Measuring Misperceptions: Limits of Party-Specific Stereotype Reports

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Abstract

Prior research has reported that Americans hold biased perceptions about the composition of U.S. parties. Survey respondents vastly overestimate the frequency with which partisans belong to other social groups stereotypically associated with their party. We argue that when perceptions of Democrats, Republicans, and members of the American public are directly compared, evidence of relative misperceptions is limited. Drawing on novel survey experimental measures, we find that respondents underestimate many differences in the demographic composition of the Democratic and Republican parties. A few stereotypes thought to be associated with one party or the other may apply to partisans in general. Similar trends appear across parties, and among strong partisans. These findings suggest limits on the extent to which inaccurate estimates of who affiliates with each party can be interpreted as evidence of party-specific stereotypes.

Introduction

The American public is often portrayed as holding wildly inaccurate views about who affiliates with each of the major U.S. parties. Stereotypical images of Democrats and Republicans are seen as a root cause of hostility between partisans (Ahler and Sood 2018c; Robison and Moskowitz 2019; Enders and Armaly 2019), and as a factor in the development of partisan social identity (Mason and Wronski 2018; Claassen et al. 2019). But evidence of widespread misperceptions depends on survey questions that are notoriously challenging to answer. We argue that focusing on the average response to questions about one party or the other has led past observers to overestimate the extent of demographic stereotyping.

For example, race and partisanship appear to be closely linked in the minds of many Americans, with implications for partisan social conflict (Valentino and Zhirkov 2018; Westwood and Peterson 2019). Demographic misperceptions may heighten this conflict. Ahler and Sood (2018c) found that while approximately 24% of Democrats are Black, survey respondents estimated this number to be 42% on average. But, as these authors point out, this estimate is

difficult to interpret (Ahler and Sood 2018a). For example, it is unclear what proportion of the U.S. population respondents perceive to be Black (see Ahler and Sood 2018b). A variety of efforts to make this question easier for respondents, including providing base rates, have failed to yield average estimates near 24% (Ahler and Sood 2018c).

We do not attempt to perfect these survey items. Instead, we propose an alternative framework for measuring and interpreting perceptions of partisans. Instead of directly characterizing beliefs about the parties, we seek to estimate the *effect* of a group's partisanship on perceptions about the prevalence of a trait within the group. In particular, we allow respondents to characterize the distribution of traits within either party or the nation as a whole. Then we compare characterizations of Democrats, Republicans, and (in Study 2) the general U.S. public. Given limitations in measurement technology, we argue that the *difference* between perceptions of the two parties, and the *difference* between perceptions of a party and the U.S. public, are of greater interest than absolute perceptions of party composition. By comparing differences between the parties, our approach differences out factors, such as misperceived base rates, that may affect perceptions of both parties, while our comparison of parties to the US public as a whole helps characterize baseline perceptions directly. By comparing differences between the parties, our approach differences out factors, such as misperceived base rates, that may affect perceptions of both parties, while our comparison of parties to the U.S. public as a whole helps characterize perceptions relative to that baseline. By comparing differences between the parties, our approach differences out any factors that may affect reported perceptions of both parties while directly estimating a quantity of theoretical interest. Our comparison of parties to the U.S. public as a whole helps characterize perceptions relative to perceived base rates.

In a survey of U.S. adults (Study 2), we asked some respondents to estimate the likelihood that a member of the U.S. public is Black, Hispanic, Asian, or any other non-White race or ethnicity (or likelihood of being White, randomized) on a 0 to 100 scale. We asked other respondents to estimate the likelihood that a member of the U.S. public who is a Democrat or a Republican is non-White (or White). On average, respondents estimated that 41% of Democrats are non-White. This is close to the truth, which is approximately 44%.[1] Respondents also estimated that 40% of the U.S. public, and 31% of Republicans are non-White. These are both overestimates, with approximately 30% of the U.S. public, and 13% of Republicans being Hispanic or non-White. We can thus estimate a small positive effect of being a Democrat on perceived likelihood of being non-White (relative to the public as a whole, not statistically

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[1]Because "Hispanic or non-White" is a larger group than "Black," this may be an easier question (Landy, Guay and Marghetis 2018). When we consider specific racial and ethnic groups in Study 1, similar trends emerge.

significant), and a larger negative effect of being a Republican. The estimated effect of being a Democrat instead of a Republican is 10 points, which is smaller than the actual 31 point difference in the likelihood partisans are Hispanic or non-White.

Prior research on perceived demographics has primarily focused on perceptions of stereotypically aligned traits within each party, such as LGB Democrats and Evangelical Republicans (e.g. Ahler and Sood 2018c). But this is not the only approach researchers have taken in the study of partisan misperceptions. Measures of policy preferences perceptions, for example, typically ask respondents to characterize the issue positions taken by both Democrats and Republicans (Westfall et al. 2015; Levendusky and Malhotra 2016). We apply this common approach to the study of perceived demographic diversity within the parties.

In an original survey experiment, we find that this approach yields novel conclusions about the nature of stereotypes about racial, ethnic, and religious groups within the parties. Respondents are sometimes more accurate in their average assessments of the out-party than their own, but the pattern of misperceptions is largely consistent across parties, regardless of the partisanship of the respondent. Although respondents systematically overestimate the size of small groups, they generally *underestimate* the differences between the composition of the parties.

In a second experiment, we consider a broader range of possible demographic stereotypes. Across a variety of traits, survey respondents again estimate *smaller* differences between the likelihood of a Democrat and a Republican having a trait than is observed. Respondents do appear to perceive differences between the parties in two areas where actual differences are extremely small, union membership and having an income over $200,000. But for both of these traits, as well as being college graduates, both Democrats and Republicans are perceived as having a greater likelihood of having these characteristics than members of the U.S. public. We only observe one trait, LGB identification, for which the estimated partisan difference is greater than the actual difference due to an overestimate of the trait's frequency within the stereotypically associated party relative to the U.S. public. These findings, which appear even among strong partisans, suggest limits on the extent to which members of the public perceive exaggerated differences in party demographics.

Assessing the nature of partisan stereotypes

A wide variety of survey measures have been used to characterize public perceptions of who U.S. partisans are. Many of these measures ask survey respondents to think about *typical* Democrats or Republicans (Levendusky and Malhotra 2016; Valentino and Zhirkov 2018), or to

characterize the parties as groups (Rothschild et al. 2018), yielding familiar stereotypes about issue positions and characteristics. These measures generally allow for direct comparison of perceptions regarding the two parties.

Survey questions which measure general perceptions of the parties are useful for assessing perceptions of modal preferences or dominant social groups within a party, but they do not tell us how prevalent those modal traits are perceived to be, or the extent to which a social group is thought to be over-represented within a party (Judd and Park 1993). This limitation is particularly important when measuring perceptions of small or large demographic groups within the parties. Even if respondents agree that the modal Republican is White, we might care about whether White people are perceived to be a small majority or the only racial group within the party. To answer this kind of theoretically important question, researchers have designed survey questions which ask respondents to more fully characterize demographic distributions. This set of survey measures assess perceived diversity, or trait distribution within parties. Surveys relying on these measured have revealed vast overestimates of the proportion of partisans who have traits stereotypically associated with their party (Ahler and Sood 2018c; Homola et al. 2016; Yudkin, Hawkins and Dixon 2019; Claassen et al. 2019; Ahler and Sood 2020).

But distributional questions which ask about a single party in isolation are also subject to limitations. Overestimates of the share of partisans with stereotypically aligned traits may reflect the difficulty of numeric estimation tasks more so than partisan stereotypes. Survey respondents generally overestimate the population share of small demographic groups, including minority groups in the United States defined by race, religion, and sexuality (Nadeau, Niemi and Levine 1993; Martinez, Wald and Craig 2008). Beyond misperceptions of base rates, which appear to affect estimates of party demographics (Ahler and Sood 2020), the scale respondents use to conceptualize population shares may not correspond to probability and percentages in the way researchers assume (Varey, Mellers and Birnbaum 1990). Although prior research has experimented with a variety of question types (Ahler and Sood 2018a) and possible scale adjustments (Landy, Guay and Marghetis 2018), we have no reliable method for eliciting beliefs about the proportion of partisans who have various traits. These patterns present a challenge any time survey data are used to characterized perceived group composition, such as in the study of immigration attitudes (Hopkins, Sides and Citrin 2019). Comparing perceptions of the distribution of the same traits across multiple groups can help to difference out group specific considerations from other considerations or cognitive biases which affect survey responses. To contextualize perceptions about Democrats and Republicans, it is therefore useful to compare

perceptions of the distribution of the same traits across parties, and between parties and the nation as a whole.[2]

Study 1

To begin providing context for party-specific stereotype measures, we examined perceptions of two demographics within *both* parties: race/ethnicity and religion. In a 2018 CCES module, 581 respondents assessed the likelihood that a Democrat or a Republican identified with several racial, ethnic and religious groups on a 0 to 100 scale. Respondents were given the following instructions:

> Think about a person who is a [Democrat/Republican].
>
> We would like you to make a series of guesses about characteristics of the person described. For each characteristic, we will provide a list of options. For each option, tell us the likelihood that the option is their characteristic on a 0 to 100 scale, where 0 means that option is certainly not their characteristic (0 chance out of 100), 50 means that option is their characteristic with a probability of 50% (50 out of 100), and 100 means that option is certainly their characteristic.
>
> Across all options, the numbers you provide must add to 100. One easy way to think about this question is that if you met 100 people like the one described in the vignette, how many of them would have each option for their characteristic?

We asked respondents to consider three racial and ethnic groups: White, Black, and Hispanic, Asian, or another race or ethnicity. We additionally asked respondents to consider four religious groups: Christian, Jewish, another religion, and athiest or not religious.[3] First, we report the average perceptions among CCES respondents, as well as the average perceptions among CCES respondents who are Democrats or Republicans. Next, we estimate the effect of vignette partisanship on average perceptions. These effects represent differences between perceptions of each party, which we compare to observed demographic differences in the 2018 CCES.

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[2]See Appendix 4 for a formal presentation of the primary comparisons and consideration of an alternative approach.

[3]The categories included in this study do not represent the full range of racial, ethnic, or religious groups which may be stereotypically associated with one party or the other. In the Appendix we report estimates from an additional survey which asks about the likelihood of a partisan being affiliated with additional groups including separate measures of the likelihood of being Hispanic, Asian, or another race or ethnicity, as well as measures of a partisan being Protestant or Catholic. Across all categorizations, we impose groupings which imperfectly summarize racial, ethnic, and religious identity.

Average racial, ethnic, and religious perceptions

Figure 1 displays a summary of racial and ethnic group composition of each party (top row) along with average perceptions (second row) and average perceptions among respondents from each party (bottom two rows). Looking first at perceptions of the Democratic party, we can compare the top two rows and see that on average, respondents underestimate the percentage of Democrats who are White while overestimating the percentage of Democrats who are Black. This is consistent with conventional wisdom, and appears to be a stereotype that is held by members of both parties (as seen in the 3rd and 4th row of the Democratic party panel).

However, if we consider perceptions of the Republican party, we see that misperceptions follow a similar pattern. Republicans are seen as being more likely to be White than Democrats, and less likely to be Black, or to identify with other racial or ethnic groups (comparing the 2nd row of both panels). But on average, respondents substantially underestimate the likelihood of a Republican being White (comparing the 1st and 2nd row of the Republican party panel). Respondents estimate that 36% of Democrats and 19% of Republicans are Black. Both are overestimates, but the absolute error is greater for perceptions of the Republican party. For both parties, respondents who are not members of the party are slightly more accurate than respondents who are members of the party.[4]

Turning to religious perceptions, Republicans are seen as being more likely to be Christian and less likely to be Jewish, atheist or not religious, or to have another religious affiliation than Democrats (comparing the 2nd row of each panel). But we once again see similar misperceptions across parties. In both parties, the likelihood of being Jewish or have another religious affiliation is overestimated while the likelihood of being Christian or atheist or not religious is underestimated. Again, partisan respondents are slightly more accurate on average when assessing the religious composition of the out-party than their own.

For racial and ethnic as well as religious composition of the parties, perceptions of one party in isolation do not tell the full story. Viewing averages across both parties is one step toward providing context for these survey responses. Measuring perceptions of both parties allows us to provide further context by asking whether respondents generally under or over estimate the differences between parties. We address this question experimentally in the following section, and in an additional study described below.

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[4]This relative accuracy is driven by respondents estimating that their own party is less White than is estimated by out-partisans. These estimates may reflect a desire to present one's own party as racially diverse. However, we note that in Study 2 Democratic respondents estimate the Democratic Party to be more White than do Republican respondents, and both Republicans and Democrats again see the Republican Party as more White than the Democratic party. See Appendix 2.4.

Figure 1: Average perceptions of racial and ethnic composition of each party in the 2018 CCES
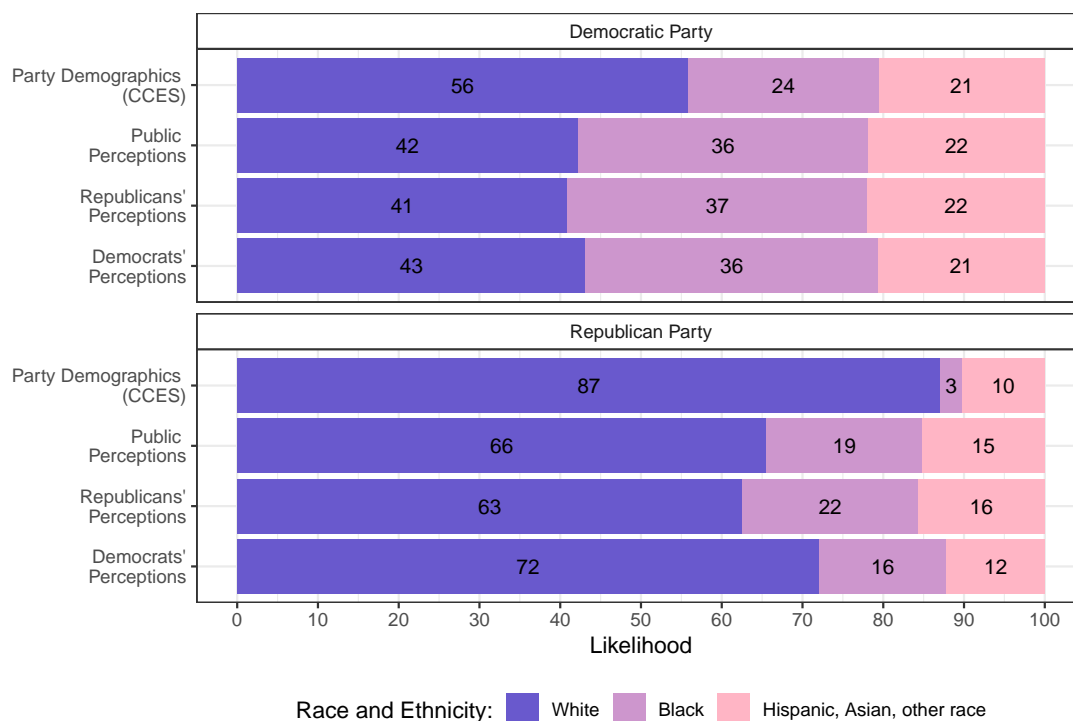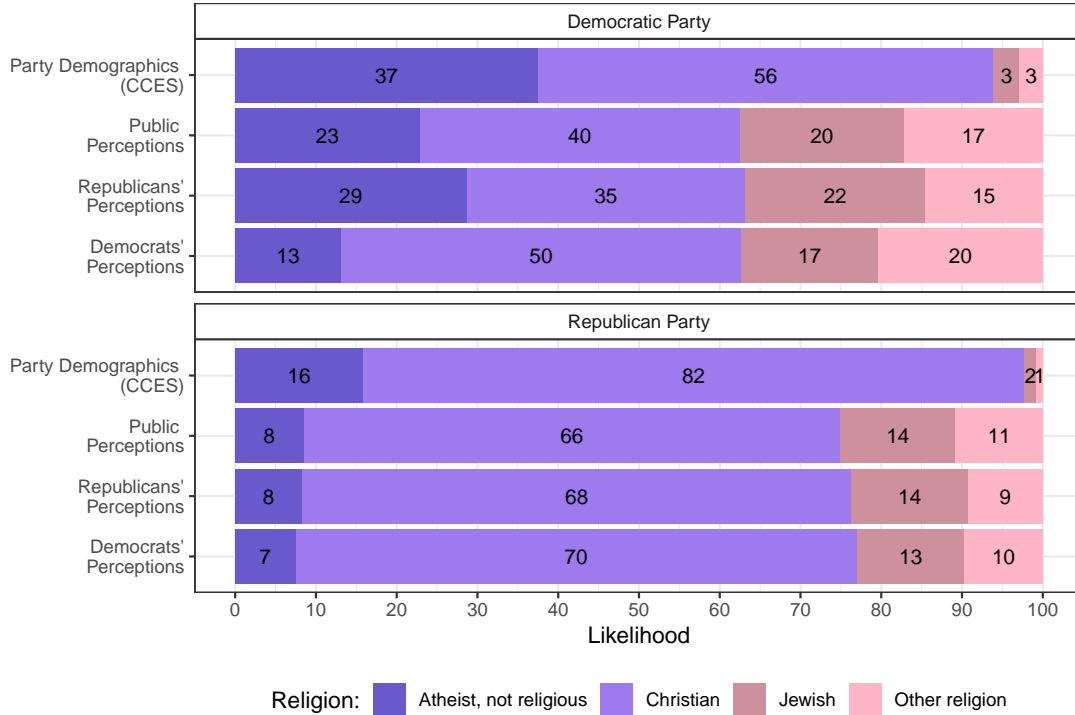

This figure plots the percentage of Democrats and Republicans in the CCES who identify with each racial or ethnic group, along with average perceptions of the likelihood that a Democrat or Republican identifies with each group, and the average likelihood estimated by members of each party.

Effect of partisanship on racial, ethnic, and religious perceptions

Respondents in Study 1 were randomly assigned to consider a member of the Democratic or Republican party. Figure 3 uses triangles to plot the effect of vignette partisanship on perceptions. For reference, we additionally use circles to plot the observed difference in likelihoods for a Democrat and a Republican having each trait.[5] We observe a high degree of similarity between perceived and observed partisan gaps. For the racial and ethnic groups, respondents slightly underestimate the distinction between the parties. Respondents additionally underestimate the difference in the likelihood of a Democrat and a Republican being atheist or not religious, while overestimating the small differences in the likelihood that members of each party are Jewish or have another religious affiliation. The average effect of a vignette's partisanship on the perceived likelihood that the person is Christian is very similar to the actually difference in the likelihood

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[5]Observed differences were estimated using measures drawn from CCES common content, weighted using the variable "commonweight."

Figure 2: Average perceptions of religious composition of each party in the 2018 CCES


This figure plots the percentage of Democrats and Republicans in the CCES who identify with each religious group, along with average perceptions of the likelihood that a Democrat or Republican identifies with each group, and the average likelihood estimated by members of each party.

that a member of each party is Christian.

In this experiment, we included a comprehension check to assess whether or not each respondent was paying attention and likely to be using the numeric scale in a way that corresponds to probability or percentages. Specifically, we asked respondents to estimate the likelihood that someone described as either a Democrat or a Republican was a member of the Democratic party, the Republican party, or was a political independent. Respondents who entered likelihood estimates of 100 for the stated party affiliation and 0 for the others were considered to have passed this test. Passage rates were similar for respondents asked to evaluate a Democrat (54%) or a Republican (53%), but were low in both arms, although respondents who fail to enter 100 do tend to estimate relatively high numbers.[6] This may indicate that some respondents are not paying attention, but there may also be a subset of respondents who express epistemic uncertainty or otherwise use the 0 to 100 scale in a way that only approximately corresponds to probability or frequency. Measurement error, whether due to inattentiveness, innumeracy,

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[6]If we consider all estimate over 90, we see approximate passage rates of 64% for Democratic vignettes and 63% for Republican vignettes.
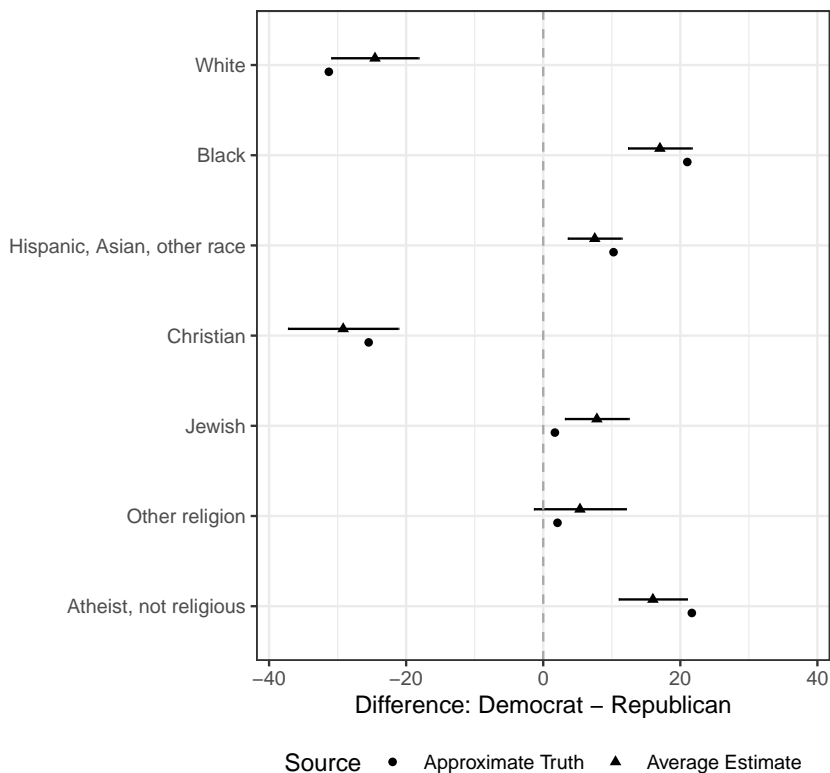
Figure 3: Effect of vignette partisanship on perceived traits in the 2018 CCES
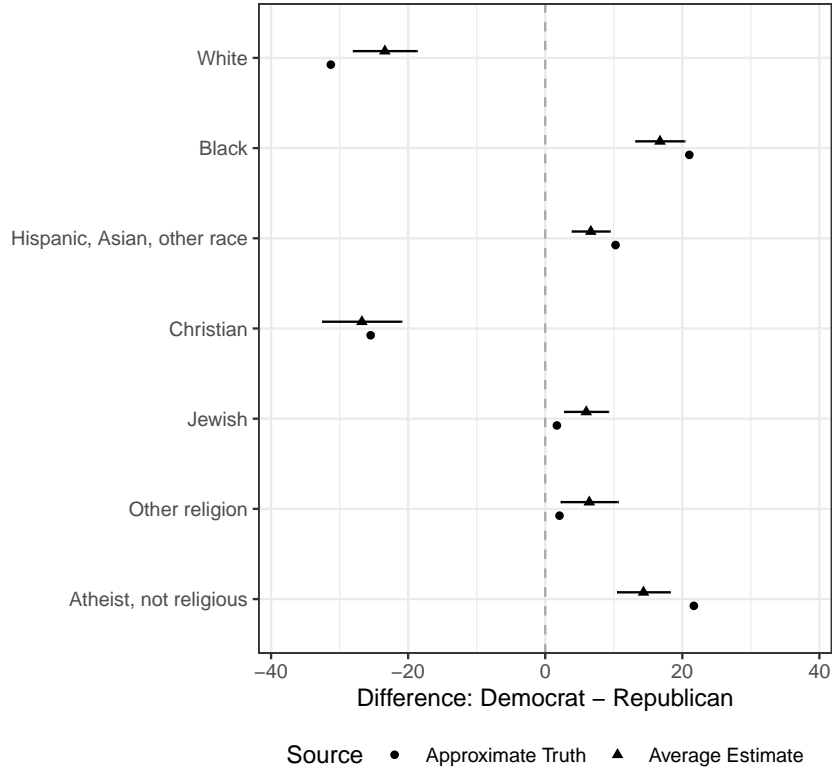
This figure plots the actual difference in the likelihood of a Republican and a Democrat having a trait as dots, and the difference between average estimated likelihoods as triangles, with 95% confidence intervals.

or any other reason why respondents might not report that all partisans belong to their party, complicates the comparison between estimated effects of partisanship and observed partisan differences, although we note that such measurement concerns are also likely present in surveys that compare perceptions of a single party to that party's composition. To partially address the concern that inattentiveness explains the patterns we observe, Figure 4 displays the same effects among the 308 respondents who passed this attention check. (This check was conducted after treatment, so conditioning on passage may confound our treatment effect estimates.) These respondents tend to be more politically engaged than respondents who do not give these responses. Even among this subset, perceived differences are not substantially larger than those observed differences between the parties.

Figure 4: Effect of vignette partisanship on perceived traits in the 2018 CCES among respondents who pass a comprehension check

This figure plots the actual difference in the likelihood of a Republican and a Democrat having a trait as dots, and the difference between average estimated likelihoods as triangles, with 95% confidence intervals, but excludes all respondents who do not report a likelihood of 100 that the partisan is a member of their stated party.

Study 2

In order to compare perceptions of partisans to the U.S. public as a whole, and to consider a wider variety of perceived group characteristics, we conducted a second survey experiment in January 2020. Respondents were recruited through Lucid, which uses quota sampling to recruit participants who are demographically similar to the U.S. public, but does not recruit nationally representative samples.[7] Across three arms, 840 respondents estimated the distribution of demographic traits of either the U.S. public, Democrats, or Republicans.[8] Respondents were given the following instructions:

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[7]Experimental effects estimated in studies using Lucid recruitment have typically been similar to estimates in studies using other common platforms (Coppock and McClellan 2019). See Appendix for re-weighted results.

[8]For a comparison of between vs within person designs, see Levendusky and Malhotra (2016).

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Suppose you meet a member of the American public [who is a Democrat / who is a Republican]. The following questions will ask you to guess how likely it is that this person has various traits and preferences on a 0 to 100 scale. One way to think about these questions is to imagine meeting 100 members of the American public [who are Democrats / who are Republicans]. How many of them have each trait or preference? If everyone in the group has a trait, enter 100. If only a few people in the group have a trait, enter a number closer to 0. If about half of the group has a trait, enter a number close to 50.

Respondents were then asked to separately assess the likelihood that a member of the American public, who may have additionally been described as a partisan, was White, female, under 40 years old, religious, straight, a union member, a college graduate, living in a city, and earning under $200,000 a year. All traits were designed to be binary, and the questions were typically phrased so as to randomly highlight one possible value or the other. For example, respondents were either asked about the likelihood of someone being over or under 40, either of which fully characterizes the (binary) age distribution.[9]

We estimate the effect of party affiliation on average perceptions relative both to a member of the public with unspecified partisanship and opposing partisanship. Specifically, we fit a series of linear models with robust standard errors: $estimate_i = \alpha + \beta pid_i + \epsilon_i$ where pid is randomly assigned conditional on respondent partisanship, and the regression is weighted by the inverse probability of the assigned treatment (pid).[10] To assess robustness, we estimate effects among strong partisans and compare out-party perceptions. We additionally assess robustness to alternative characterizations of party demographics as observed in the 2016 ANES and 2018 GSS. These results, along with average estimates, are reported in the Appendix.

Effect of partisanship on additional demographic perceptions

We again adopt a comparative framework for understanding perceived diversity by estimating average treatment effects of membership in one party relative to the other. These estimates are plotted on the left side of Figure 5 as triangles, along with circles indicating the actual difference in the likelihood of a Democrat or a Republican having a trait as estimated using data from the 2018 CCES.[11] All traits are coded such that the value more common among Democrats is displayed. We study a variety of demographic traits, including those on which

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[9]See Appendix for question wording.
[10]See Appendix for further formalization of this comparison, and alternative specifications.
[11]All measures were again drawn from common content, weighted using the variable "commonweight."

the parties are actually somewhat distinct, such as race and religiosity, and others such as high income for which there are minimal differences between the parties. Despite this variation, the size of the perceived partisan difference is fairly constant across many of these characteristics. Respondents overestimate the difference between the parties for only three relatively rare traits: LGB identification, union membership, and income over $200,000.[12]

Figure 5: Effect of vignette partisanship on perceived traits
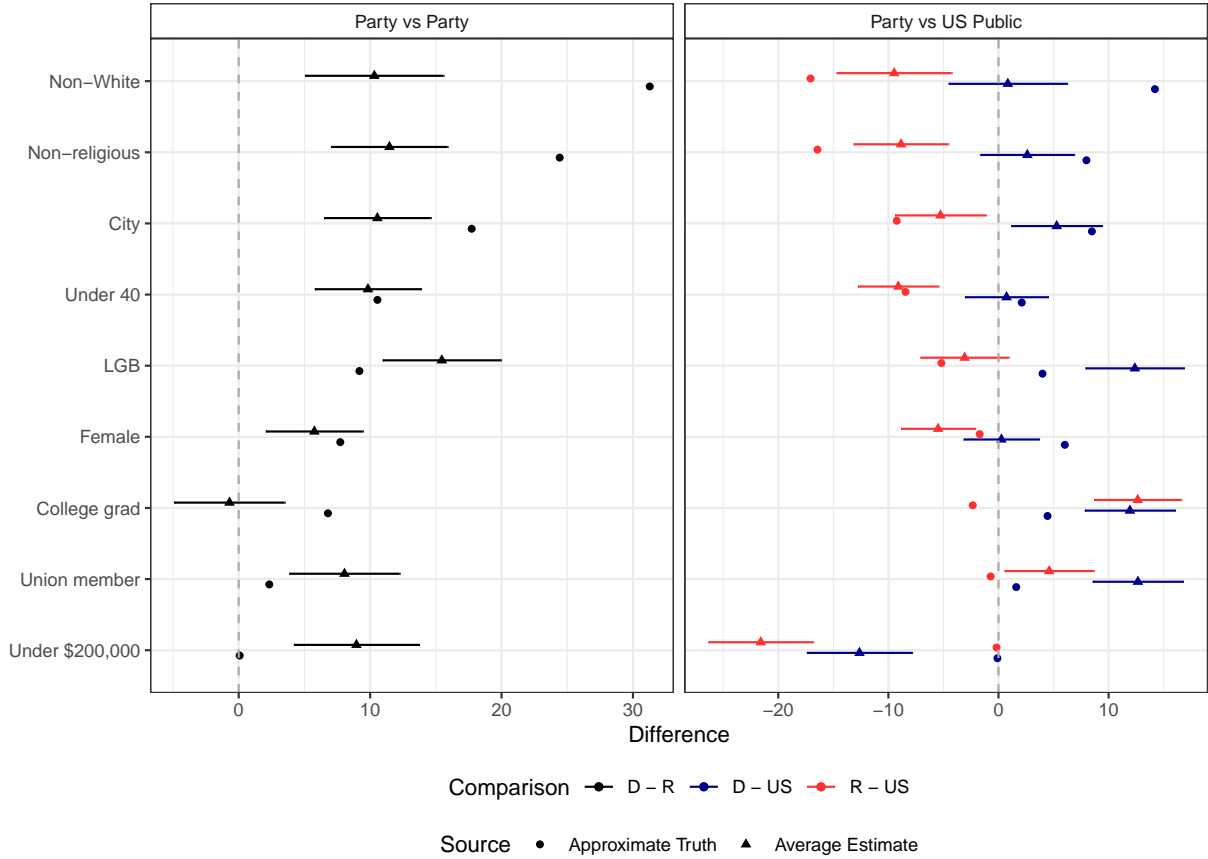
The left panel plots the actual difference in the likelihood of a Republican and a Democrat having a trait as black dots, and the difference between average estimated likelihoods as black triangles, with 95% confidence intervals. On the right, red (blue) dots plot the actual difference in the likelihood of a Republican (Democrat) and a member of the U.S. public having a trait. The red (blue) triangles plot the difference between average estimated likelihoods of a Republican (Democrat) and a member of the U.S. public having a trait, with 95% confidence intervals.

In addition to comparing the parties to each other, it is also instructive to view perceptions

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[12]For LGB identification and union membership, respondents still underestimate the ratio of how frequently Democrats have a trait relative to Republicans. The income measure, with virtually identical rates across parties, is the only trait for which this ratio is overestimated. See Appendix 4.

of the parties relative to the U.S. public as a whole. These estimates are plotted on the right side of Figure 5. In addition to the fact that parties are seen as being relatively similar to each other in terms of race and religiosity, this comparison provides evidence that respondents do not believe the parties to be particularly distinct from the public as whole on these dimensions. Furthermore, it is the Republican party that is perceived to be more distinct than the Democratic party on these measures. We see a similar pattern for age and gender, although average assessments of party differences along these dimensions, along with living in a city, are reasonably accurate.

In line with past evidence, we see that overestimates of the difference in sexual orientation between the parties is driven by overestimates of how often Democrats identify as LGB. But other overestimates are not consistent with previous explanations for inaccurate partisan stereotypes. Both Democrats and Republicans are seen as more likely to be college graduates, union members, and high income earners than members of the U.S. public.[13]

The Appendix presents a variety of robustness checks and further analysis. Although we observe some heterogeneity in these effects, similar underestimates of the difference between the parties are observed among strong and weak partisans. Even when comparing Democratic respondents' views of Republicans to Republicans' views of Democrats, the difference in perceived party composition is usually smaller than the actual difference. As noted in Study 1, there are measures for which out-partisans more accurately assess party composition.

Discussion

By analyzing the perceived likelihood of people in both parties having various traits, we demonstrate that evidence of demographic misperceptions is weaker than it appears when examining one party in isolation. Even among respondents who pass an attention/comprehension check, the effect of partisanship on perceived likelihood of someone having various traits is often smaller that the actual difference in demographic composition of the parties. The effect of partisanship relative to unspecified partisanship is sometimes in the same direction for both parties.

Characterizing the differential perceptions of each party is practically and theoretically important. Practically, limits in measurement technology make it difficult to interpret numerical

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[13]We note that while Republicans in the 2018 CCES reported having four year college degrees at a slightly lower rate than the general public, this pattern was reversed in the 2016 ANES and 2018 GSS, indicating that perceptions of all partisans having higher levels of education than the public, with a small difference between the parties, may be more accurate than it appears in this analysis. Results are otherwise robust to various characterizations of party demographics.

survey responses regarding party composition, particularly when considering one party in isolation. Similar challenges emerge frequently in the study of how mass perceptions shape attitudes, and have spurred research on the best technology for measuring and analyzing perceptions (Leemann, Stoetzer and Traunmueller 2021; Guay et al. 2020). We do not resolve the question of how to optimize measurement, but our comparative approach, which has been central to the study of policy preference polarization, takes a step toward contextualizing survey responses by incorporating perceived base rates directly into a comparison of differences in perceptions between parties and between the mass public and partisans. Additionally, it maintains the advantages of questions specifically focused on distributions of traits, by underscoring the fact that perceptions of averages need not mirror average perceptions (Judd and Park 1993). That is, when 96% of survey respondents state that the typical Republican is White (Valentino and Zhirkov 2018), that does not mean respondents typically imagine the Republican party as 96% White.

The perceived differences between parties are also central to theories of partisan affect. Our results imply that overestimates of demographic differences between the parties are unlikely to explain average hostility between partisan groups because these differences are typically underestimated. Perceived party demographics may of course still shape attitudes and our results do not speak to the role of perceptions in causing hostility. However, they demonstrate that caution is warranted when measuring demographic perceptions of a single party and in assuming that exaggerated perceptions of partisan demographic divergence drive animosity on the basis of responses about a single party. Similar to the way in which some negative feelings toward out-partisans can be understood as negative feelings toward partisans in general (Klar, Krupnikov and Ryan 2018), some stereotypes that have traditionally been associated with one party or the other (union membership and high income) may be better conceived of as stereotypes about partisans.

There are several reasons to be cautious in interpretation and theoretical application of these findings however. First, we have focused exclusively on perceptions of diversity within the parties. Perceptions of typical or modal traits may be a more important consideration in some context (e.g. forecasting someone's ideal position). Second, small treatment effects do not necessarily indicate that respondents generally view the demographic differences between parties to be unimportant, or that there are no members of the population who perceive large differences between the parties. Third, what appears to be a large treatment effect using a difference in means estimator may appear smaller using a ratio based estimator. Indeed, given

that there are important differences in estimated base rates, it may be more appropriate to consider other estimates (such as differences in ratios) to understand the relative magnitudes of misperceptions. Further research considering a greater variety of traits and accounting for differences in group size would be needed to identify traits for which the U.S. public misperceives the relative composition of the parties. We note, however, that it appears most differences we study are perceived to be smaller between the parties than they are.

Finally, measurement error may bias estimates of the effect of partisanship on perceptions downward and complicate comparisons between estimated effects and observed gaps in the composition of the parties. We have suggestive evidence that for a variety of reasons, many respondents do not to use the 0 to 100 scale in a way that neatly maps to percentages or probability as we intend it to. In expectation, attentiveness and various ways in which respondents use the scale will be balanced across treatment groups, but resulting differences in mean estimates should not be interpreted on the conventional probability scale. This is an even greater problem when interpreting average responses regarding perceived composition of one party in isolation, but it is a problem that our comparative approach is not able to fully overcome. We are, however, able to estimate the direction of effects without relying on a specific interpretation of the likelihood scale. And comparisons of treatment effects and observed partisan gaps still contribute to our broader understanding of partisan stereotypes.

Across nine demographic measures, we observe only one for which respondents overestimate the gap between the stereotypically associated party and the U.S. public, without also perceiving the same trend among the opposite party: Lesbian, Gay and Bisexual Democrats. (Even this overestimate, however, is sensitive to whether we specify differences in means or ratios.) More often, the perceived partisan gaps are too small, or in the same direction for Democrats and Republicans relative to perceived base rates. In general, party-specific stereotype measures presented in isolation paint an incomplete, often misleading picture of public perceptions.

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Appendix

Contents

1   Study 1

1.1   Survey Measures

Respondents were asked to think about a person who is a Democrat or a Republican, randomized. They were given the following directions along with a practice question:

We would like you to make a series of guesses about characteristics of the person described. For each characteristic, we will provide a list of options. For each option, tell us the likelihood that the option is their characteristic on a 0 to 100 scale, where 0 means that option is certainly not their characteristic (0 chance out of 100), 50 means that option is their characteristic with a probability of 50% (50 out of 100), and 100 means that option is certainly their characteristic. Across all options, the numbers you provide must add to 100. One easy way to think about this question is that if you met 100 people like the one described in the vignette, how many of them would have each option for their characteristic?

For example, how likely do you think it is that this person's favorite color is each of the options listed below?

1

Blue:

Green:

Other:

If you think it's most likely that the person's favorite color is blue, give blue the highest number. Perhaps there is a 60% change that their favorite color is blue, and a much lower change that it is green, only 30%. That leaves a one in ten chance, (100 - 60 - 30 = 10%), that they have some other favorite color. In this case, you would enter 60, 30, and 10.

How likely do you think it is that the person is...

a Republican:

a Democrat:

an Independent or something else:

How likely do you think it is that the person has each religious affiliation?

Christian:

Jewish:

Atheist or not religious:

Something else:

How likely do you think it is that the person is...

White

Black:

Hispanic, Asian, or something else:

1.2 Sample Demographics

Table A.1: Survey respondent demographics

Gender	Female = 55%
	Male = 45%
Age	Median = 51 years
Race & Ethnicity	Non-Hispanic White = 73%
	Non-Hispanic Black or African American = 11%
	Hispanic or other race or ethnicity = 16%
Partisanship, including leaners	Republican = 40%
	Independent = 15%
	Democrat = 45%

1.3 Sample Recruitment and Survey Administration

This survey was included on a potion of two team modules of the 2018 Cooperative Congressional Election Study (CCES). Most CCES participants are recruited and compensated through the YouGov panel, and the survey is additionally advertised online. It is designed to reach a sample that is representative of U.S. adults. For further details, see: `https://cces.gov.harvard.edu/` After consenting and completing common content, respondents were asked module specific questions including those used in this study. Treatment was assigned randomly, independent of respondent characteristics. This study reports average responses to a subset of survey questions, including all questions regarding demographic perceptions of partisan groups in the United States.

2 Study 2

2.1 Survey Measures

Respondents were asked the following questions in a random order with bracketed text randomized (equal probability across options).

- How likely is it that they are [female / male]?

- How likely is it that they make [$200,000 a year or more / less than $200,000 a year]?

- How likely is it that they live [in a city / somewhere outside of a city, such as a town or rural area]?

- How likely is it that they are [40 year old or older / under 40 years old]?

- How likely is it that they are [White / Black, Hispanic, Asian, or another non-White race or ethnicity]?

- How likely is it that they have a 4 year college degree?

- How likely is it that they think religion is an important part of their life?

- How likely is it that they are a member of a labor union?

- How likely is it that they identify as gay, lesbian, or bisexual?

2.2 Sample Demographics

Table A.2: Survey respondent demographics

Gender	Female = 54%
	Male = 46%
Age	Median = 43 years
Race & Ethnicity	Non-Hispanic White = 69%
	Non-Hispanic Black or African American = 11%
	Non-Hispanic Asian = 4%
	Hispanic = 13%
	Other race or ethnicity = 3%
Income	Median = $35,000 to $39,999
Ideology	Extremely conservative = 9%
	Conservative = 16%
	Slightly conservative = 8%
	Moderate = 28%
	Slightly liberal = 10%
	Liberal = 13%
	Extremely liberal = 9%
Partisanship, including leaners	Republican = 37%
	Independent = 16%
	Democrat = 47%

2.3 Sample Recruitment and Survey Administration

This survey was conduced in January 2020. A link to the Qualtrics survey was distributed to participants through Lucid, which in turn works with a variety of organizations to reach a diverse pool of adults in the United States. All adults in the United States were eligible to complete the survey. Participants who recorded their consent were directed to the questionnaire. The confidential survey did not deceive participants, intervene into a political process,

or subject participants to greater benefits or risk of harm than is experienced in every day life. Treatment text can be seen in the main text. Treatment was assigned randomly, conditional on respondent partisanship. All respondents had a 1/3 (0.33) chance of being asked about a member of the American public. Independents then had a 1/3 (0.33) chance of being asked about a Democrat or a Republican. Partisans, including leaners, had a 27/60 (0.45) chance of being asked about an out-partisan and a 13/60 (0.22) chance of being asked about a co-partisan. Responses are reweighted accordingly. Outcome question wording is listed above. Additional questions were included in the survey, but all questions regarding the perceived distribution of demographics within U.S. parties are reported here. Participants who completed the survey received compensation from the organization that recruited them, in accordance with the advertised terms. Compensation can take the form of small cash payments or services from the organization (such as game tokens.) No external funding was used in the process of conducting this survey experiment.

2.4 Average Rates and Estimates

Table A.3: Observed rates from the 2018 CCES

	Democrats	Republicans	U.S. Public
Lives in a city	37.87	20.15	29.39
Female	57.52	49.79	51.50
Under 40	41.27	30.72	39.16
Gay, Lesbian, Bisexual	11.92	2.73	7.92
College graduate	34.35	27.56	29.90
Non-white	44.17	12.89	29.96
Non-religious	43.24	18.81	35.25
Income under $200,000	97.30	97.22	97.39
Union member	7.70	5.37	6.09

Note: Entries represent the percentage of Democrats, Republicans, and members of the U.S. public with each trait, as estimated from the 2018 CCES. All estimates are weighted to target the U.S. adult population.

Table A.4: Observed rates from the 2016 ANES

	Democrats	Republicans	U.S. Public
Lives in a city	27.54	11.32	19.15
Female	56.38	47.53	51.82
Under 40	40.80	31.16	37.24
Gay, Lesbian, Bisexual	8.41	2.28	6.14
College graduate	34.46	33.54	31.69
Non-white	38.47	12.49	26.94
Non-religious	43.25	23.53	35.62
Income under $200,000	99.87	99.91	99.91
Union member	10.13	5.93	7.98

Note: Entries represent the percentage of Democrats, Republicans, and members of the U.S. public with each trait, as estimated from the 2016 ANES. All estimates are weighted to target the U.S. adult population.

Table A.5: Observed rates from the 2018 GSS

	Democrats	Republicans	U.S. Public
Lives in a city			
Female	57.91	49.48	54.46
Under 40	40.41	34.17	39.77
Gay, Lesbian, Bisexual	3.95	1.82	3.01
College graduate	36.08	32.27	30.66
Non-white	48.65	16.78	36.29
Non-religious	52.35	38.32	47.28
Income under $200,000			
Union member	8.98	6.49	6.99

Note: Entries represent the percentage of Democrats, Republicans, and members of the U.S. public with each trait, as estimated from the 2018 GSS. All estimates are weighted to target the U.S. adult population. We were unable to identify measures of geographic residence or income sufficiently analogous to those in the ANES and CCES. The religiosity measure is also notably different, capturing responses to the question "how religious are you" rather than "how important is religion to your life."

See section 3 for main analysis of partisanship effect relative to differences observed in the 2016 ANES and 2018 GSS, and further discussion of survey differences.

Table A.6: Average estimates

	Democrats	Republicans	U.S. Public
Lives in a city	59.21	48.65	53.92
Female	49.55	43.80	49.29
Under 40	48.69	38.86	47.96
Gay, Lesbian, Bisexual	44.71	29.25	32.33
College graduate	59.06	59.76	47.12
Non-white	41.13	30.81	40.28
Nonreligious	47.91	36.44	45.29
Income under $200,000	56.81	47.85	69.44
Union member	48.65	40.60	35.98

Note: Entries represent the sample average likelihood estimate for individuals who are Democrats, Republicans, or members of the US public for each trait.

Figure A.1: Average likelihood estimates by respondent partisanship

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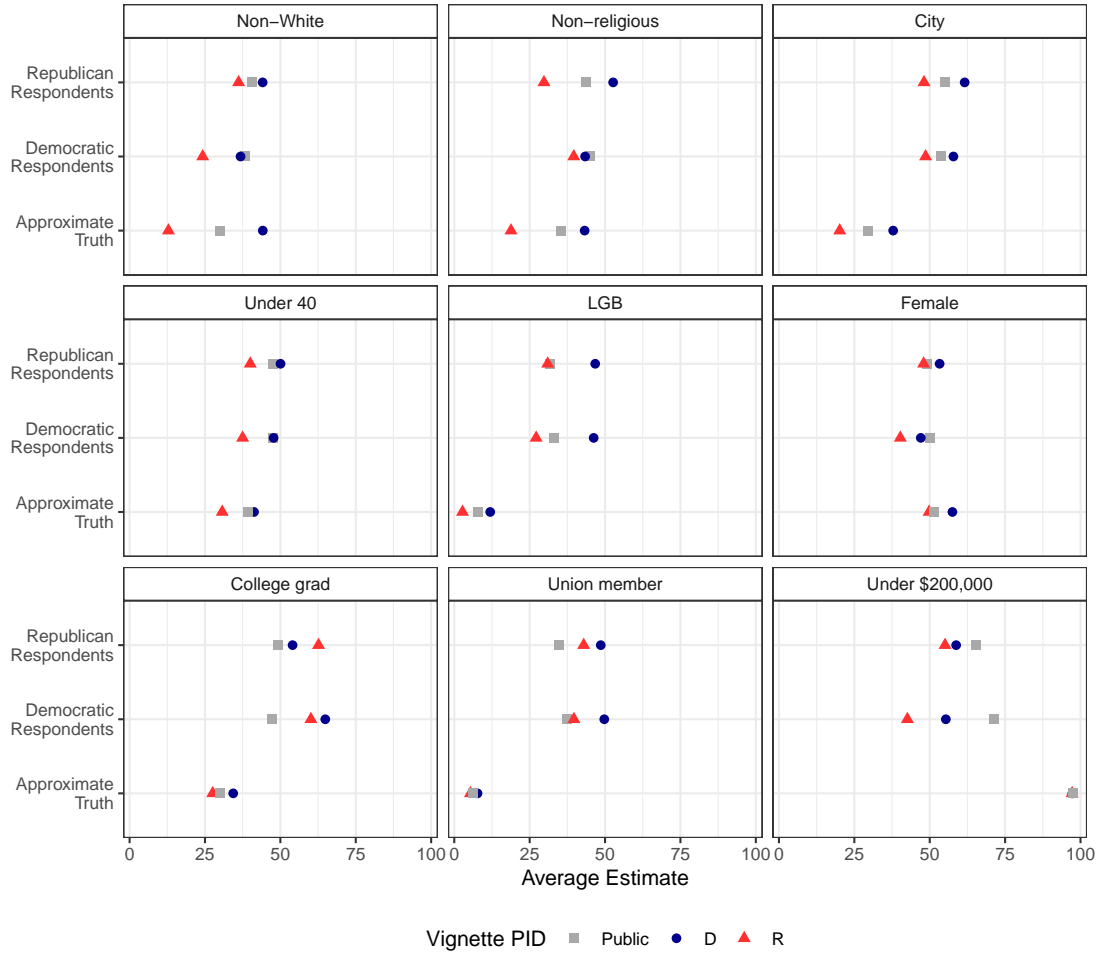
Note: Each point on the top two rows represents the average likelihood estimate made by Democratic respondents and Republican respondents when asked to consider a Democrat (circles), Republican (triangles) or a member of the American public (squares). The bottom row shows the weighted percentage of partisans and members of the general public in the CCES reporting each trait.
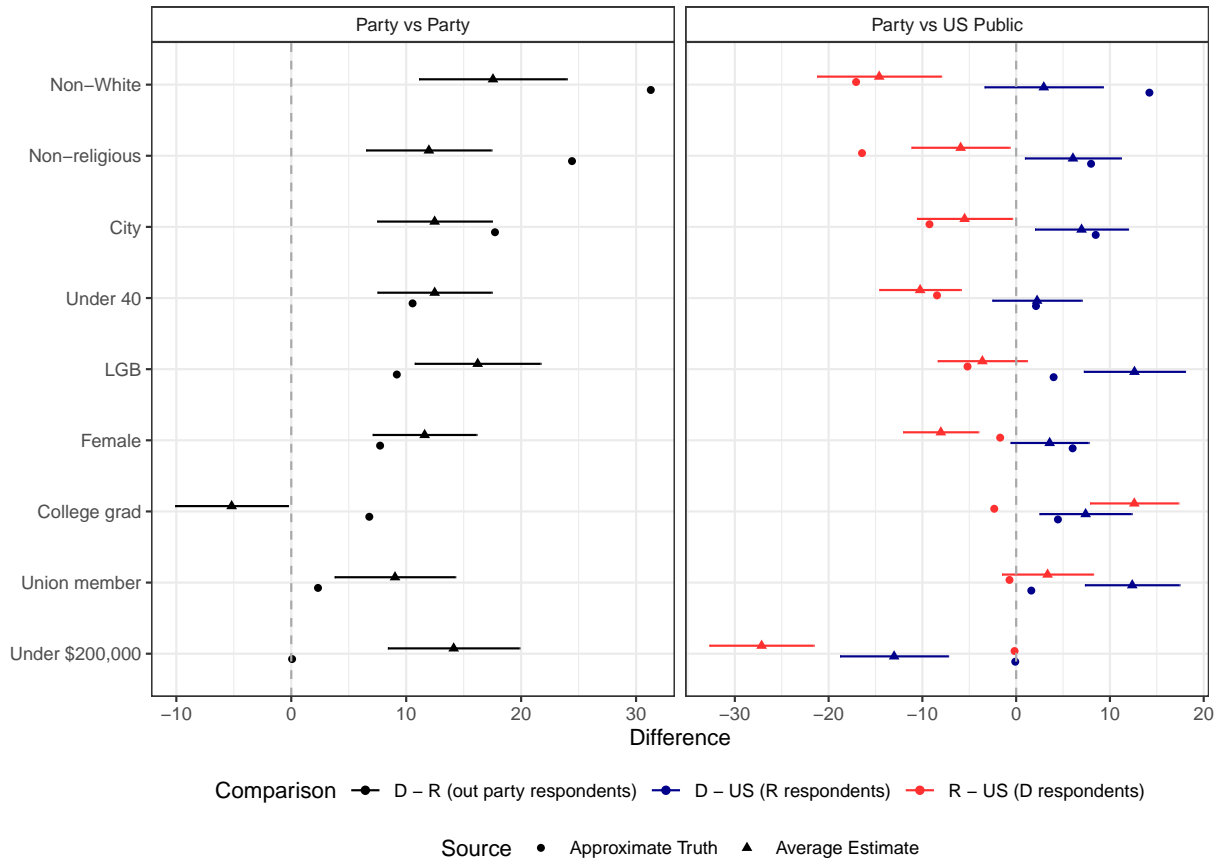
2.5 Subgroup Treatment Effects

Figure A.2: Effect of vignette partisanship on perceived traits among strong partisans
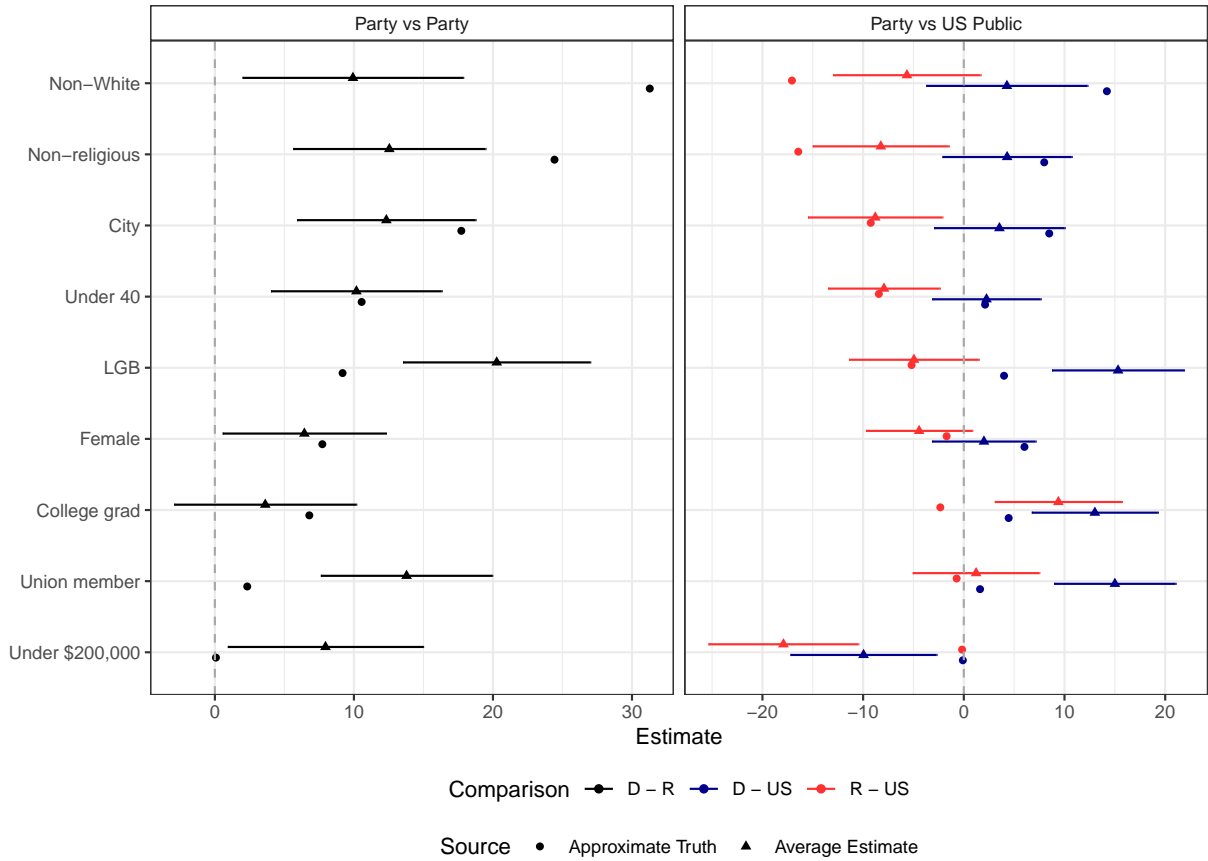
Note: This figures plots the same information contained in Figure 5, but only includes responses from the subset of 379 respondents who identified as strong partisans. In addition to LGB identification, strong partisans overestimate the gap in union membership due to an overestimate within the stereotypically associated party.
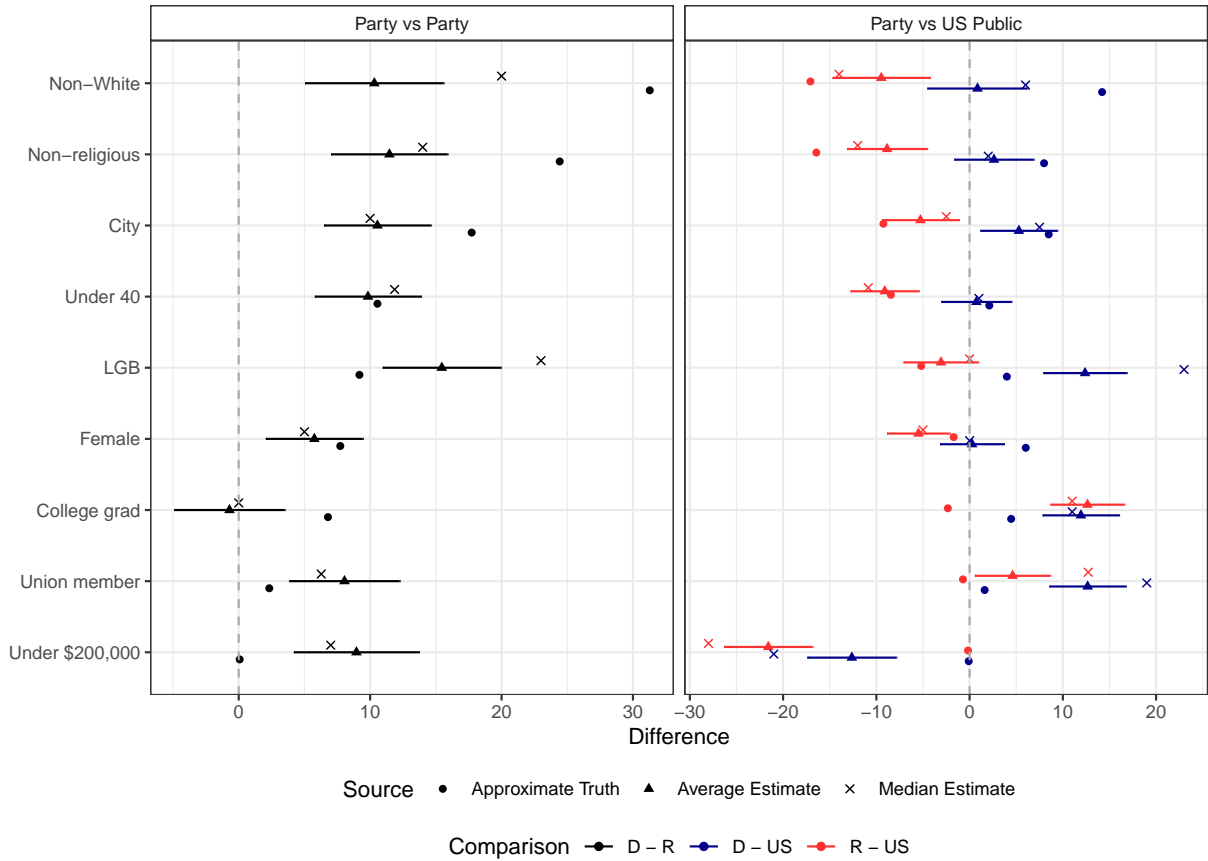
Figure A.3: Effect of vignette partisanship on perceived out-party traits

Note: This figures plots the same information contained in Figure 5, but only includes responses from the subset of 558 respondents who were asked to consider out-partisans. The "effects" in the left panel are therefore descriptive differences between how Democrats view Republicans, and how Republicans view Democrats. On the right, average estimates do represent two sets of subgroup average treatment effects.
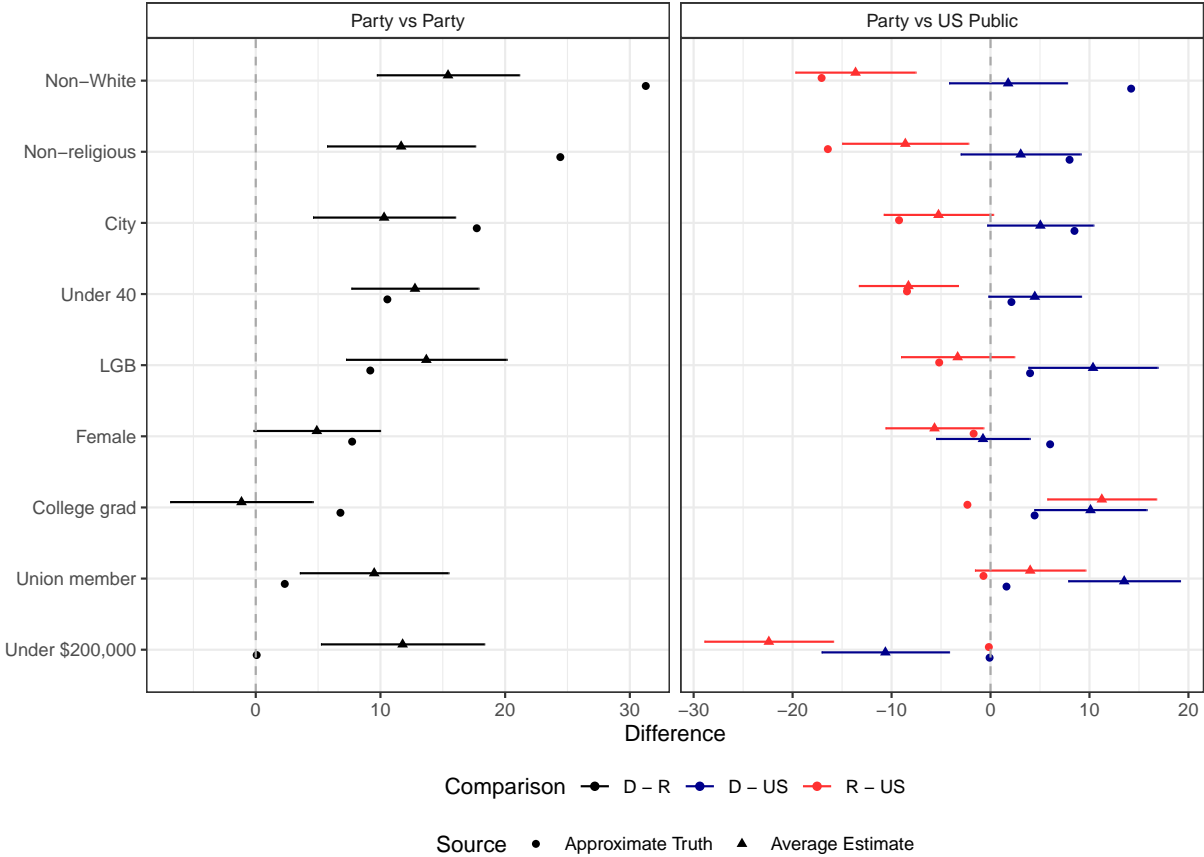
2.6 Alternative Specifications

Figure A.4: Effect of vignette partisanship on mean vs median perceptions

Note: This figures plots the same information contained in Figure 5, but additionally displays the difference in median likelihood estimates (x).

Figure A.5: Effect of vignette partisanship weighted to target U.S. population

Note: This figures plots the same information contained in Figure 5 after re-weighting all observations. Weights were constructed to target the U.S. adult population gender, age, race, education, and income distributions.

3 Alternative Characterizations of Party Demographics: ANES and GSS

In the main text, we compare perceptions of party demographics to demographics observed among CCES respondents who identify with each party (weighted). Here, we compare the party demographics observed in the 2018 CCES to those observed in the 2016 ANES and 2018 GSS. Two estimates are excluded from the GSS analysis (city and income under $200,000) because comparable items are not available across surveys. Some variables are expected to be similar across surveys, such as age. In other cases, different measures are used across the surveys. For example, importance of religion is a four level multiple choice question in the CCES, a two level question in the ANES, and a four level questions instead asking how religious someone is in the GSS. The categorization of religion differs substantially across the surveys. The ANES income categories include a $175,000 to $250,000 range, which is coded here as "over $200,000." The options a respondents are given to describe their geographic location also differ between the ANES and CCES, where we count people who report living in a "city" in the CCES and people who report living in an "urban" area in the ANES. The variation between surveys thus captures variation due to question wording in addition to variation in survey distribution procedures and sampling variability.

Study 1 was conducted as part of the 2018 CCES with perception measures designed for comparison to common content demographic measures. But when we estimate the racial, ethnic, and religious composition of the parties using data from the ANES and GSS we see slight differences in apparent demographics. The most important difference for the interpretation of our results is in the relative number of people who are categorized as Christian rather than Atheist or not religious. We suspect that this variation primarily reflects the fact that religious categories are not mutually exclusive. Question wording can affect reported religious identification both through the definition of religion and through the set of available answer options. Sampling variability and differential weighting strategies may additionally contribute to differences across surveys. These differences do not change our substantive interpretation of Study 1 results.

For the most part, party demographics in Study 2 appear to be similar across surveys. One trait for which the CCES estimates stand out as a potential outlier is college graduation. Democrats and Republicans in the 2016 ANES report similar rates of college graduation, both slightly higher than the U.S. population average. A small gap appears in the GSS, but Republicans still report higher rates of college graduation than the general public, which is consistent

Figure A.6: Effect of vignette partisanship relative to alternative baseline party demographic measures
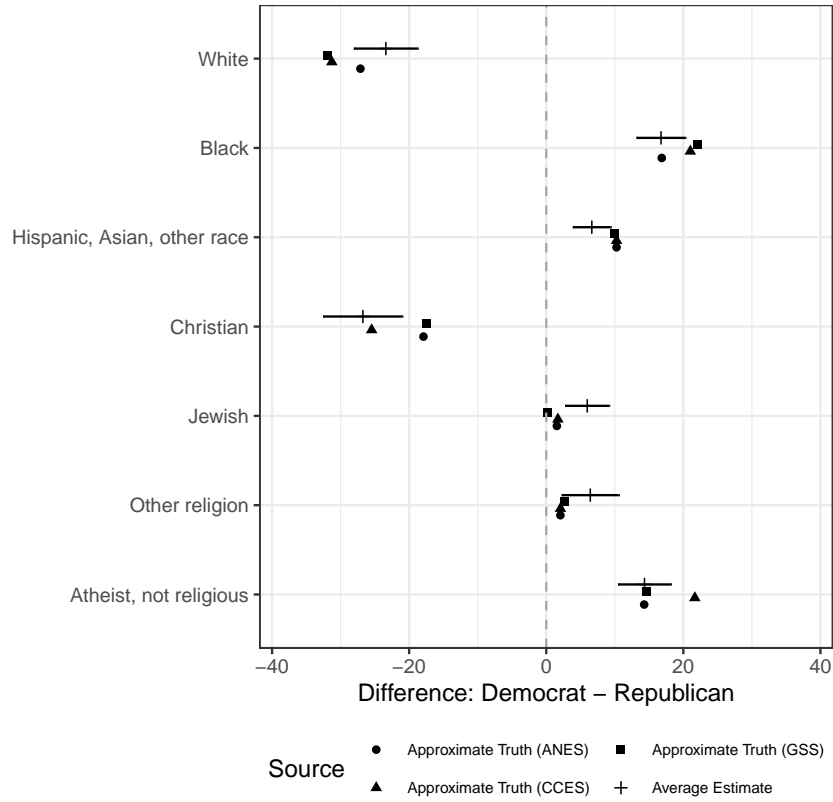
Note: This figures plots the same information contained in Figure 3 with the addition of points indicating the "approximate truth" as estimated using data from the 2016 ANES and 2018 GSS.

with mass perceptions of the Republican party relative to the U.S. public. The apparent party gap is largest in the CCES, with Republican respondents reporting slightly lower rates of college graduation than the general public. This set of results suggests that respondent perceptions with regard to college education may be slightly more accurate than they appear in the main analysis, although respondents still appear to overestimate the difference between partisans and the U.S. public using any characterization of party demographics.

Figure A.7: Effect of vignette partisanship relative to alternative baseline party demographic measures
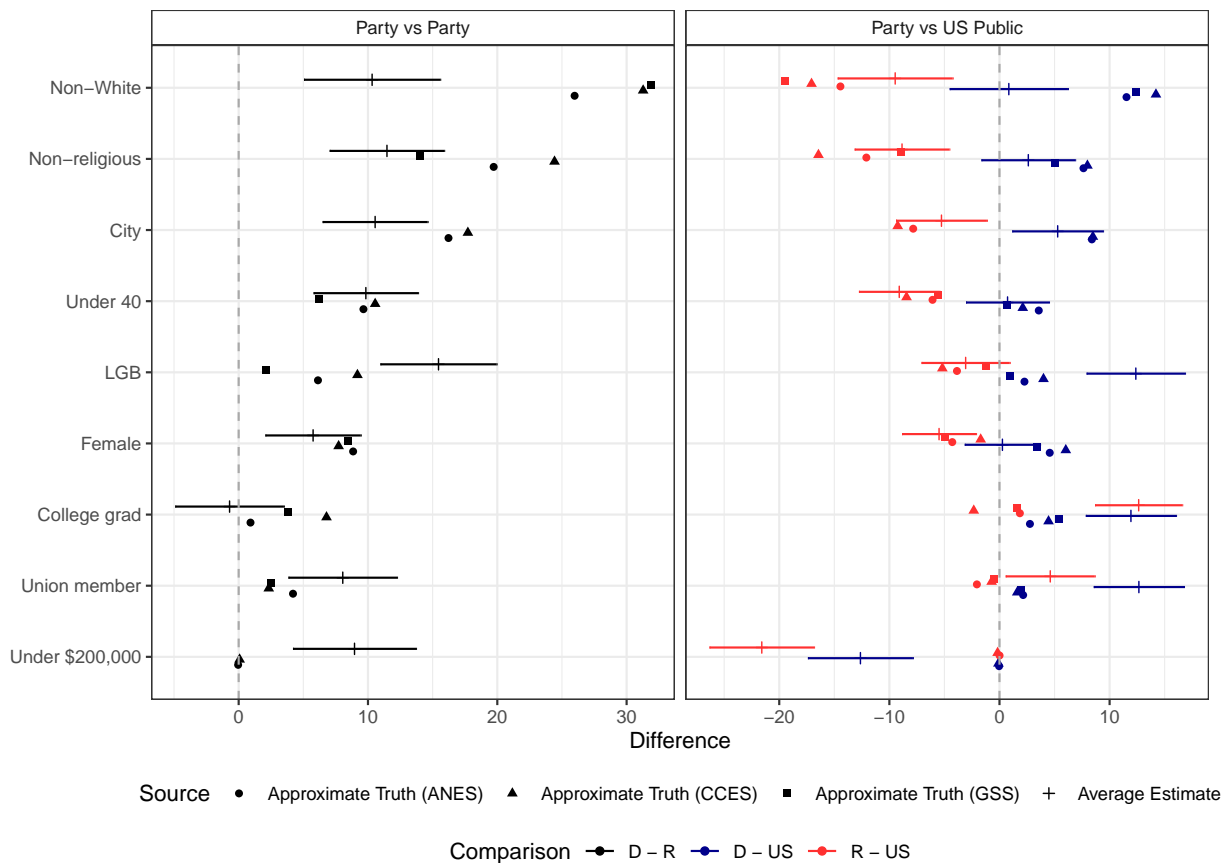
Note: This figures plots the same information contained in Figure 5 with the addition of points indicating the "approximate truth" as estimated using data from the 2016 ANES and 2018 GSS.

4 Characterizations of Party Difference

We have utilized the framework of difference in means throughout this analysis. To formalize this comparison, consider a binary trait $T \in \{0, 1\}$ which may appear in two parties, $PID \in \{D, R\}$. There is a perceived probability P and an actual probability A and that someone has the trait. Our strategy has been to estimate the difference between the perceived probability that someone has a trait across parties, and to compare that the the actual difference in the probability that someone has a trait across parties.

$$(\Pr[T = 1|PID = D]_A - \Pr[T = 1|PID = R]_A) -$$
$$(\Pr[T = 1|PID = D]_P - \Pr[T = 1|PID = R]_P) \tag{1}$$

The first line of this equation is the actual difference between Democrats and Republicans in having trait T, while the second line is the perceived difference between Democrats and Republicans in having trait T. Assuming trait T is more common among Democrats, if perceptions of differences between the parties are exaggerated, this difference in differences should be negative.

We use a between subjects design, so the perceived probabilities (in the bottom line of Equation 1) are estimated separately for each party. With random assignment of party, this is analogous to estimating the average treatment effect of party on perceived trait probability. Our main analysis presents each 1st difference - that shown on the top line and the bottom line of Equation 1. Here we present the difference in differences for Study 2. However, we note that this analysis does not account for uncertainty in our characterization of party demographics. We are primarily interested in the sign of this quantity, which conventional wisdom suggests would be negative. We interpret our estimates, which are mostly positively, as a failure to find strong evidence that partisan differences are typically exaggerated.

Area	Actual D - R CCES	Perceived D - R Estimate (SE)	Diff in diff
City	17.72	10.55 (2.07)	7.17
Female	7.73	5.75 (1.88)	1.97
Under 40	10.55	9.83 (2.06)	0.72
LGB	9.18	15.45 (2.29)	-6.27
College grad	6.79	-0.7 (2.14)	7.49
Non-White	31.28	10.32 (2.69)	20.96
Non-religious	24.43	11.47 (2.26)	12.96
Under $200,000	0.07	8.96 (2.43)	-8.88
Union member	2.33	8.05 (2.14)	-5.72

Table A.7: Difference in differences summary of Study 2

This is not the only way to conceptualize party differences. For example, we could alternatively compare the perceived ratio of trait prevalence in each party to the observed ratio, as shown in Equation 2.

$$\frac{\Pr[T=1|PID=D]_A}{\Pr[T=1|PID=R]_A} - \frac{\Pr[T=1|PID=D]_P}{\Pr[T=1|PID=R]_P} \tag{2}$$

For example, in the CCES there is only a 2.3 point difference in the probability that a Democrat vs. a Republican reports being a member of a labor union. The treatment effect of being described as a Democrat rather than a Republican on estimated likelihood of being a union member is 8.1 points. This is one of the exaggerated differences we document above. But

being a union member is rare in the United States today. Although there is only a 2.3 point difference, Democrats are 1.4 times as likely to be union members as Republicans. Respondents estimate that union membership is much more frequent than it is. Although they exaggerate the absolute difference, they estimate that a Democrat is only 1.2 times as likely to be a union member relative to a Republican. Overall, while the difference in difference framework provides important context for interpretations of party specific perceptions, it does not allow us to fully characterize demographic perceptions of U.S. parties.

Area	Actual D / R CCES	Perceived D / R Estimate (SE)	Diff in ratio
City	1.88	1.22 (0.05)	0.66
Female	1.16	1.13 (0.05)	0.02
Under 40	1.34	1.25 (0.06)	0.09
LGB	4.36	1.53 (0.1)	2.83
College grad	1.25	0.99 (0.04)	0.26
Non-White	3.43	1.33 (0.1)	2.09
Non-religious	2.30	1.31 (0.08)	0.98
Under $200,000	1.00	1.19 (0.06)	-0.19
Union member	1.43	1.2 (0.06)	0.23

Table A.8: Difference in ratios summary of Study 2

Figure A.8: Ratio based effect of vignette partisanship
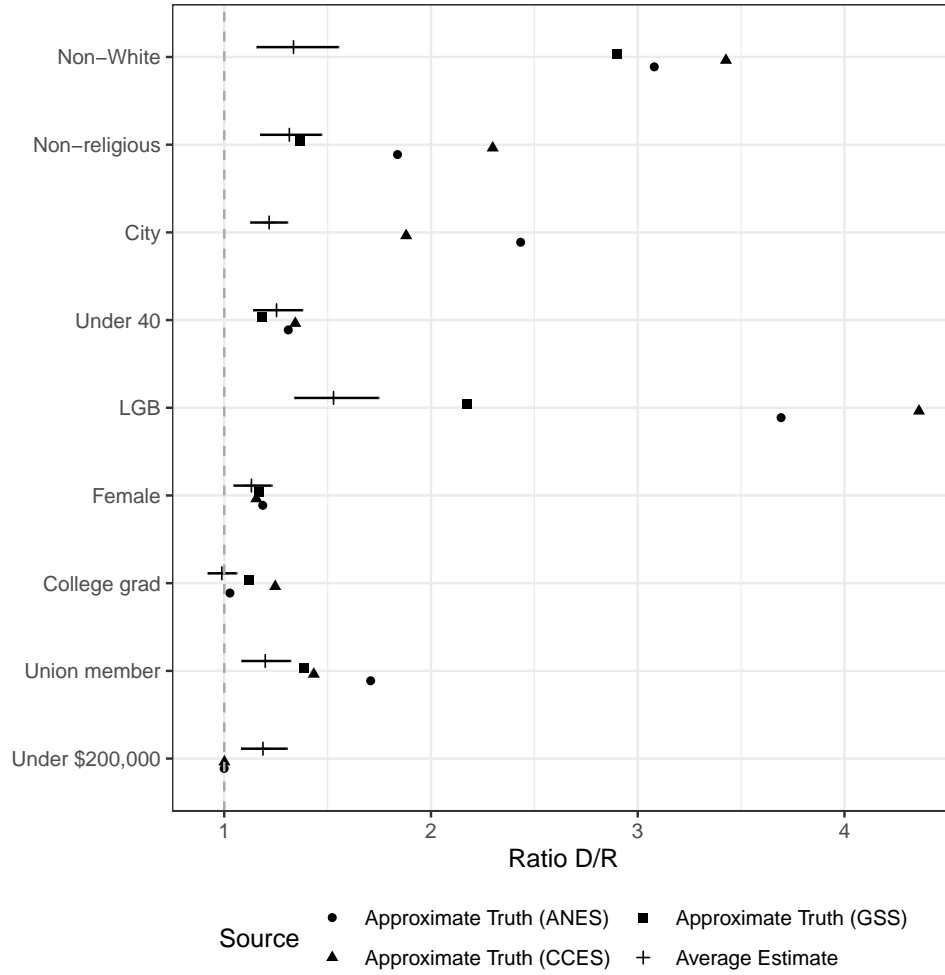
Note: This figures plots the perceived (or observed) proportion of Democrats with each trait divided by they perceived (or observed) proportion of Republicans with each trait in Study 2.

5 Replication with additional racial, ethnic, and religious groups

In May 2018, we fielded a survey through Lucid which asked 634 respondents to estimate the likelihood that a Democrat or a Republican identified with racial, ethnic, and religious groups. We asked that numeric responses across all categories sum to 100. Because this survey was fielded prior to the 2018 CCES, we compare the effect of vignette partisanship to the difference in likelihoods observed in the 2016 ANES, weighted to target the U.S. population. Figure A.9 plots average treatment effects.

We see the familiar pattern of effects in the direction of observed differences. Respondents appear to recognize that Republicans are more likely to be White and Protestant than Democrats, but underestimate the actual demographic differences between the parties. A symmetric pattern appear for Black, Hispanic, and Atheist or not religious partisans. We note that with a five level race and ethnicity question, respondents estimate that only 14% of Republicans and 24% of Democrats are Black.

Figure A.9: Effect of vignette partisanship on perceived positions and traits in a 2018 Lucid survey