39.7	39.3
	[9.4, 11.6]	[37.6, 41.1]	[34.3, 39.4]	[40.5, 46.6]	[34.0, 38.8]	[37.1, 42.2]	[36.4, 42.3]
Gay, lesbian, and bisexual	6.3	31.7	29.0	38.2	29.4	29.7	30.5
	[5.4, 7.2]	[29.9, 33.6]	[26.5, 31.6]	[34.8, 41.7]	[26.6, 32.3]	[26.8, 32.6]	[27.1, 33.9]
Atheist/agnostic	8.7	28.7	24.5	35.7	30.5	33.2	29.1
	[8.1, 9.2]	[27.0, 30.4]	[23.3, 26.6]	[32.5, 38.8]	[28.1, 32.9]	[30.4, 36.0]	[26.4, 31.8]
Republican Party groups:							
Earn over $250,000	2.2	38.2	44.1	33.3	34.3	37.3	37.3
	[1.5, 2.8]	[36.4, 40.1]	[41.0, 47.1]	[30.5, 36.1]	[31.4, 37.2]	[35.2, 39.4]	[35.0, 39.6]
Evangelicals	34.3	41.6	43.7	43.2	48.7	51.8	49.9
	[32.5, 36.1]	[39.8, 43.3]	[40.9, 46.5]	[40.6, 45.9]	[45.9, 51.5]	[49.9, 53.7]	[47.8, 52.0]
Southerners	35.7	40.4	44.4	39.7	47.7	50.8	48.8
	[33.5, 37.8]	[38.8, 41.9]	[41.9, 46.8]	[37.5, 41.9]	[45.4, 50.0]	[49.3, 52.3]	[47.1, 50.5]
Age 65+	21.3	39.1	44.2	38.3	47.3	See n. 15	50.6
	[19.5, 23.1]	[37.7, 40.6]	[41.8, 46.5]	[36.1, 40.5]	[45.1, 49.6]		[49.0, 52.3]

Note. 95% confidence intervals in brackets. The three Amazon Mechanical Turk (MTurk) samples were recruited to conduct experimental studies discussed in the section on alternate explanations and consequences of misperceptions about party composition. From the alternate explanations experiment, we only utilize data from the control group. From the other two experiments, discussed in the section on consequences of misperceptions, we use data from all conditions as perceptions were measured pretreatment. In these experiments, we only asked about perceptions of out-party-group dyads; independents were randomly assigned to one of two parties.

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

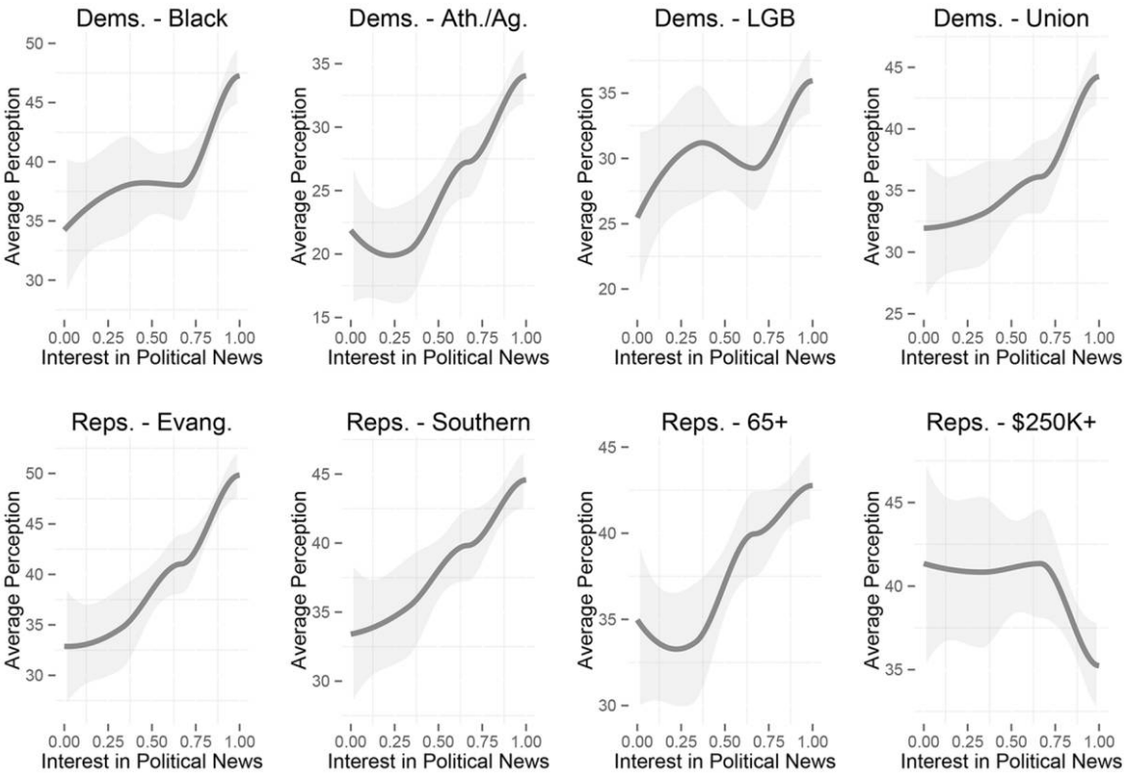

Figure 2. Those most interested in political news hold the most skewed perceptions. LOESS with 95% confidence intervals. All linear relationships, estimated via ordinary least squares (OLS), are significant at $p < .01$.

party-group dyads, those who report following the news most closely also hold the most prototype-biased beliefs about party composition.[8] The one dyad for which this is not true involves a social group whose share in the population was frequently mentioned by the media—"the 1%." To restate the obvious, correlation is not causation. But along with existing theory and evidence on mass media's role in shaping perceptions of collectives (e.g., Mutz 1998), these results provide further reason to investigate the effect of media depictions of the parties on people's beliefs about party composition.

Are these reported perceptions real?

The results thus far comport with the notion that people's beliefs about party composition are notably and systematically distorted by party prototypes. However, they are also consistent with three alternate explanations: expressive responding, innumeracy, and ignorance of group base rates. First, instead of offering their true beliefs about the composition of the parties, respondents may offer answers that convey how they feel about a party. For instance, Democrats who dislike both evangelicals and Republicans may deliberately overstate the percentage of Republicans who are evangelical Christians. Second, even if responses are genuine, they may reflect innumeracy rather than misperception. In particular, sums of people's estimates of shares of exhaustive, mutually exclusive categories often exceed 100 (e.g., Wong 2007). So, for instance, when people report that 30% of Democrats are black, a more appropriate interpretation may be that they think that 30 of every 120 or 150 Democrats are black. Third, inaccurate responses may not be party specific but rather may reflect misperceptions about how common various groups are in the population at large. If so, the misperceptions we document above would reflect not prototypical thinking but, instead, simple ignorance of US demographics.

We conducted an experiment on Amazon's Mechanical Turk to assess these alternate explanations.[9] We randomly

8. These associations remain healthy even when we control for education and partisanship (see OA 1.12). Furthermore, the bivariate correlations between education and these perceptions is relatively weak (see OA 1.11).

9. Two pieces of data suggest that inferences are likely generalizable to the population. First, MTurk respondents' perceptions of party composition are quite similar to those of YouGov respondents (see table 1). Second, the two most salient concerns pertain to partisanship and education, which deviate significantly from the US population, and plausibly strongly condition treatment effects. Treatment effects, however, do not vary significantly by educational attainment or partisanship (see OA 2.5 for partisanship and OA 2.6 for education).

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

assigned respondents to one of four conditions (see OA 2.2 for screenshots). The Standard estimation condition asked the partisan composition questions in the same way as the YouGov survey. Estimates from this condition serve as a baseline. We designed each of the other three conditions to assess the merit of one specific explanation. Thus, a significant reduction in mean perceptual bias in any of these conditions would imply support for the corresponding alternative.

Table 2 presents the results. (See OA 2.3 for a plot akin to fig. 1.) Like table 1, we present respondents' estimates of the percentage of the party belonging to the party-stereotypical group against the truth, except here we do so separately by experimental condition.[10]

Expressive responding. People may intentionally misreport the share of party-stereotypical groups to express partisan affect. For instance, they may intentionally overstate the share of groups they like in the party they like or understate the share of groups they like in the party they dislike. To estimate the degree to which our measures capture expressive responding vis-à-vis beliefs about party composition, we provided accuracy incentives to a random subset of respondents for close-to-correct responses (see Bullock et al. 2015; Prior, Sood, and Khanna 2015). Participants received an additional 5 cents, 20% of the compensation for finishing the survey (25 cents), for each response that fell within 5 percentage points of the truth. We expect this opportunity to nearly triple the earnings to motivate respondents to report their true beliefs.[11]

The data suggest that expressive responding contributes little to the bias we observe. Perceptions in the Incentives condition are just as biased as those in the standard estimation condition (see OA 2.4). Not only are there no statistically significant differences in average perceptions for any of the eight party-group dyads, the overall distributions of responses in the two conditions do not differ statistically significantly either. Furthermore, the data suggest that party affect does not drive reported perceptions of party composition; the bivariate associations between feelings toward groups and perceptions of their shares in parties are extremely weak (see OA 2.7).

Innumeracy: Using a denominator larger than 100. Even if responses reflect genuine beliefs, they may reflect innumeracy rather than misperception. For example, when asked to report perceived shares of mutually exclusive, complementary groups in the population, responses often sum to more than 100 (e.g., Wong 2007). To assess the concern about respondents using the wrong denominator, we asked a random set of respondents to not only report their beliefs about the share of partisans belonging to each of the four party-stereotypical groups but also the shares of mutually exclusive complementary groups. We asked respondents about either in-party- or out-party-group dyads (e.g., "What percentage of Democrats do you think are: Black? White? Latino? Other?") and we required that responses sum to 100. (An on-screen counter presented a running tally of their summed responses.)

If innumeracy inflates reported shares of party-stereotypical groups in the Standard condition, estimates in the Sum to 100 condition ought to be considerably smaller. For the most part, they are not. For six of the eight groups, the difference between reports in the Standard condition and the Sum to 100 condition were indistinguishable from zero or in the wrong direction. Only for the Democratic-black and Republican-evangelical dyads were estimates in the Sum to 100 condition noticeably smaller, albeit still greater than those groups' actual shares. In the case of the Democratic-black dyad, the difference between reported and actual share in the Sum to 100 condition is statistically distinguishable from zero; for the Republican-evangelical dyad it is not. Pooling across groups, reports of perceptions in the Sum to 100 condition were 1.94 points less biased than reports in the Standard condition. Given that the typical perception is off by 23.1 points in the standard condition, this reduction is neither substantively nor statistically significant. (See OA 2.12 for a regression with group-party dyad fixed effects.)

The Sum to 100 task provides an additional insight. We asked about multiple complementary groups for five of the party-group dyads. In each of these cases, one group was most obviously counter-stereotypical to the party. Respondents underestimated the share of these counter-stereotypical groups. They thought 19% of Republicans earned under $50,000 per year (compared to 41% in reality), 16% were between 18 and 39 years old (33%), and 12% were non-Christian or did not identify with a religion (19%). Similarly, they thought just 42% of Democrats were white (60%), and 26% Protestant (45%). (Differences between each of these misperceptions and the actual share are statistically significant at conventional levels; see OA 2.8.) In toto, people overestimate the shares of par-

10. In table 2, we pool across partisans. However, it may be that the treatments affect out-party perceptions more strongly than in-party perceptions (or vice versa). To test that, we interacted treatment conditions with partisanship (see OA 2.5). We find no systematic patterns.

11. According to Horton and Chilton (2010), the typical MTurker will work for $1.40 per hour. The average completion time for this study was just under seven minutes. And 25 cents for completing the survey implies an average hourly wage of $2.14. However, the potential hourly wage in the Incentives condition was $5.57, nearly four times the hourly wage for which MTurk workers are willing to work.

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

Table 2. Bias Due to Expressive Responding, Innumeracy, and Poor Knowledge of Base Rates Is Likely Small

	True	Standard (n = 98)	Incentives (n = 91)	Sum to 100 (n = 98)	Base Rates (n = 95)
Democratic Party groups:					
Black	23.9	36.2	38.5	28.4	43.2
	[22.5, 25.5]	[31.6, 40.7]	[33.8, 43.3]	[24.7, 32.1]	[38.3, 48.0]
Union members	10.5	36.5	35.6	36.8	36.9
	[9.4, 11.6]	[32.1, 41.0]	[30.9, 40.3]	[31.5, 42.1]	[32.0, 41.7]
Gay, lesbian, and bisexual	6.3	27.0	27.7	24.6	35.9
	[5.4, 7.2]	[21.9, 32.1]	[22.7, 32.7]	[19.1, 30.1]	[29.5, 42.3]
Atheist/agnostic	8.7	29.6	29.5	25.9	34.7
	[8.1, 9.2]	[25.2, 33.9]	[24.7, 34.3]	[21.2, 30.5]	[29.8, 39.6]
Republican Party groups:					
Earn over $250,000	2.2	31.5	34.9	29.3	39.2
	[1.5, 2.8]	[26.5, 36.6]	[29.4, 40.4]	[22.4, 36.2]	[33.2, 45.3]
Evangelicals	34.3	46.6	48.9	38.9	56.0
	[32.5, 36.1]	[41.1, 52.1]	[43.7, 54.1]	[32.7, 45.1]	[50.8, 61.3]
Southerners	35.7	42.3	40.9	60.9	52.7
	[33.5, 37.8]	[38.2, 46.4]	[36.5, 45.2]	[56.4, 65.4]	[48.3, 57.2]
Age 65+	21.3	44.7	45.5	44.9	53.1
	[19.5, 23.1]	[40.3, 49.0]	[41.3, 49.7]	[39.1, 50.6]	[49.1, 57.2]

Note. 95% confidence intervals in brackets. In the Sum to 100 condition, participants responded only to the Democratic or the Republican battery to prevent fatigue. Battery assignment was random, with 47 participants responding to the Democratic battery and 51 to the Republican battery.

ticular groups and underestimate the share of others in a manner consistent with the parties' sociopolitical brands.

Ignorance of base rates. A well-documented finding, and one we replicated in the Standard condition, is that people are largely ignorant of the shares of various groups in the population. Thus, the misperceptions we have documented may be genuine but may reflect misperceptions about the composition of the population rather than anything specific to the parties.[12] We put this question to a dispositive test by removing ignorance about base rates as a plausible alternative explanation. In the base rates condition, we anchored sliding scales at each party-stereotypical group's share in the adult American population. We alerted respondents to this design feature and then asked them to use the sliders to report their perceptions of the groups' shares in "their" parties.

Surprisingly, providing base rates appears to make participants less accurate (see table 2). This may, however, reflect a mode effect—the Standard condition employs text entry boxes instead of the sliders in the Base Rates condition. To tease apart the effect of provision of base rates from the change in mode, we administered the party composition battery with both sliders and text entry (but no base rates) in a follow-up study. Participants assigned to the sliders reported perceptions roughly three points larger across party-group dyads, a nonsignificant difference smaller than that between the Standard and Base Rates conditions here. (See OA 2.9 for full results, and Ahler and Sood [2017] for more information on base rate perceptions.) Thus, even if sliders inflate respondents' reported beliefs about party composition, they are unlikely to obscure a corrective effect of the Base Rates condition. These misperceptions appear to reflect more than mere ignorance of population demographics.

CONSEQUENCES OF MISPERCEPTIONS ABOUT PARTY COMPOSITION

The evidence thus far suggests that people believe that party-stereotypical groups are far more common in the parties than they actually are, that partisans hold especially distorted perceptions of the composition of the out-party, and that these misperceptions are particular to the parties. We now assess the consequences of these misperceptions. Variation in perceptions of parties' composition and widespread bias in those perceptions provide leverage for doing so.

12. In the Standard condition, we asked participants about the share of party-stereotypical groups in the population after quizzing them about their share in the parties. Respondents overestimated the share of all the groups in the population except for Southerners. Party-specific perceptions, however, were significantly larger and more biased than perceived shares in the population, implying that people's images of the parties color their perceptions of Pr(party | group). See OA 2.11 for complete results.

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

First, we examine the extent to which beliefs about party composition drive inferences about partisans' policy views. Beliefs about composition may affect beliefs about policy preferences because people associate social groups with particular policy preferences (Brady and Sniderman 1985; Chambers, Schlenker, and Collisson 2013; Wilder 1978). If they think about the parties primarily in terms of salient groups, perceptions about groups' shares in the parties ought to influence their beliefs about partisans' policy views. For instance, people (accurately) see African Americans and union members as being relatively liberal on economic and social welfare issues (Brady and Sniderman 1985; Chambers et al. 2013). Thus, overestimating the proportion of Democratic supporters who are black or who belong to unions is liable to cause people to infer that the party's supporters are more liberal than they actually are.

Second, we examine the extent to which beliefs about composition affect how people feel about out-party supporters. There are two reasons to expect this relationship. First, partisans may be prejudiced against out-party-stereotypical groups, and that may spill over into their evaluations of the party. For instance, racism may combine with positive bias in perceptions of the share of blacks in the Democratic party to reduce how much Republicans like Democrats. Alternatively, these misperceptions may heighten partisan animus through the logic we lay out above—overestimating the share of party-stereotypical groups may cause partisans to think that out-partisans support extreme positions, which may in turn cause people to dislike that party's supporters more. (We do not have the data to shed light on the mechanism. We simply test whether misperceptions about out-party composition predict partisan antipathy, as they ought to under a group identity conception of partisanship.)

Believing that opposing partisans hold more extreme policy preferences, and feeling more socially distant from them, are both liable to cause citizens to become less receptive to out-party communications and less likely to consider voting for that party. This may happen because people come to see opposing partisans as working on behalf of the interests of a few groups (at the expense of other groups or even the national interest) (e.g., Bawn et al. 2012), or because they think that the opposing party supports more extreme policies that it does, or potentially even because they distrust elites representing disliked groups.

Observational evidence

We begin by presenting some data on the association between perceptions of party composition and partisan evaluations. We estimated the strength of these associations using data from the 2015 IGS-California Poll, conducted by the Institute of Governmental Studies at the University of California, Berkeley, and which surveyed 4,257 California residents through Survey Sampling International (SSI). The marginals on important demographic variables matched population marginals quite well (see OA 3.1 for demographics); survey weights improve this correspondence but do not affect the results much. Of the 4,257 respondents, 1,815 partisans were randomly chosen to answer party composition questions like those in the previous studies.

For analysis, we constructed a measure of average perceptual bias in respondents' beliefs about party composition. Letting p index the two main parties, and i index n party-stereotypical groups:

$$\text{Average perceptual bias}_p = \frac{1}{n_i} \sum_{g_i=1}^{n_i} \frac{\text{Estimated } \%_{g_i} - \text{True } \%_{g_i}}{\text{True } \%_{g_i}}.$$

We also measured beliefs about partisans' policy preferences, feelings toward out-party supporters, and the extent to which partisans support their own party. To gauge beliefs about Democrats' (Republicans') policy preferences, we asked respondents what percentage of Democrats (Republicans) supported each of six policy statements; the six statements were drawn randomly from a list of 25. Respondents answered the same six items for Democrats and Republicans (with party order randomized). (See OA 3.2 for the full list of statements and additional details about all dependent measures.) Since roughly half of these statements were liberal and half conservative, we recoded responses to reflect the percentage of party p supporters believed to be conservative on the issue. Note that this is a measure of perceived constraint. (In our experimental analog, we rely on perceived extremity. We expect both constraint and extremity to be correlated with bias in perceptions of shares of stereotypical groups.)

Second, to gauge feelings toward supporters of the main opposing party, we administered a partisan social distance battery (Bogardus 1947). Following Almond and Verba (1963) and Iyengar et al. (2012), we asked respondents how happy or unhappy each of the following situations would make them: a family member marrying a Republican (Democrat), being assigned to work closely with a colleague who supports the Tea Party (Occupy Movement) and enjoys discussing politics at work, a neighbor putting a "Palin for President" ("Hillary Clinton 2016") sign in their yard, and George W. Bush (Bill Clinton) receiving an honorary degree from a nearby college. Consistent with past work, we averaged responses to the four items to create a Partisan Social Distance Index ($\alpha = 0.71$).

Finally, we administered three items to measure in-party allegiance: likelihood of supporting an out-party candidate for US House in 2016 (reverse coded), anger at the possibility of an out-party candidate winning the presidency in 2016, and likelihood of switching party registration in the future

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

(reverse coded). We again created an index from these items ($\alpha = 0.68$).

To determine whether beliefs about party composition are associated with beliefs about partisans' policy preferences, we analyze the data at the policy-perception level, regressing Beliefs about Democrats' Opinions on Average perceptual bias_D (and repeating for Republican perceptions). We include fixed effects for policy statements and cluster standard errors by respondent. Analysis is simpler for Partisan Social Distance and In-Party Allegiance: we regress the dependent measures on bias in out-party perceptions. For all analyses, we rescale all the variables to lie between 0 and 1.

As table 3 shows, overestimating shares of party-stereotypical groups in the parties goes hand in hand with seeing the parties as ideologically sorted. Compared to those with the least biased beliefs, respondents with the most biased beliefs about Democratic composition tended to think an additional 13% of Democrats took the liberal position (95% CI: [.04, .22]). Similarly, respondents who most overestimated the share of the rich, evangelical, and so on in the Republican party believed GOP supporters to be 13% more likely to take conservative positions than did those with the least biased perceptions (95% CI: [.08, .19]). And as table 4 shows, partisans with the most biased perceptions of out-party composition tend to feel most socially distant from the main opposing out-party and report the greatest in-party allegiance.

The explanatory power of perceptual bias declines somewhat when we control for likely confounders (see cols. 2 and 4 in tables 3 and 4). But even after controlling for partisanship, whether or not the respondent is a "strong partisan" (1 or 7 on the 7-point scale), and affect toward party-stereotypical groups (mean feeling thermometer rating), beliefs about party composition are still the strongest predictor of beliefs about partisans' political views. Further, these beliefs continue to strongly and significantly predict partisan affect and in-party allegiance.

Table 3. People with the Most Prototype-Biased Party Perceptions See Partisans as More Likely to Take Party-Consistent Policy Positions

	DV: Perceived % of Democrats Taking Conservative Position		DV: Perceived % of Republicans Taking Conservative Position	
	(1)	(2)	(3)	(4)
Average perceptual bias, Democratic composition	−.13***	−.13***		
	(.05)	(.04)		
Average perceptual bias, Republican composition			.13***	.11***
			(.03)	(.02)
Mean FT for Democratic groups		.09***		
		(.03)		
Mean FT for Republican groups				.07**
				(.04)
Strong partisan		.00		.02**
		(.01)		(.01)
PID: Republican		−.02**		−.01
		(.01)		(.01)
Constant	.39	.36	.56	.53
	(.01)	(.01)	(.01)	(.01)
Issue fixed effects	X	X	X	X
R^2	.18	.18	.11	.12
SER	.24	.24	.26	.25
n perceptions	10,837	10,825	10,856	10,844
n respondents	1,807	1,805	1,810	1,808

Note. DV = dependent variable; FT = feeling thermometer; PID = partisan identification; SER = standard error of regression; *n* differs from cols. 1–2 and 3–4 because a handful of respondents left the feeling thermometers blank.

* $p < .1$.

** $p < .05$.

*** $p < .01$.

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

Table 4. People with the Most Prototype-Biased Out-Party Perceptions Feel the Most Socially Distant from the Out-Party and Are the Biggest Supporters of Their Party

	DV: Partisan Social Distance		DV: Allegiance to In-Party	
	(1)	(2)	(3)	(4)
Average perceptual bias, out-party composition	.14***	.08***	.24***	.18***
	(.03)	(.03)	(.04)	(.03)
Mean FT for out-party groups		.33***		.37***
		(.03)		(.03)
Strong partisan		.05***		.20***
		(.01)		(.01)
PID: Republican		−.00		.02*
		(.01)		(.01)
Constant	.56	.40	.57	.32
	(.01)	(.02)	(.01)	(.02)
R^2	.02	.20	.02	.28
SER	.15	.13	.23	.20
n respondents	926	925	1,818	1,815

Note. DV = dependent variable; FT = feeling thermometer; PID = partisan identification; SER = standard error of regression; *n* differs from cols. 1–2 and 3–4 because a handful of respondents left the feeling thermometers blank.
* $p < .1$.
** $p < .05$.
*** $p < .01$.

These data establish that the expected associations exist in high-quality survey data. To assess causality, we rely on a series of experiments.

Experimental design

We conducted two experiments on MTurk, differing only in the dependent variables. (See OA 4.1 for sample demographics.) The first experiment, conducted in April 2014 ($n = 1,036$), assessed the impact of misperceptions about out-party composition on beliefs about out-party extremity and feelings toward the out-party.[13] The second experiment, conducted in November 2014 ($n = 821$), further investigated the effect of these misperceptions on partisan animus.

To determine the causal effect of misperceptions about out-party composition, we provided information about the actual share of four party-stereotypical groups in the out-party to a random set of respondents. First, we assigned respondents to one of three conditions: Ask, Tell, or Control. In the Ask condition, we administered the four out-party composition questions (like those from the YouGov study) prior to administering the dependent measures.[14] Participants in the Tell condition also answered these questions but received correct information about the share of party-stereotypical groups in the out-party before responding to the dependent measures. Finally, participants assigned to the Control condition responded to the dependent measures without first answering questions about out-party composition. However, they responded to these questions later in the survey, so we have perceptions of party composition for all participants. To deter demand effects, we couched the composition questions as part of a broader political knowledge survey.

To identify the impact of correcting misperceptions about out-party composition, we compare responses in the Tell condition to responses from the other two conditions. The Control condition provides a baseline for the dependent measures. The Ask condition mimics the Tell condition more closely: it

13. We focused exclusively on the out-party for two reasons. First, perceptions of out-party composition tend to be more erroneous and, thus, provide greater opportunity for correction. Second, rising out-party hostility—not in-party affinity—is the primary driver of the rise in affective polarization (e.g., Iyengar et al. 2012).

14. In the first experiment, one party-group dyad was different. Instead of asking Democrats about the percentage of Republicans 65 years or older, we asked about the counter-stereotypical group, the percentage of Republicans aged 35 or below. The average of the responses to this question was close to the actual number (26.6% vs. 25.7% in reality). However, Democratic participants were as inaccurate about the other three groups as they were in the above studies. Thus, average correction from the Tell treatment did not vary unduly across the two experiments.

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

asks for people's beliefs about the share of party-stereotypical groups but does not provide correct information before the dependent variables are administered.

The Ask condition, however, very likely changes people's beliefs about the parties' composition. As we contend above, people's "mental pictures" of parties reflect party-stereotypical groups. These pictures implicitly map to inflated beliefs about shares of party-stereotypical groups. However, being forced to offer explicit, precise numerical estimates of the shares of different groups in the party disrupts the tendency to think about parties in terms of prototypes. It forces people to take stock of some of the large numbers that the pictures in their heads map to and to revise their beliefs to lower, more plausible numbers. Experimental data support such a mechanism: more "considered" responses tend to be less inflated than "automatic" responses (Ahler and Sood 2017).

In the first experiment, we asked respondents to place the typical Democrat and Republican on four semantic policy scales: taxes, abortion, gay rights, and racial policy. We crafted the scale endpoints so that they fell outside the political mainstream and, instead, reflected the extreme demands of party-stereotypical groups (e.g., Bawn et al. 2012). For example, the "taxes" endpoints reflected the stereotypical preferences of the very wealthy and the economically marginalized. Specifically, the scale ran from "Decrease federal income taxes on just the highest earners, keeping the tax rate the same on all others" to "To address inequality, establish a national maximum income by taxing all income over a certain amount at 100%." (See OA 4.5 for exact question wording and response options.) Our primary dependent measure for the experiment was whether or not respondents placed the typical out-party supporter at the party's ideologically stereotypical extreme endpoint, for example, saying that the typical Democrat supports a national maximum income. While results are robust to other reasonable coding specifications (raw placement, winsorized placement, and absolute distance from the scale midpoint; see OA 4.7), our primary measure most clearly comports with our hypothesis that overestimating the share of party-stereotypical groups in the out-party leads people to see that party's supporters as "intense policy demanders."

We assessed the consequences of misperceptions on feelings toward the out-party two ways. In the first experiment, we measured partisan animus with a reverse-coded, 101-point out-party feeling thermometer, rescaled 0–1. In the second experiment, we used the social distance battery that was also used in the observational study.

We hypothesize that participants assigned to the Tell condition will see the out-party as less extreme and will dislike that party less. Consistent with the observational results, we further expect people with the most biased perceptions to see the out-party as most extreme, and to feel most affectively polarized. However, if the treatment is effective, we also expect treated participants with the most biased perceptions to most strongly update their beliefs and attitudes, as they receive the largest corrections.

Manipulation check, complier average causal effect estimates, and placebo test. We measured the effectiveness of the manipulation by asking participants in the Tell condition to again answer the party composition questions at the end of the second experiment. Beliefs became significantly more accurate posttreatment; across all perceptions, mean absolute error declined from 27.7 points to 6.1 points, a 21.6-point drop (95% CI: [−23.6, −19.5]). (It also decreased significantly for each of the eight party-group dyads. OA 4.4 presents these results. OA 4.3 presents additional data showing that respondents thought that the information was novel.)

Assuming that the effect of our informational treatment is limited to those who learn the information that is provided, the difference in means between conditions is a conservative intention-to-treat (ITT) estimate. To assess the effect of actually learning something about out-party composition—the causal average complier effect, or CACE—we estimate the treatment effect among those who answered at least one of the four end-of-survey composition questions within five percentage points of the truth. (This is a liberal definition of compliance, which has the effect of yielding a conservative estimate of CACE.) By this definition, 74.2% of participants "complied." Using assignment to Tell as an instrument for learning the information about out-party composition, $\text{CACE} = \text{ITT}/\%_{\text{complier}}$ (Bloom 1984).

Finally, to more squarely pin down the causal mechanism, we conducted a placebo test in the first experiment. In addition to measuring out-party policy placements and feeling thermometer ratings, we asked respondents for their beliefs about and feelings toward their own party. Since we did not provide information about the composition of the in-party in any condition, treatment should not affect in-party outcomes. The difference between the Ask and Control conditions on perceptions of in-party extremity is −0.00 (95% CI: [−0.04, 0.03]), and the difference between the Tell and Control conditions is 0.01 (95% CI: [−0.03, 0.04]). Similarly, comparing the Ask and Control conditions, the difference in reverse-coded in-party feeling thermometer ratings (rescaled 0–1) is −0.01 (95% CI: [−0.04, 0.03]). Between the Tell and Control conditions, the difference is equally small (95% CI: [−0.04, 0.03]). In all, it suggests that any change in dependent measures can be attributed to learning party-specific information rather than to a more general mechanism (e.g., reduction in self-confidence).

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

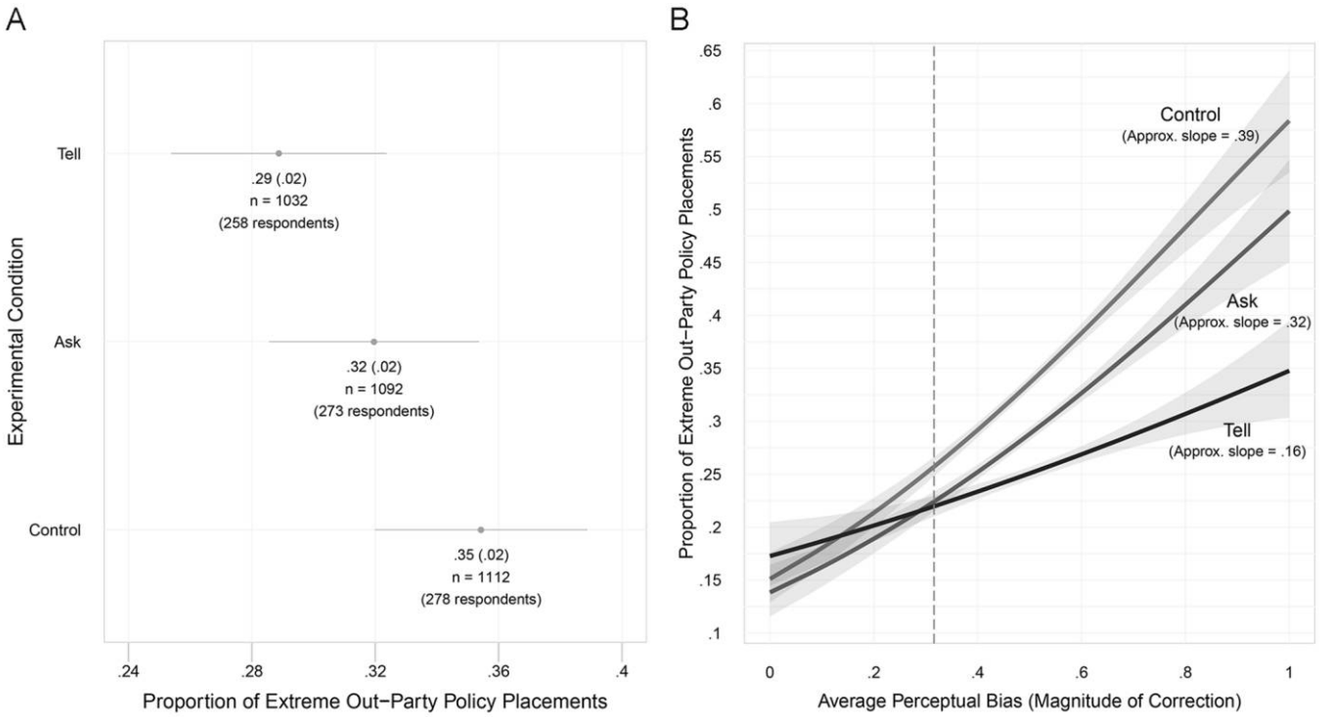

Figure 3. Misperceptions cause people to attribute more extreme policy preferences to the typical out-party supporter. All variables are rescaled to lie between 0 and 1. The dashed vertical line denotes the point at which average bias = 0 when not rescaled. Perceptions of out-party composition were measured after the policy perceptions battery in the Control condition. Panel *A* shows the proportion of respondents in each condition placing the out-party at the extreme endpoint on the policy scales, with 95% confidence intervals. Panel *B* plots the predicted proportion of respondents in each condition placing the out-party as extreme, as a function of prior beliefs about party composition, with 95% confidence intervals. The slopes in panel *B* refer to linear approximations estimated via OLS. See OA 4.6 for OLS estimates.

Misperceptions about composition cause perceptions of out-party extremity

Partisans assigned to the Tell condition were 6.6 points less likely to place the typical out-party supporter at the extreme than those in the Control condition (95% CI: [−0.11, −0.02]; see the left pane of fig. 4).[15] (For analysis, we stacked the data so that the unit of analysis is respondent policy question. To account for correlation of errors within respondents, we clustered the standard errors by respondent.)

The corresponding difference between the Ask and Control conditions is about half as large. This suggests that simply asking people to report beliefs explicitly on a numerical scale reduces the usual tendency to think about parties as prototypes (and the consequences of such thinking). However, the effect falls just short of the conventional cut-off for statistical significance (diff. = −0.03, 95% CI: [−0.08, 0.01]).

Next, we assess whether people's prior beliefs about out-party composition moderate the treatment effect. In particular, we regress perceived extremity on average perceptual bias (rescaled 0–1) within conditions, including fixed effects for the distinct policy questions and random effects for respondents. Letting i index respondents and p policy domains, and letting δ denote fixed effects, ϵ random error, α random effects for each respondent, and X the respondent's average perceptual bias, our model takes the following form:

$$\Pr(y_{ip} = 1) \sim \text{logit}^{-1}(\beta \times X_i + \delta_p + \alpha_i;\ \sigma_\epsilon^2)$$
$$\alpha_i \sim N(0, \sigma_\alpha^2).$$

As figure 3*B* shows, people who most overestimate the share of party-stereotypical groups are also the likeliest to see the typical party supporter as having extreme preferences. However, this trend is significantly less pronounced among those who are given accurate information about party composition. In the Tell condition, participants with the most biased out-party perceptions were just 12.8 points more likely to see the typical out-party supporter as an extreme policy demander than those who had the least biased beliefs about out-party composition. (The dashed vertical line in fig. 3*B* denotes the point on the x-axis at which $X = 0$, when not rescaled 0–1.)

15. This main effect only appears among partisans. One reason for this is that independents are generally less likely to see partisans as extreme (Ahler 2014). We see the same pattern in our data. Just 22% of the placements given by independents are at the endpoint, compared to 31% of those given by partisans. Further, independents tend to have less biased beliefs about party composition than partisans (see fig. OA 1.2), suggesting smaller treatment impact on average.

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

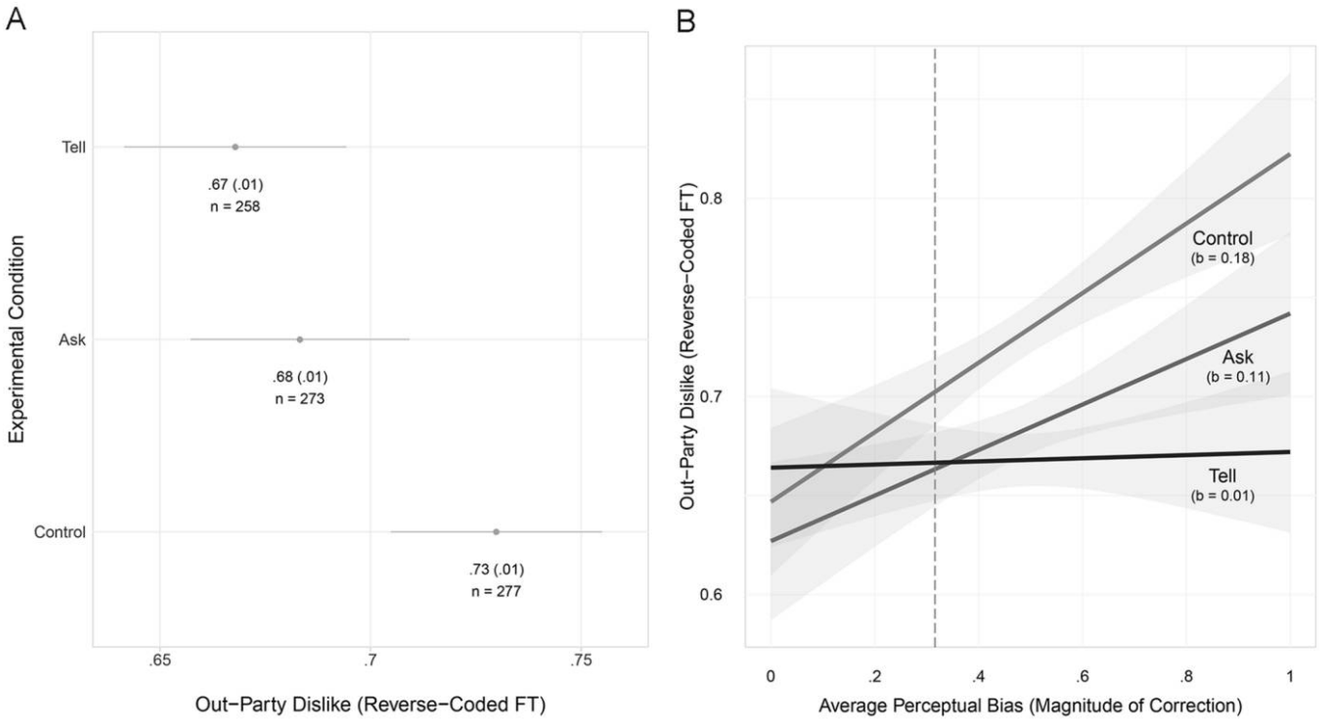

Figure 4. Misperceptions cause people to dislike the out-party. All variables have been rescaled to lie between 0 and 1. The dashed line denotes the point at which average bias = 0 when not rescaled. Perceptions of out-party composition were measured after the feeling thermometer battery in the Control condition. Panel *A* plots mean out-party feeling thermometer rating by condition with 95% confidence intervals. Panel *B* plots ratings by condition, as a function of prior beliefs about party composition, with 95% confidence intervals.

In the Ask and Control conditions, the corresponding differences are 27.4 and 32.7 points, respectively. More generally, among partisan respondents assigned to the Tell condition, at any level of correction, the odds of placing the out-party as extreme are 0.34 times lower than in the other conditions (95% CI: [0.08, 1.56]). In the full sample, where we have more precision, the interaction effect is similar ($e^{\hat{\beta}} = 0.25$, 95% CI: [0.06, 0.99]), implying that independents with strongly prototype-biased perceptions of the parties are affected by the treatment. (OLS estimates with cluster-robust standard errors are virtually identical. They are reported in OA 4.7, along with models including controls for respondent education.)

Until now we have discussed estimates of ITT effects and how they vary by magnitude of perceptual bias. But ITT underestimates the effect of learning about the actual share of stereotypical groups in the out-party. Using assignment to Tell as an instrument for learning the information provided, and using the definition of compliance we note above, the CACE is 8.7 points, two points larger than the ITT estimate. That is, partisans assigned to the Tell condition who actually learned the information were nearly 9 points less likely to place the typical out-party supporter as an extreme policy demander (95% CI: [−0.12, −0.06]) than they would have been in the control condition.

Misperceptions about composition cause partisan animus

In the first experiment, participants randomly assigned to the Tell condition reported liking the out-party 6.4 percentage points more than those in the control group [95% CI: [−0.10, −0.03]). Participants assigned to the Tell condition also reported feeling a statistically insignificant 1.5 points warmer toward the out-party than those in the Ask condition (95% CI: [−0.05, 0.02]), who, as figure 4*A* shows, reported significantly warmer feelings toward the other side vis-à-vis the control group. Taken together, these comparisons suggest that inaccurate beliefs about out-party composition increase animus toward the out-party but that correcting those beliefs, or potentially merely asking partisans to report their beliefs numerically, can reduce such animus.

The second experiment investigated the effect of these misperceptions on partisan social distance. The Tell treatment reduced animus by 2.5 points on average (95% CI: [−0.05, 0.00]), with an estimated CACE of 3.3 percentage points (95% CI: [−0.07, 0.00]).[16] But to interpret this effect size, it is use-

16. As independents tend not to feel as socially distant from partisans as opposing partisans, the treatment effects among nonleaning independents are close to 0. See OA 4.8 for the analyses.

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

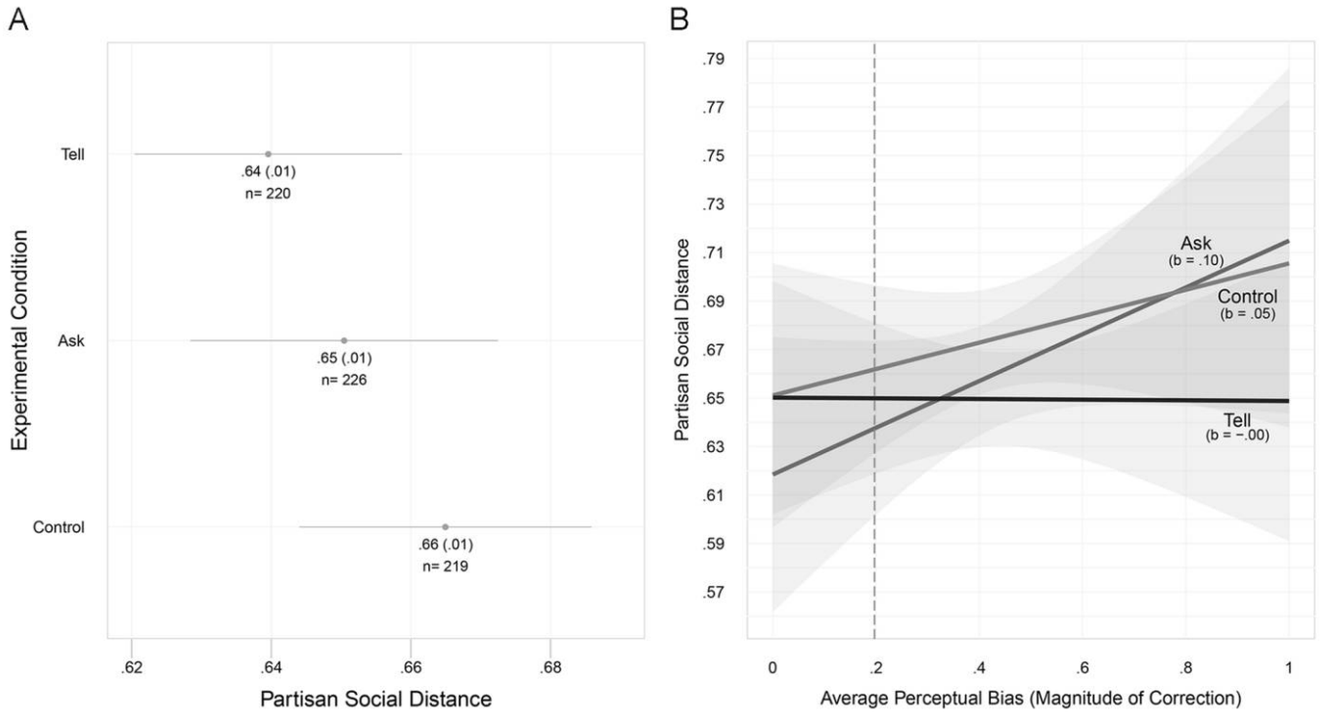

Figure 5. Misperceptions cause people to feel socially distant from out-party supporters. All variables rescaled 0–1. The dashed vertical line denotes the point at which $X = 0$. Perceptions of out-party composition were measured after the policy perceptions battery in the Control condition. Panel *A* plots mean partisan animus by condition with 95% confidence intervals. Panel *B* plots partisan animus by condition. as a function of prior beliefs about party composition, with 95% confidence intervals.

ful to note that the range of scores on this measure is de facto truncated. Partisans rarely respond that they would be "somewhat happy" or "very happy" about interparty social interactions; 93.1% of partisans' scores on the social distance index fell between 0.5 and 1. Thus, one way to think about the substantive significance of this effect is to divide it by 0.5. In all, consistent with the observational results, partisans' beliefs about out-party composition can fuel partisan affect.

Last, consistent with the extremity-perception results, figures 4*B* and 5*B* suggest that the magnitude of bias matters. In the Ask and Control conditions in both affect experiments, there is a positive relationship between stereotype bias in out-party perceptions and partisan animus, as expected from the observational results. However, in the Tell condition, the slopes describing these relationships are almost exactly flat. That is, correcting these widespread misperceptions appears to most strongly affect the partisan sentiments of the most misinformed.

The experimental results presented in figures 3, 4, and 5 cohere. In all three experiments, the difference-in-means between the Tell and the Control group is the largest, statistically significant, and in a direction consistent with the hypotheses. Likewise, in all three cases, the Ask group's average score on the dependent measure falls between the other two groups'. Finally, and consistent with our hypotheses, in all three experiments, the weakest relationship between perceptual bias and the dependent measure of interest is among Tell participants. In all, these convergent findings suggest that the individual experiments' results are yet more unlikely to be a consequence of random perturbation.

However, it is also true that the treatment effects are relatively small, especially in the case of the affect experiments. The differences between the Tell and Control groups, albeit statistically significant at conventional levels, are approximately 6 and 3 points on the feeling thermometer and social distance scale, respectively. Furthermore, differences between the Ask condition and the other two tend to be small and statistically insignificant. And, finally, we lack the power to estimate variation in treatment effects by prior beliefs about partisan composition with precision. Larger samples, and more engaging treatments that encourage people to absorb and reflect on the new information, are likely to prove more persuasive.

DISCUSSION

Across five studies, we find that people overestimate the degree to which partisans belong to party-stereotypical groups, often vastly so. Even in cases where these groups comprise just a sliver of the population, people report that these groups

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

constitute upward of 40% of the party they "fit." And when people are given information about these groups' shares in the population, the bias in their estimates does not decline, suggesting that people rely on representativeness when making judgments about party composition.

Republicans, Democrats, and independents, all overestimate the share of party-stereotypical groups in both the major parties. Partisan differences, although statistically significant, are relatively small compared to the overall magnitude of these misperceptions. Strikingly, those most interested in politics hold the most skewed perceptions of party composition. One plausible explanation for both of these results is that mediated, impersonal information drives these misperceptions. However, all the evidence we have presented on this point is descriptive. Additional research is needed to assess the extent to which media shape these perceptions.

These misperceptions are also consequential. Experimental evidence suggests that beliefs about out-party composition affect perceptions of where opposing-party supporters stand on the issues. These findings provide a potential explanation for why people tend to overestimate the extremity of opposing partisans. In future extensions, we plan to further investigate whether beliefs about party composition explain the striking finding that people also overestimate the extremity of copartisans (Ahler 2014; Levendusky and Malhotra 2015). Misperceptions about out-party composition also lead partisans to feel more socially distant from the opposing party. Building on work by Hetherington and Weiler (2009) and Mason and Davis (2015), who find that partisan animus is related to party composition, we experimentally show that people's beliefs about party composition affect their feelings toward the opposing party.

Beyond beliefs about extremity, we suspect that perceptions about party composition affect people's beliefs about the parties' priorities. For instance, believing that a third of Democrats are atheist or agnostic, or that half of Republicans are evangelical, may lead one to believe that cultural issues like school prayer are far more important to the parties than they actually are. More generally, we suspect that people associate a narrow set of policy demands with each party-stereotypical group and think these groups have sway over the party's agenda. This is liable to fuel more resentment and cynicism about the motivations of party elites.

More broadly, the data shed faint light on the nature of partisanship. A long-standing debate pits cognitive conceptions of partisanship against claims that partisan attachments are largely affective and stem from other group identities (Johnston 2006). The experimental findings support the notion that orientations toward constituent social groups affect how people feel toward the parties, among other things. However, they also show that beliefs about shares of various groups in the parties matter. Thus, while the group identity account makes a compelling case that partisanship is a relatively stable, affective attachment, work in this tradition must grapple more thoroughly with the social cognitions (and cognitive biases) that are relevant to how people reason about politics.

This is especially the case because partisans overestimate the share of party-stereotypical groups in their own party. For instance, many lower- and middle-class Republicans think that their party contains far more rich people than it actually does. This suggests that many partisans like their own parties to the extent they do—average ratings exceed 70 on the thermometer scale (Iyengar et al. 2012)—despite believing that the party has a larger share of groups to which they do not belong than it actually does. Green et al. (2002, 8) suggest that partisans choose parties based on "which assemblage of groups" looks like them. While this may still be true, the data suggest that people identify with parties based on which groups they like.

Finally, and most broadly, this research furthers our understanding of people's perceptions of mass collectives and how these perceptions shape individuals' own political attitudes. Mutz (1998) describes impersonal influence as the effect of people's perceptions of what others are experiencing, or what others believe, on their own attitudes and behaviors. We take this one step further and assert that people's perceptions of who belongs to a collective can be a source of impersonal influence—and in this case, a catalyst for partisanship in American politics.

ACKNOWLEDGMENTS

We thank Martin Bisgaard, David Broockman, Jamie Druckman, Bob Erikson, Andrew Gelman, Stephen Goggin, Don Green, Travis Johnston, Josh Kalla, Kabir Khanna, Jonathan Ladd, Gabe Lenz, Leif Nelson, Eric Schickler, Jas Sekhon, John Sides, Laura Stoker, Kim Twist, and Rob Van Houweling for helpful feedback.

REFERENCES

Abramowitz, Alan I., and Kyle L. Saunders. 2006. "Exploring the Bases of Partisanship in the American Electorate: Social Identity vs. Ideology." *Political Research Quarterly* 59 (2): 175–87.

Achen, Christopher H., and Larry M. Bartels. 2016. *Democracy for Realists: Why Elections Do Not Produce Responsive Government*. Princeton, NJ: Princeton University Press.

Ahler, Douglas J. 2014. "Self-Fulfilling Misperceptions of Public Polarization." *Journal of Politics* 76 (3): 607–20.

Ahler, Douglas J., and Gaurav Sood. 2017. "Measuring Perceptions of Shares of Salient and Stereotypical Groups." In Brian G. Southwell, Emily Thorson, and Laura Sheble, eds., *Misinformation and Mass Audiences*. Austin: University of Texas Press.

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

Almond, Gabriel A., and Sidney Verba. 1963. *The Civic Culture: Political Attitudes and Democracy in Five Nations*. Boston: Little, Brown.

Ansolabehere, Stephen, Jonathan Rodden, and James M. Snyder. 2008. "The Strength of Issues: Using Multiple Measures to Gauge Preference Stability, Ideological Constraint, and Issue Voting." *American Political Science Review* 102 (2): 215–32.

Bartels, Larry M. 2000. "Partisanship and Voting Behavior, 1952–1996." *American Journal of Political Science* 44 (1): 35–50.

Bartels, Larry M. 2002. "Beyond the Running Tally: Partisan Bias in Political Perceptions." *Political Behavior* 24 (2): 117–50.

Bawn, Kathleen, Martin Cohen, David Karol, Seth Masket, Hans Noel, and John Zaller. 2012. "A Theory of Political Parties: Groups, Policy Demands, and Nominations in American Politics." *Perspectives on Politics* 10 (3): 571–97.

Berelson, Bernard, Paul Lazarsfeld, and William McPhee. 1954. *Voting: A Study of Opinion Formation in a Presidential Campaign*. Chicago: University of Chicago Press.

Bloom, Howard S. 1984. "Accounting for No-Shows in Experimental Evaluation Designs." *Evaluation Review* 8 (2): 225–46.

Bogardus, Emory S. 1947. "Measurement of Personal-Group Relations." *Sociometry* 10 (4): 306–11.

Bordalo, Pedro, Katherine Coffman, Nicola Gennaioli, and Andrei Shleifer. 2016. "Stereotypes." *Quarterly Journal of Economics* 131 (4): 1753–94.

Brady, Henry E., and Paul M. Sniderman. 1985. "Attitude Attribution: A Group Basis for Political Reasoning." *American Political Science Review* 79 (4): 1061–78.

Bullock, John G., Alan S. Gerber, Seth J. Hill, and Gregory A. Huber. 2015. "Partisan Bias in Factual Beliefs about Politics." *Quarterly Journal of Political Science* 10 (4): 519–78.

Campbell, Angus, Philip E. Converse, Warren E. Miller, and Donald E. Stokes. 1960. *The American Voter*. Chicago: University of Chicago Press.

Chambers, John R., Barry R. Schlenker, and Brian Collisson. 2013. "Ideology and Prejudice: The Role of Value Conflicts." *Psychological Science* 24 (2): 140–49.

Claassen, Ryan L. 2011. "Religious Changes in American Society and among Party Activists." Presented at the annual meeting of the American Political Science Association, Seattle.

Converse, Philip. 1964. "The Nature of Belief Systems in Mass Publics." In David Apter, ed., *Ideology and Discontent*. New York: Free Press.

Druckman, James N., Erik Peterson, and Rune Slothuus. 2013. "How Elite Partisan Polarization Affects Public Opinion Formation." *American Political Science Review* 107 (1): 57–79.

Ellis, Christopher, and James A. Stimson. 2012. *Ideology in America*. New York: Cambridge University Press.

Gamm, Gerald H. 1989. *The Making of New Deal Democrats: Voting Behavior and Realignment in Boston, 1920–1940*. Chicago: University of Chicago Press.

Goggin, Stephen N., and Alexander G. Theodoridis. 2017. "Disputed Ownership: Parties, Issues, and Traits in the Minds of Voters." *Political Behavior* 39 (3): 675–702.

Green, Donald, Bradley Palmquist, and Eric Schickler. 2002. *Partisan Hearts and Minds: Political Parties and the Social Identities of Voters*. New Haven, CT: Yale University Press.

Halberstam, Yosh, and Brian Knight. 2014. "Homophily, Group Size, and the Diffusion of Political Information in Social Networks: Evidence from Twitter." Working paper no. 20861, National Bureau of Economic Research, Cambridge, MA.

Hetherington, Marc J., and Jonathan D. Weiler. 2009. *Authoritarianism and Polarization in American Politics*. New York: Cambridge University Press.

Horton, John Joseph, and Lydia B. Chilton. 2010. "The Labor Economics of Paid Crowdsourcing." Presented at the 11th Association for Computing Machinery conference on electronic commerce, Cambridge, MA.

Huddy, Leonie, Lilliana Mason, and S. Nechama Horwitz. 2016. "Political Identity Convergence: On Being Latino, Becoming a Democrat, and Getting Active." *Russell Sage Foundation Journal of the Social Sciences* 2 (3): 205–28.

Iyengar, Shanto, Gaurav Sood, and Yphtach Lelkes. 2012. "Affect, Not Ideology: A Social Identity Perspective on Polarization." *Public Opinion Quarterly* 76 (3): 405–31.

Johnston, Richard. 2006. "Party Identification: Unmoved Mover or Sum of Preferences." *Annual Review of Political Science* 9:329–51.

Kahneman, Daniel, and Amos Tversky. 1972. "Subjective Probability: A Judgment of Representativeness." *Cognitive Psychology* 3 (3): 430–54.

Kuo, Alexander, Neil Malhotra, and Cecilia Hyunjung Mo. 2017. "Social Exclusion and Political Identity: The Case of Asian American Partisanship." *Journal of Politics* 79 (1): 17–32.

Levendusky, Matthew, and Neil Malhotra. 2015. "(Mis)perceptions of Partisan Polarization in the American Public." *Public Opinion Quarterly* 80 (S1): 378–91.

Levendusky, Matthew, and Neil Malhotra. 2016. "Does Media Coverage of Partisan Polarization Affect Political Attitudes?" *Political Communication* 33 (2): 283–301.

Lewis-Beck, Michael S., William G. Jacoby, Helmut Norpoth, and Herbert F. Weisberg. 2008. *The American Voter Revisited*. Ann Arbor: University of Michigan Press.

Lippmann, Walter. 1922. *Public Opinion*. London: Routledge.

Lodge, Milton, and Ruth Hamill. 1986. "A Partisan Schema for Political Information Processing." *American Political Science Review* 80 (2): 505–20.

Lodge, Milton, and Charles S. Taber. 2013. *The Rationalizing Voter*. Cambridge: Cambridge University Press.

Luskin, Robert C., Gaurav Sood, and Joshua Blank. 2013. "The Waters of Casablanca: Political Misinformation (and Knowledge and Ignorance)." Presented at the annual meeting of the Midwest Political Science Association, Chicago.

Mason, Lilliana. 2016. "A Cross-Cutting Calm: How Social Sorting Drives Affective Polarization." *Public Opinion Quarterly* 80 (S1): 351–77.

Mason, Lilliana, and Nicholas Davis. 2015. "A New Identity Politics: How Socio-partisan Sorting Affects Affective and Ideological Polarization in American Politics." Presented at the annual meeting of the American Political Science Association, San Francisco.

Mutz, Diana C. 1998. *Impersonal Influence: How Perceptions of Mass Collectives Affect Political Attitudes*. Cambridge: Cambridge University Press.

Mutz, Diana C. 2006. *Hearing the Other Side: Deliberative versus Participatory Democracy*. New York: Cambridge University Press.

Norman, Donald A. 1979. "Perception, Memory, and Mental Processes." In Lars-Göran Nilsson, ed., *Perspectives on Memory Research*. Hillsdale, NJ: Erlbaum, 121–42.

Olmstead, Kenneth, Mark Jurkowitz, Amy Mitchell, and Jodi Enda. 2013. "How Americans Get TV News at Home." Pew Research Center, October 11.

Pasek, Josh, Gaurav Sood, and Jon Krosnick. 2015. "Misinformed about the Affordable Care Act? Leveraging Certainty to Assess the Prevalence of Misinformation." *Journal of Communication* 65 (4): 660–73.

Pew. 2014. "Political Polarization in the American Public: How Increasing Ideological Uniformity and Partisan Antipathy Affect Politics, Compromise, and Everyday Life." Pew Research Center, June 12.

Prior, Markus, Gaurav Sood, and Kabir Khanna. 2015. "You Cannot Be Serious: The Impact of Accuracy Incentives on Partisan Bias in Reports of Economic Perceptions." *Quarterly Journal of Political Science* 10 (4): 489–518.

Rosch, Eleanor, and Carolyn B. Mervis. 1975. "Family Resemblances: Studies in the Internal Structure of Categories." *Cognitive Psychology* 7 (4): 573–605.

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).

Rothschild, Jacob E., Adam J. Howat, Richard M. Shafranek, and Ethan C. Busby. 2018. "Pigeonholing Partisans: Stereotypes of Party Supporters and Partisan Polarization." *Political Behavior* (Spring): 1–21. https://link.springer.com/article/10.1007/s11109-018-9457-5.

Roush, Carolyn E. 2016. "Believing the Worst: Out-Party Hostility and Receptiveness to Political Misinformation." Presented at the annual meeting of the American Political Science Association. Philadelphia.

Tajfel, Henri. 1959. "Quantitative Judgment in Social Perception." *British Journal of Psychology* 50 (1): 16–29.

Theodoridis, Alexander G. 2017. "Me, Myself, and (I), (D), or (R)? Partisanship and Political Cognition through the Lens of Implicit Identity." *Journal of Politics* 79 (4): 1253–67.

Turner, John C., Michael A. Hogg, Penelope J. Oakes, Stephen D. Reicher, and Margaret S. Wetherell. 1987. *Rediscovering the Social Group: A Self-Categorization Theory*. Oxford: Blackwell.

Wilder, David A. 1978. "Perceiving Persons as a Group: Effects on Attributions of Causality and Beliefs." *Social Psychology* 41 (1): 13–23.

Wong, Cara J. 2007. "'Little' and 'Big' Pictures in Our Heads: Race, Local Context, and Innumeracy about Racial Groups in the United States." *Public Opinion Quarterly* 71 (3): 392–412.

Zaller, John. 1992. *The Nature and Origins of Mass Opinion*. Cambridge: Cambridge University Press.

Zaller, John. 2012. "What Nature and Origins Leaves Out." *Critical Review* 24 (4): 569–642.

This content downloaded from 144.174.190.136 on October 26, 2018 11:38:08 AM
All use subject to University of Chicago Press Terms and Conditions (http://www.journals.uchicago.edu/t-and-c).