

A Gap in Our Understanding? Reconsidering the Evidence for Partisan Knowledge Gaps

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ABSTRACT

Conventional wisdom suggests large, persistent gaps between partisans' stores of political knowledge, fanning concerns about democratic accountability. We reconsider the frequency and size of these "partisan knowledge gaps," assembling a dataset of 162,083 responses to 187 items on 47 surveys. We find these gaps are smaller and less frequent than commonly understood; the average is a mere six and a half percentage points and gaps' "signs" run counter to expectations roughly 30% of the time. Additionally, while most question features fail to predict gap size, we find that questions featuring vague response options allow individuals to interpret potential answers through their own biases, inflating gaps' magnitudes. Our findings suggest that knowledge gaps — when they do exist — stem more from motivated responding than genuine differences in factual knowledge.

Keywords: Measurement error in survey data; political psychology; biases; heuristics; public opinion

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Factual knowledge about politics has long been viewed by scholars as key to democratic competence. Higher levels of political knowledge correspond to a number of normatively desirable outcomes, including higher levels of political tolerance and support for democratic norms, more active participation in politics, and more stable and consistent opinions on political matters (Converse, 1964; Delli Carpini and Keeter, 1996; Galston, 2001). Political knowledge also helps facilitate connections between individual group identities and policy views, which can then be applied to evaluations of public officials and parties in a way that increases democratic accountability (Delli Carpini and Keeter, 1996).

Political knowledge's centrality to democratic health is perhaps why so many are troubled by the fact that Democrats and Republicans appear to differ in their knowledge of politics. Partisans' biased interpretation and retention of political facts appears in public opinion data reaching at least as far back as the 1980s (e.g., Bartels, 2002; Jerit and Barabas, 2012). As such, the idea of large partisan knowledge gaps — differences in the types of information that Democrats and Republicans know — has become axiomatic in political science. Indeed, as Bullock *et al.* (2015) note, conventional wisdom in the discipline suggests that there is “a persistent pattern in American public opinion [of] the presence of large differences between Democrats and Republicans in statements of factual beliefs” (p. 520). Everyday Americans seem to be catching on as well. A poll conducted by the Pew Research Center in 2018 demonstrated that nearly eight in ten Americans believe that Democrats and Republicans not only disagree on plans and policies, but on facts as well (Laloggia, 2018).

Large knowledge gaps stemming from partisan biases are concerning. Just as high levels of political knowledge can lead to better citizenship, mass disagreement about politically consequential facts can impede democratic governance and representation. Theories of retrospective accountability hinge on citizens' ability to judge how well incumbents have performed in office (Fiorina, 1981; Key and Cummings, 1966; Kramer, 1971). If Republicans and Democrats rely upon different sets of facts to make these judgments, elected officials have weaker incentives to work for their constituents. Partisan disagreement about basic facts also reduces the possibility of meaningful dialogue. If Republicans and Democrats disagree about how the economy is doing, a discussion about policies for improving the economy is unlikely to follow.

Given the long shadow that these gaps cast on the health of democracy, understanding how often and to what extent partisans differ in their knowledge of political facts is vital. To study the issue, we assembled a large dataset of partisan-relevant knowledge items. To do so, we made use of data from three prominent studies on the nature and pervasiveness of partisan knowledge gaps (Bullock *et al.*, 2015; Jerit and Barabas, 2012; Prior *et al.*, 2015). We find that partisan knowledge gaps are highly variable, and that large differences in what Democrats and Republicans believe are less common than conventional wisdom suggests. In fact, fewer than one in three partisan knowledge gaps are

larger than 10 percentage points. In addition, nearly one in three partisan knowledge gaps are in the “wrong” direction, that is, when partisans know less party-congenial information than their opponents. In addition, more than half of the gaps in the expected direction are not statistically significant at conventional levels, despite large sample sizes. On the whole, the average knowledge gap between Democrats and Republicans is just six and a half percentage points.

We attempt to reconcile these findings with the conventional wisdom that partisan knowledge gaps are large and pervasive. We find little evidence that features of question-wording systematically affect the size of such gaps. We do, find, however, that the wording of response options matters. Specifically, we find that much of the conventional wisdom surrounding the ubiquity and size of knowledge gaps can be traced to American National Election Studies (ANES) questions, which include vague response options that encourage respondents to interpret meaning based on their own partisan biases. In a companion paper, using an original experiment, we demonstrate that vague response options of this type can produce partisan knowledge gaps *even when* Democrats and Republicans know the answer (Roush and Sood, 2021). Taken together, our results support the conclusion that partisan knowledge gaps — when they do exist — are more an artifact of “partisan cheerleading” (Bullock *et al.*, 2015; Prior *et al.*, 2015) or motivated guessing than a reflection of genuine differences in knowledge.

Partisan Learning and Political Knowledge

During Bill Clinton’s first term as president, the US budget deficit shrunk from \$255 billion to \$22 billion. Near the end of 1996, when the ANES asked a representative sample of Americans whether the budget deficit had decreased, increased, or remained the same over the past four years, far fewer Republicans than Democrats knew that the deficit had declined. While 39% of Democrats correctly identified that the budget deficit had decreased, only 25% of Republicans did the same (Achen and Bartels, 2016, p. 280).

Such large discrepancies are considered neither anomalous nor unexpected. Our understanding of how partisan bias influences information processing suggests that there are good reasons to expect partisan knowledge gaps to be large and ubiquitous. The psychological processes underlying the development of knowledge gaps are similar to those that produce partisan differences in attitudes and evaluations on a wide variety of subjects. When people encounter information that conflicts with their predispositions, they experience cognitive discomfort, which they try to minimize by employing a variety of defense mechanisms (e.g., Abelson, 1959; Festinger, 1962). Specifically, they avoid exposing themselves to sources that provide them with uncongenial information,

distrust such information when they do come across it, and do not work as hard to retain it (Bartels, 2002; Jerit and Barabas, 2012; Lodge and Taber, 2013). Partisanship helps reduce cognitive discomfort by acting as a “perceptual screen,” filtering in congenial facts that comport with an individual’s partisan worldview while filtering out those that challenge it (Campbell *et al.*, 1960; Zaller, 1992). As a result, the theory goes, Democrats and Republicans come to “know” different types of information and consequently vary in their ability to answer political knowledge questions correctly.

That being said, recent scholarship has provided reasons to doubt that these knowledge gaps are as frequent and sizable as commonly believed. For one, Bullock *et al.* (2015) and Prior *et al.* (2015) demonstrate that partisan gaps in factual beliefs about politics are often the product of motivated responding. “Partisan cheerleading” arises when partisans want to send a message to either pollsters or the public at large about the strength or righteousness of their preferred party’s stance on a particular matter (Huber and Yair, 2018). As a result, what may look like differences in political knowledge among partisans may be more a consequence of respondents providing party-congenial responses rather than expressing what they genuinely know. Bullock *et al.* (2015) and Prior *et al.* (2015) show that these partisan gaps can be reduced by shifting respondents’ directional motives to accuracy motives via small monetary incentives for correct answers. More recently, Huber and Yair (2018) also showed that partisan gaps shrink when survey respondents are given the opportunity to cheerlead prior to answering other questions. Taken together, these studies suggest that the concern that Democrats and Republicans are truly drawing on differential bases of political knowledge may be overblown.

Secondly, a more critical examination of the processes thought to underlie the production of knowledge gaps suggests that genuine differences in knowledge between Democrats and Republicans should be smaller. According to the theory of selective exposure, Democrats and Republicans consume different media sources, thereby learning and retaining different facts that are reflected in reported knowledge of political information (e.g., Stroud, 2008, 2010). In reality, however, most people consume very little political news (Flaxman *et al.*, 2016; Prior, 2007), and the news that they do consume is relatively ideologically balanced (Flaxman *et al.*, 2016; Garz *et al.*, 2018; Gentzkow and Shapiro, 2011; Guess, 2020). There is little reason, therefore, to believe that knowledge gaps emerge as a result of partisans simply tuning into different sources. Regardless of where partisans get their information, evidence shows that they do learn facts in a motivated fashion (Hill, 2017; Jerit and Barabas, 2012; Khanna and Sood, 2018) — but the effects are modest, and people exhibit little partisan bias in their recall of information (Khanna and Sood, 2018). Other scholars have pointed out that Democrats and Republicans respond to current events in a similar fashion, bringing into question the existence of motivated learning in

the first place (Gerber and Green, 1999; Kernell and Kernell, 2019). Therefore, the conventional wisdom regarding the individual-level mechanisms thought to produce large knowledge gaps may be flawed.

Given what scholars know about the nature of partisan survey response, news consumption, and knowledge recall, there are good reasons to doubt that partisan knowledge gaps are as large, ubiquitous, and normatively troubling as expected. That being said, we lack a comprehensive understanding of the nature and frequency of such partisan differences outside of experimental contexts. Indeed, as Bullock and Lenz (2019) note in their review of partisan bias in surveys, “despite burgeoning interest in partisan differences [in responses to factual questions about politics], there have been few attempts to generalize about the size of these differences” (p. 330). In the remainder of this paper, we attempt to do just that.

Data and Research Design

To estimate the frequency and size of partisan knowledge gaps, we assembled a large dataset of political knowledge items. Because we are interested in the degree to which partisan reasoning produces knowledge gaps, we focused on questions about partisan-relevant facts — i.e., facts that carry “positive or negative implications for one’s party” (Jerit and Barabas, 2012, p. 673) that have an objectively correct answer.

To build the dataset, we harvested data from three prominent studies on partisan knowledge gaps. The first two studies — Bullock *et al.* (2015) and Prior *et al.* (2015) — use survey experiments to estimate the degree to which partisan knowledge gaps are a product of expressive responding. In our current study, however, we are interested in measuring the extent to which partisan gaps exist on ordinary public opinion surveys, regardless of the process by which they are generated. Accordingly, we only used data from the control group of these studies. A third study from which we source data focuses on explaining partisan gaps and includes both observational and experimental data (Jerit and Barabas, 2012). Here, we only used data from the observational study — which compiles questions from surveys conducted by national news organizations — as the experiment focuses on partisan learning, not on gaps in stored knowledge.

In addition, we also compiled all knowledge items that carry a partisan implication that appeared on the ANES over the past 32 years.¹ To gauge

¹For reasons of subjectivity, we excluded questions that asked respondents to assess how “the economy” has fared. While many response options to questions on the ANES are vague, in this case, the question itself asks respondents to evaluate a vague concept (the economy) as well. That is, answers to these types of questions hinge on both what survey respondents think “the economy” means and on what they think is a good indicator of its health. For

partisans' accuracy on these items, we identified "correct" responses based on information sourced from federal agencies like the Bureau of Labor Statistics, the Federal Reserve, and the Census Bureau, in addition to information gleaned from news reporting or academic studies.² As before, we dichotomized response options into "correct" and "incorrect" categories. Like the authors in the other studies, we also assumed that there is no "hidden knowledge" behind "don't know" responses and code them as incorrect (Luskin and Bullock, 2011).³

Altogether, our final dataset includes 162,083 responses to 187 political knowledge items on 47 surveys conducted between 1986 and 2016. The knowledge items cover a range of topics, including how much unemployment increased or decreased over a certain period to how many people died in the Iraq War to whether or not global warming is anthropogenic. For a full list of items along with question-wording and response options, please see Online Appendix SI 2.^{4,5}

example, in answering a question about how "the economy" did over the previous year, some respondents may read the question as asking about their state or local economy, while others may reference the unemployment rate, changes in their disposable income, or (among the highly knowledgeable) the performance of the stock market. While some political scientists have attached their own metrics, like real disposable income per capita (e.g., Achen and Bartels, 2016; Hibbs Jr., 2000), to "objectively" gauge how the economy is doing, many survey respondents will plausibly differ in their reference points. Nevertheless, in SI 4.1, we track partisan gaps in economic evaluations. As expected, there are much larger differences between Democrats and Republicans in their assessments of "the economy" compared to other knowledge items. These items produce an average gap of 15 percentage points.

²For the same reasons mentioned above, identifying which response option is "correct" requires some level of subjectivity. As we detail in SI 2, for the purposes of this exercise, we applied a consistent standard across the board: we classify changes in performance indicators as "stayed about the same" unless the change exceeds one third of one percentage point in either direction.

³Luskin and Bullock (2011) estimate proportion of "hidden knowledge" in "don't know" responses to be only about 3%, suggesting that we are not substantially underestimating political knowledge by coding "don't knows" as incorrect.

⁴We omit from our study three placebo questions from Bullock *et al.* (2015) relating to the price of gold in 1980, the Bangladeshi independence date, and the number of Mickey Mantle's home runs in 1961, since none of these questions carry a partisan implication.

⁵We also omit two questions from Jerit and Barabas (2012) concerning Iraq's possession of weapons of mass destruction. We do so because the authors' coding indicated that the correct answer was that Iraq "currently ha[d] weapons" of mass destruction. However, according to multiple sources — most notably the CIA — "Iraq's [weapons of mass destruction (WMD)] capability...was essentially destroyed in 1991," and it had not acquired or built new WMD between 1991 and 2003, and that WMD "were not there" at the time of the U.S.-led invasion in 2003. Furthermore, "Iraq unilaterally destroyed its undeclared chemical weapons stockpile in 1991...there are no credible indications that Baghdad resumed production of chemical munitions thereafter" (Central Intelligence Agency, 2004). In addition, the majority of Iraq's biological weapons had been destroyed in 1991, and there is no credible indication that Iraq resumed the production of biological weapons afterwards (Central Intelligence Agency, 2004). Due to the nature of Jerit and Barabas (2012)'s replication data, we are unable to correct the coding to reflect the correct answers. Accordingly, we choose not to include these questions in our dataset.

To determine differences in what partisans know, we took the difference between the proportions of Democrats and Republicans who answered each knowledge question correctly. We followed the authors' coding schemes to dichotomize response options into "correct" and "incorrect" responses.⁶ A partisan knowledge gap, then, is defined as the absolute value of the difference between the proportions of Republicans and Democrats who answered a question correctly.

If we use the absolute difference between correct answers among Democrats and Republicans as a measure of knowledge gaps, however, we cannot discern whether the gap is the result of partisans knowing more or less party-congenial information than their opponents. For example, the absolute value of a partisan gap of 14 percentage points produced by a question about the change in the budget deficit under President Clinton could mean that Democrats were more accurate than Republicans *or* that Republicans were more accurate than Democrats. The distinction is an important one, as previous work suggests that knowledge gaps are likely produced by partisans' tendency to more easily learn and retain information that benefits their party and reject or forget information that paints their party in a less-than-favorable light (Jerit and Barabas, 2012). Given that the budget deficit sharply declined when Clinton was in office, we expect more Democrats than Republicans to be aware of this information (Jerit and Barabas, 2012). A finding that more Republicans than Democrats knew that the budget deficit declined under Clinton would therefore run counter to our understanding of how knowledge gaps are produced.

Therefore, to better ascertain the nature of partisan knowledge gaps, we imputed the "sign" of the gap for each question in our dataset.⁷ To do so, we first categorized questions into groups based on question features that should influence the expected sign of each gap. The first and most common group contains questions based on performance. As mentioned above, previous research demonstrates that partisans tend to be more accurate than their opponents when responding to questions that have positive implications for their own party (Jerit and Barabas, 2012). Quite often, these positive implications arise when outcomes that are universally desirable — e.g., lower unemployment, lower inflation, fewer casualties in foreign wars, lower gas prices, lower taxes, etc. — can be attributed to a copartisan president. Given

⁶For data sourced from Bullock *et al.* (2015) and Prior *et al.* (2015), we followed convention and grouped together leaning Independents with partisans, as research shows that leaners behave and think much like other partisans (Keith *et al.*, 1992). Unfortunately, the Jerit and Barabas (2012) data excludes these leaning Independents, instead focusing on knowledge gaps only among individuals who were willing to identify as Democrats or Republicans in response to the traditional three-pronged party identification question. Our results do not change substantially when we exclude leaners from all analyses. Doing so produces a mean gap of 5.9 percentage points, a median gap of 4.4, and a standard deviation of 12.1.

⁷We later discuss our results using the absolute value of the partisan gap.

how much presidents dominate the news (Hopkins, 2018) and the imagination (Jacobson, 2019), partisans should be more likely than their opponents to know positive things that happen under a copartisan president. One classic example of this phenomenon is highlighted by Bartels (2002), who noted that, in 1988, Republicans were more accurate than Democrats in their responses to questions about unemployment and inflation rates, as both decreased during President Reagan's administration (p. 134). In this case, because Republicans were more accurate about a party-congenial fact than Democrats, we code the sign on the partisan gap as positive.

Similarly, because partisan politics often plays out as a zero-sum game (e.g., Lee, 2016), we expect partisans to be more accurate about facts that have *negative* implications for their opponents.⁸ For example, we expect Democrats to be more informed than Republicans about the change in the unemployment rate if unemployment substantially increased under a Republican president, as it did, for example, between 2000 and 2008 under President George W. Bush. In our data, we code gaps that conform to these expectations as positive.⁹ Conversely, we code gaps that do *not* conform to expectations — i.e., those instances in which partisans are *less* accurate about party-congenial facts or *more* accurate about party-*uncongenial* facts than their opponents — as negative, as they occur in the “wrong” direction. For items for which the partisan implications are debatable — e.g., if the unemployment rate stayed more or less the same over the past year — we opt for the conservative option of retaining the absolute value of the partisan gap. In other words, we code partisan gaps in these ambiguous cases as positive; as a consequence, our results are biased in favor of finding large gaps.

The second category features questions that bear partisan implications that do not hinge on performance. For example, some facts could be considered positive for one set of partisans because their favored party takes action on a particular fact. For example, Democratic environmental policy is based on the (correct) notion that global warming is real and its cause is man-made. Republican policy, on the other hand, is based on the (incorrect) belief that

⁸This is especially likely given the rise of negative partisanship and the centrality of out-party feelings to several aspects of public opinion over the past few years (e.g., Abramowitz and Webster, 2016; Hetherington and Rudolph, 2015; Iyengar *et al.*, 2012; Mason, 2018; Nicholson, 2012).

⁹Here, we depart from Jerit and Barabas (2012), which differentiates between items that have positive implications for Democrats, negative implications for Democrats, positive implications for Republicans, and negative implications for Republicans. For the purposes of our analysis, we combine Democratic-positive/Republican-negative and Republican-positive/Democratic-negative. With the exception of collapsing these two categories, however, we rely on the authors' coding of the partisan implication (in other words, the expected sign of the gap) for each item. For this reason, our results differ from Jerit and Barabas (2012), as our estimand differs: Jerit and Barabas (2012) are interested in calculating differences *across* question items and across people *within the same party*, while we calculate differences *within* items across people *in different parties*.

global warming has probably not been happening, and if it has, it is the result of natural causes. On questions related to the existence and source of global warming, therefore, we expect Democrats to know more. Another prominent example relates to the estate tax. In this case, Democratic policy pivots off the fact that a very small proportion of Americans pay estate taxes, while Republican policy is based off the (incorrect) notion that considerably more Americans would be subject to the tax. Again, we expect Democrats to be more accurate than Republicans on questions related to the percentage of Americans subject to an estate tax.

Finally, in a handful of cases, question-wording and response options influence the partisan implication of a particular question. For example, in Bullock *et al.* (2015), a question about the total casualties in Iraq from 2003 to 2008 provides four response options. The correct answer to the question — 4,000 — is the lowest option provided; the highest option is 20,000. In this case, the correct answer is congenial for Republicans, as it suggests that casualties are relatively low in comparison to other response options. If different response options were provided, however, it might shift the implications of the question by changing the implicitly suggested reference point to be less favorable to Republicans (Tversky and Kahneman, 1974). For a full list of items in the dataset, along with their signed partisan gap and supporting information, see Online Appendix Table SI 1.1; for question-wordings and response options, please see Online Appendix SI 2.

Partisan Knowledge Gaps in Context

Figure 1 illustrates the distribution of partisan knowledge gaps in our dataset. A few features stand out. First, the average gap size is just 6.5 percentage points. The median gap is yet smaller at 4.6 percentage points. In addition to being small on average, the gaps are also highly variable. Partisan gaps in our data range from -16 percentage points to $+49$ percentage points. Moreover, the standard deviation of partisan gaps is sizable at 11.3 percentage points, and fewer than one in three partisan gaps exceeds 10 percentage points. When considering other types of differences between partisans, the size of the average knowledge gap pales in comparison: public opinion data indicates that Democrats and Republicans differ, on average, by 19 percentage points when it comes to the nation's top priorities (Pew Research Fact Tank, 2019) and by 36 percentage points when it comes to political values (Pew Research Fact Tank, 2017).

Not only are the gaps relatively small on average, they are also not always consistently signed. Twenty eight percent (28%) of these gaps are *negative*; i.e., on nearly three in 10 knowledge items, partisans are less likely to know party-congenial facts than their opponents. Of the knowledge gaps in the

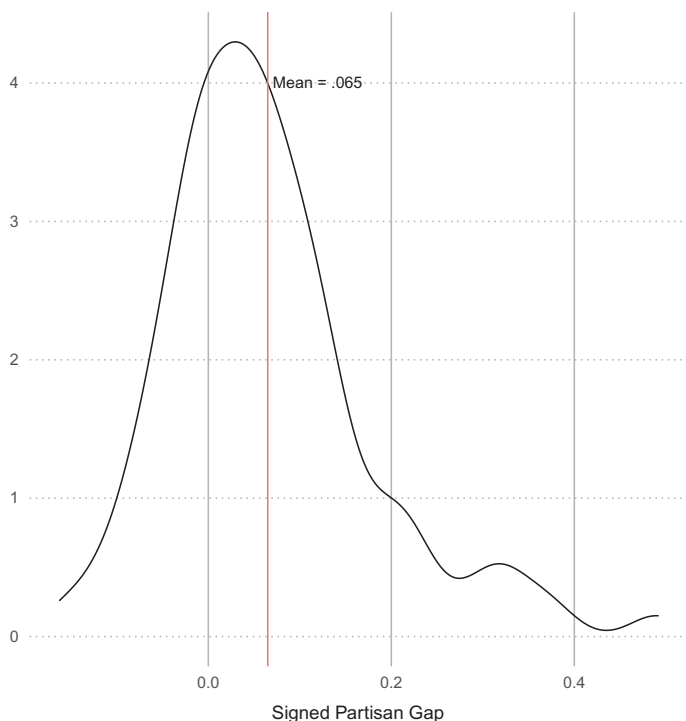


Figure 1: Distribution of partisan gaps.

Kernel density plot. Positive gaps indicate instances in which partisans were *more* accurate than their opponents about a party-congenial fact; negative gaps are those for which partisans were *less* accurate than their opponents about a party-congenial fact. $n = 187$.

expected direction, about half — 45% — are not statistically significant at the 95% confidence level, despite an average sample size of 939 respondents per question. If we lower the threshold to the 90% confidence level, 41% of the positive gaps are not statistically distinguishable from zero. If we further limit our analysis to items with a sample size large enough to draw reliable conclusions (i.e., when $n(\text{Republicans})$ and $n(\text{Democrats})$ both ≥ 100 , or roughly 89% of the items in our dataset), we find that 51% of the positive gaps are not statistically significant at the 95% confidence level.

Perhaps these findings are an artifact of our judgments regarding the expected sign of the partisan gap. While the vast majority of the items in our dataset have clear positive or negative implications for one party or another, for others, one might reasonably argue that the direction of the sign is debatable. For example, regarding a question about repayment of the 2009 financial bailout, one could argue that Republicans “should” know more on the topic

as (1) the bailout was unpopular (thus signaling a negative connotation for Democrats) and (2) the GOP has traditionally made reducing government debt a central focus of its policy agenda. On the other hand, Democrats might be expected to be more correct in their answers because a high proportion (about 70%) of the debt had been repaid in three years (a positive outcome under a Democratic president). In this case, the signed partisan gap could reasonably be coded as positive or negative.

Importantly, our findings do not appear to be very sensitive to coding decisions. Averaging across the absolute value of all partisan gaps produces a mean gap of 9.2 percentage points, a median gap of 6.5 percentage points, and a standard deviation of 9.2 percentage points.¹⁰ On a scale ranging from 0 to 100, these figures remain surprisingly small.

Explaining Variation in Knowledge Gaps

What explains variation in the size of partisan knowledge gaps? As is the case with other public opinion data, it is likely that question-wording and response options influence how people respond to political knowledge questions. Here, we examine how such features might influence differences in the proportions of Democrats and Republicans who answer questions correctly.

To examine the degree to which these attributes affect the size of partisan gaps, we used an ordinary least squares (OLS) model to predict the absolute value of partisan gaps as a function of survey and question characteristics. (We cluster our standard errors by survey to account for the fact that same people responded to multiple items.) As a starting point, we draw from Luskin *et al.* (2018), which examines how question design features influence estimates of incorrect responding. Specifically, the authors show that the number of response options and phrasing of questions as a matter of opinion instead of fact can dramatically affect estimates of how much respondents know. Fewer response options, for example, may inflate the proportion of Democrats or Republicans who appear to know something, since fewer options increase the probability that a respondent will select the correct answer based on guessing alone (Luskin *et al.*, 2018, p. 4). Questions that provide “don’t know” as a response option are less likely to have false positives, as they discourage guessing by providing an “out” to respondents. Of course, Luskin *et al.* (2018) examined how these features influence the *levels* of misinformation in the *population*, not differences between partisans, so it is plausible that these features affect the proportions of Democrats and Republicans who answer correctly in the same way. If, however, Democrats and Republicans differ in their propensity to guess the correct answer, we might expect the number and

¹⁰For the distribution of the absolute value of partisan gaps, please see SI 3.1.

nature of response options to impact the size of knowledge gaps. To test this proposition, we coded both (a) the number of response options given by each question, and (b) whether the question offered an explicit “don’t know” or “not sure” option (1) or not (0). We rescaled the former from 0–1 to aid in regression interpretation.

We might also expect larger partisan knowledge gaps on questions that begin with phrases like “do you think,” “do you believe,” “based on what you have heard,” “to the best of your knowledge,” etc. These phrases likely encourage respondents who do not know the correct answer to choose what they see as the most probable response. In doing so, they are likely to rely upon what they would *like* to believe the correct answer is, which would likely activate partisan reasoning and exacerbate observed differences in knowledge between Democrats and Republicans. Therefore, we coded questions that featured wording that encourages respondent guessing as 1 and 0 otherwise.

In addition to features that Luskin *et al.* (2018) identify, there are several others that could also influence the size of partisan knowledge gaps. For example, answers to questions with a factually correct answer, by virtue of the phrasing of their response options, might ask respondents to make subjective *assessments* instead of identify a concrete answer. Some questions — particularly those featured on the ANES — ask people to gauge whether the budget deficit increased, decreased, or remained about the same over a president’s tenure, or how the rate of inflation changed over the past year. Because the response options for these questions are imprecise, people have a greater opportunity to interpret the meaning themselves (e.g., Beyth-Marom, 1982) using common heuristics, including partisanship (e.g., Sood and Guess, 2017). As a result, a large partisan “knowledge” gap may reflect how partisans interpret response options rather than a true difference between what Democrats and Republicans know. Consider the case of two highly knowledgeable survey respondents (who perhaps work in the Bureau of Labor Statistics) who know definitively that the national unemployment rate in the United States grew from 4.0% to 4.2% over the past year, a time during which a Republican president occupied the White House. When the first respondent, a Democrat, is asked to evaluate how unemployment changed over the past year, she might (correctly) reason that unemployment “got worse” as the rate objectively increased over the previous 12 months. On the other hand, the second survey respondent, a Republican, might also (reasonably) conclude that 0.2 percentage points is a negligible change in unemployment, and might therefore be more liable to answer that the unemployment rate “stayed about the same” over the past year. In this situation, two people who know *the exact same fact* could plausibly choose two different response options and still be correct. The end result is that some “knowledge gaps” may be artificially large simply because respondents interpret the same response categories differently. For this reason, we add a dummy variable that

captures whether or not a question featured vague response options, such as “got better,” “stayed about the same,” and “got worse,” in addition to “definitely happened,” “probably happened,” “probably did not happen,” and “definitely did not happen.”

The mention of an elected official or party in a question is likely to exacerbate knowledge gaps, as these are likely to prime partisan thinking more than questions that do not reference political actors (e.g., Bisgaard and Slothuus, 2018; Mondak, 1993; Zaller, 1992). We coded questions that reference a political actor (the president, or another prominent political figure) as 1 and questions that do not include a reference as 0 to determine whether source cues influence the knowledge differences between Democrats and Republicans.

We also include a dummy variable for any question that touches on a topic for which there exists a substantial amount of systematic misinformation. Although all of the questions included in our dataset have correct answers, several address topics about which significant portions of the population are ill-informed due to the proliferation of misinformation or conspiracy theories. These include, for example, questions related to global warming, Iraq’s involvement in the 9/11 attacks, whether Iraq had weapons of mass destruction, whether Barack Obama is a Muslim, whether Obamacare authorized death panels, etc. Because belief in misinformation breaks down on distinctly partisan lines (Berinsky, 2017; Miller *et al.*, 2015; Nyhan, 2020), we might expect larger than average knowledge gaps to emerge on these questions. We coded questions featuring topics tied to misinformation as 1 and 0 otherwise.¹¹

Question difficulty likely plays a role in producing knowledge gaps. Specifically, questions that are more difficult to answer might incite larger partisan knowledge gaps, as Democrats and Republicans could rely on partisan heuristics to aid them in choosing a response. To gauge how question difficulty might influence knowledge gaps, we included a variable that documents the proportion of all respondents (not just Democrats or Republicans) who got the question correct. We reverse coded the variable so that higher question difficulty corresponds to a smaller proportion of respondents answering correctly, and rescaled it 0–1 to aid in interpretation.

Of course, question-wording features are likely not the sole determinants of differences in knowledge among Democrats and Republicans; the context in which surveys are administered may also influence variation in knowledge gaps. Surveys conducted during times in which politics is particularly salient — such as the fall of a presidential election year — may induce people to think about these knowledge questions in even more political (and therefore partisan) light. Just as Democrats and Republicans “come home” to their partisan leanings as

¹¹For a complete list of misinformation items, please see SI 1.2.

Election Day approaches (Erikson and Wlezien, 2012; Henderson, 2015; Sides *et al.*, 2019; Sides and Vavreck, 2013), partisan bias may also increase as the campaign wears on, thus producing larger knowledge gaps on items included in surveys conducted closer to November in an election year. Accordingly, we include a dummy variable that takes a value of 1 if the survey in question was conducted in the fall of an election year (i.e., conducted in September, October, or November) and 0 otherwise.

Additionally, we also include study fixed effects to determine whether any of the questions gathered in the context of different studies (i.e., Bullock *et al.*, 2015; Jerit and Barabas, 2012; Prior *et al.*, 2015, or the ANES) produced larger partisan knowledge gaps than others. We omit questions featured on the ANES from the model to serve as a reference category.

Table 1 shows the results of our analysis. Surprisingly, most features of question wording do not affect the size of partisan knowledge gaps. The effects of *Partisan cue*, *Encourages guessing*, *Difficulty*, and *Asked in fall of election year* are not statistically significant at conventional levels and are all of small substantive significance. As expected, more response options (only slightly) decrease the size of the partisan gap, as partisans are less likely to guess the correct answer when given a larger set of options. Similarly, questions that provide a “don’t know” or “not sure” response option decrease the size of the partisan knowledge gap by an average of three percentage points, as they provide respondents an “out” to admit ignorance. Perhaps more interestingly, we find a substantively significant effect related to whether a question features responses options that are open to interpretation. Those questions with vague response options like “got better,” “stayed about the same,” “got worse,” or featured “probably” or “definitely” increased partisan knowledge gaps by more than six and a half percentage points compared to questions that did not ask respondents to make relative assessments. We also found the effect of *Addresses misinformation* is rather large (a little over six and a half percentage points) but very imprecisely estimated ($se = 0.061$).¹²

Interestingly, questions collected by Jerit and Barabas (2012) plausibly have somewhat smaller partisan knowledge gaps than those featured on the ANES ($p = 0.231$). This may be due to the fact that despite the authors’ intent to gather questions with a “partisan relevance,” a sizable portion of questions in their dataset (roughly 27%) do not have an immediate partisan implication. For example, it is unclear why a question asking about the

¹²We also analyzed variation by question topic, classifying questions into nine topic categories: those addressing economic matters (e.g., inflation, unemployment, etc.), those related to foreign policy or national security, office/candidate recognition questions, those that address the environment, those that mention Social Security, those that refer to guns, those that touch on education, and a miscellaneous catch-all category (which includes, e.g., questions related to marijuana, candidates’ age, HIV/AIDS infection rates, etc.) Our results do not meaningfully change when we include these topics, although the effect of *Response open to interpretation* increases to 7.4 percentage points.

Table 1: Predicting absolute value of the partisan gap.

| | Dependent variable: Absolute partisan gap |
|---|--|
| Partisan cue | −0.010 (0.016) |
| Number of response options | −0.012* (0.007) |
| Don't know/not sure | −0.032** (0.014) |
| Encourages guessing | −0.014 (0.015) |
| Response open to interpretation | 0.066** (0.029) |
| Addresses misinformation | 0.067 (0.060) |
| Difficulty (proportion of overall sample getting item wrong) | −0.055 (0.037) |
| Asked in fall of election year | −0.016 (0.026) |
| Bullock <i>et al.</i> | 0.033 (0.055) |
| Jerit and Barabas | −0.077 (0.051) |
| Prior <i>et al.</i> | 0.029 (0.061) |
| Constant | 0.174*** (0.058) |

Note: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$, two-tailed.

proportion of teenagers who died from AIDS or another asking respondents to correctly identify the office held by Tommy Thompson (George W. Bush's Health and Human Services Secretary) should produce partisan knowledge gaps. Accordingly, we recalculated the size of our partisan gap after removing questions (from all studies; about 23%, remaining $n = 144$) for which the partisan relevance was not clear. Doing so does not change the size of our mean partisan knowledge gap (6.4 percentage points).

Discussion and Conclusion

Our results clarify our understanding of partisan knowledge gaps in important ways. First, partisan knowledge gaps are less ubiquitous than what conventional wisdom in political science suggests. For nearly three in 10 items, partisans either know *less* party-congenial information or *more* party-uncongenial information than their opponents. Among gaps occurring in the correct direction, we can only be certain that Democrats and Republicans actually differ from one another in their factual understanding of politics less than half the time. Secondly, the average knowledge gap in our data is small, with a mean gap of six and a half percentage points and a median gap of a little more than four percentage points. Third, many question features only weakly predict the size of partisan knowledge gaps; instead, it is the *content* of response options that influence the size of the gap.

If partisan gaps are small on average and difficult to predict based on question-wording, why does the common wisdom that Democrats and Republicans differ substantially in political knowledge persist? One explanation may be that the knowledge items in our dataset are a not a representative set of relevant cognitions that partisans have. It may well be that the knowledge gaps are larger on partisan-relevant facts that are not asked about in the studies described above. To what degree this is so, we cannot say, except to note that the general bias is to “hunt where the ducks are.” That is, in at least two of our studies (Bullock *et al.*, 2015; Prior *et al.*, 2015), expert political scientists constructed knowledge questions that they reasonably believed a priori would produce large partisan gaps; in the case of Jerit and Barabas (2012), the authors built a dataset of knowledge questions that they believed carried a partisan implication (in other words, in which they expected knowledge gaps between Democrats and Republicans to occur). The fact that statistically significant, “positive” knowledge gaps only emerge on about half of the items from these studies suggests that partisan knowledge gaps are less common even when looking in the most obvious place.

A potentially more satisfying explanation for this discrepancy is that such conventional wisdom is largely based on studies using data from the ANES. Much of the literature on partisan knowledge gaps has built upon Bartels (2002), who was the first to write about these differences (Bullock and Lenz, 2019). For example, using the ANES data, Bartels (2002) discovered that Democrats and Republicans reported different beliefs on a variety of objective facts — such as how inflation and unemployment changed over the previous eight years — while Ronald Reagan was president. In 1988, the estimated differences between Democrats and Republicans on knowledge questions ranged

from approximately 12 to 36 percentage points, depending on the question.¹³ These kinds of questions with imprecise response options — which ask about respondents' *assessment* of politically relevant facts rather than their actual *knowledge* of such facts — are one of the most likely source of large partisan knowledge gaps. The fact that questions with imprecise response options are commonplace on one of the biggest publicly available sources of survey data likely helps perpetuate the idea that Democrats and Republicans approach the political world with entirely different information.

Based on our results here, we suspect that the vast majority of partisan gaps — when they do appear — are more likely to be a product of motivated responding than of partisans simply knowing different things (Bisgaard and Slothuus 2018; Bullock *et al.* 2015; Prior *et al.* 2015; Schaffner and Luks 2018; but see also Berinsky (2017) and Peterson and Iyengar (2020)). None of this is to say that partisan bias does not play a role in shaping how Democrats and Republicans interpret what they know; there is ample evidence to suggest that it does (e.g., Bisgaard, 2015; Gaines *et al.*, 2007; Khanna and Sood, 2018). Nor should the small size of the average gap prevent us from noting that on many of the questions, a majority of partisans on both sides of the aisle were either ignorant or misinformed about the facts: the average proportion of Republicans and Democrats who provided correct answers to these knowledge questions is about 42% each.

While this is certainly troubling for those who view political knowledge as an essential component of democratic citizenship, there is some reason for optimism. When it comes to knowledge of political facts, more often than not, there do not appear to be large imbalances between what Democrats and Republicans know. When partisan differences do emerge, we suspect that they are often more a product of biased interpretation of survey questions rather than of differential stores of knowledge. This suggests that even in a polarized political context, most Democrats and Republicans can use the same information to make collective judgments about whether to reward or punish elected officials based on performance — whether they want to, of course, is another question.

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¹³These figures have been rescaled in percentage point terms. Bartels's (2002) original calculation is that "the estimated differences between Democrats and Republicans rang[e] from .249 to .715 on the -1 to +1 scales" (p. 137).

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