Misinformation about Misinformation? Of Headlines and Survey Design

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Abstract

By some accounts, the American public is awash in misinformation. Polarization, selective exposure, biased processing, and politicians and media outlets that seem ever readier to promote convenient fictions and deny inconvenient facts make it plausible. Yet there is also reason, in the underlying survey items, to suspect the headlines of being considerably overdrawn. Among other things, the questions on which they rest are frequently phrased as matters of opinion ("As far as you know …," "Would you say that …."), and frequently lack explicit DK options and more generally invite guessing. We assemble a novel corpus of media polls to estimate the frequency of such "inflationary" features in misinformation items. We then use a series of survey experiments to estimate the effects of such question design features on the proportion of incorrect responses. We show that common features of misinformation items considerably overstate misinformation levels.

Anecdotally (in the sense of being based on only scattered survey items, however numerous the respondents on each), political misinformation seems to abound. To choose just a few prominent and potentially consequential examples, about 49% of Americans are reported to have believed that Saddam Hussein was closely working with the al Qaeda terrorist organization (Kull et al. 2003, 572), about 26% reportedly believed that the Iraq War uncovered caches of Iraqi weapons of mass destruction (Kull et al. 2003, 573), nearly 30% reportedly believed that the 2010 health care legislation involved "death panels" (Pew Research Center 2009), and one out of every four Americans reportedly believed that income inequality in the U.S. had not been growing (Bartels 2005, 18).

These are appalling results. Do so many of us really believe so much that is palpably untrue? They are also sensational results—which may be the point. The media like arresting headlines. A closer look at the survey items involved suggests that they may be overstating the frequency of misinformation. This paper examines 180 closed-ended "misinformation items" from media polls to tally the frequency of design features that create the appearance of more misinformation than actually exists. It then uses survey experiments to identify the consequence of these design features on estimates of misinformation. Data suggest that common features of misinformation items greatly inflate the proportion of incorrect responses (often interpreted without comment as misinformation).

Measuring Misinformation

Misinformation is cognition—confidently held but erroneous cognition, like knowledge but wrong (see Luskin and Sood 2018; Pasek et al. 2015). It may be part of a "conspiracy theory" but need not be. A person may incorrectly believe this or that without weaving those beliefs and others into any larger, far-fetched story. It can be measured by "misinformation

items," a subspecies of "knowledge items." All knowledge items allow the possibility of responding correctly or incorrectly, but in most cases the topics and response options are not particularly geared to uncovering confidently held but incorrect belief. The trick is to distinguish misinformation from other incorrect responses.

Inflationary Design Features

One design feature that may promote the appearance of misinformation is the general neglect of any explicit DK option. Guessing is generally rampant on closed-ended knowledge items, but the failure to encourage DKs makes it still more rampant (Luskin and Bullock 2011). Some of these guesses will be correct, masquerading as knowledge; others incorrect, masquerading as misinformation. When the item is binary (true-false, for example) the correct and incorrect guesses should be roughly equal in number. When it is multi-category, the incorrect guesses should be decidedly more numerous (by a factor of $(R-1)/1$, where R is the number of response categories). Thus taking correct and incorrect responses at face value (as media accounts invariably do), as representing knowledge and misinformation, respectively, overstates the extent of both knowledge and misinformation (and understates the extent of ignorance), but overstates misinformation at least as much and often more than it does knowledge.

Two other points become clear in light of the discussion above. All things equal, fewer the number of response options on a closed-ended item, the greater the proportion of unlucky guesses. It is, however, very likely worse. Having fewer response options plausibly causes more people to take a guess as fewer options mean better odds of getting it right. The second point is that closed-ended questions will generally have more 'false positives'—more incorrect guesses treated as misinformation—than open-ended questions. Thus, closed-ended questions with few

options are especially good at inflating estimates of misinformation.

Another inflationary design feature is the general phrasing of these items as matters of probability or opinion, rather than fact. Phrases like "do you think," "do you believe," "do you happen to know," "to the best of your knowledge," "as far as you know," "do you personally believe," "based on what you have learned," "based on what you have heard," or "from what you have read or heard"—wording that explicitly invites respondents who *know they don't know* the answer to choose what they see as most *probable*, based on assertions (still coded only as assertions) by trusted sources, on fresh inferences from *side* knowledge or misinformation, or on what they would most *like* to believe. Thus many Republicans who knew that they did not know the actual truth of the death panel allegation may well have responded "yes" to the question, "*do you think* [emphasis ours] the 2010 health care legislation involves death panels?," thinking either that Sarah Palin or others echoing her original allegation were probably right or considering, with grim satisfaction, that "death panels" would be just the sort of thing a Democratic congress's health care legislation would likely include. Similarly, many Democrats who knew that they did not know the truth to the possibility of voter fraud in the 2016 presidential election may have said "no" to such questions as "*do you believe* that 3-5 million people voted illegally in the 2016 presidential election through widespread voter fraud, or not?," considering Donald Trump's public assertion must be false. None of this is misinformation.

Lastly, on the hunch that respondents are shy about revealing information they believe to be true, some survey designers offer social proof about the incorrect choice. For instance, a question about whether the Affordable Care Act provides support to illegal immigrants may include "some people believe that Affordable Care Act gives illegal immigrants financial help to buy health insurance." It is not clear how large are the ranks of the those who anticipate social

reproof, especially on the increasingly common web surveys, but what is very likely true is that such information has unintended consequences. Such information in the question stem plausibly leads ignorant respondents to mark the incorrect answer—after all, some people believe the claim to be true—and be mistakenly counted as one of the misinformed.

Frequency of Inflationary Design Features

We assembled a dataset of misinformation items, their design features, and the summary of responses they have generated. The dataset has 180 items posed between 2003 and 2017 from thirty-five commercial polls by a variety of reputable commercial polling companies, from Princeton Survey Research Associates International to Knowledge Networks (see Table A1, Appendix A).

131 of our 180 items are policy-relevant (28 on global climate change, 24 on Russia meddling in the 2016 presidential election, 18 on health care reform, 14 on the number of U.S. military fatalities in the Iraq war, 11 on Iraq's involvement in the 9/11 attacks, 9 on vaccines, 6 on voter fraud in the 2016 election, 6 on illegal immigrants' crime rate, 5 on annual government budget deficit, 4 on Iraq's possession of weapons of mass destruction, 4 on the Troubled Asset Relief Program (TARP), 2 on Obama's illegal wiretapping). The remaining 49 are biographical (31 on Barack Obama's religion and 18 on his citizenship).

Specifically, we searched the Roper iPoll database[5] for misinformation questions on Obama's birth place (18) and religion (31); whether or not global warming is occurring (8), and what is behind it (7), and if scientists agree about whether it is occurring (13); whether the 2016 presidential election was marked by a lot of voter fraud (6), or by Russia's attempts to influence outcome (24); basic information about the ACA (2) , whether it includes the so-called 'death

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[5] https://ropercenter.cornell.edu/ipoll-database/

panels' (7), and whether it allows financial support for illegal immigrants (9); whether Iraq was behind 9/11 (9) and whether Al Qaeda was involved in them (2); how many U.S. military personnel had been killed since the start of military action in Iraq (14); whether vaccines cause more illness than prevent, various provisions of the Affordable Care Act (ACA) (8), and if medical scientists agree about whether they are safe (1); whether illegal immigrants in the U.S. are more likely to commit crime (6); whether government debt increased during the Bush (2), Clinton (2), and Obama administration (1); whether Obama ordered wire taps on Donald Trump's phones during the 2016 presidential election (2); whether Iraq has chemical weapons (2) or weapons of mass destruction (2); and whether the federal government money loaned to banks under TARP has been paid back (4).

In a few cases, the information provided in the topline was ambiguous. For instance, some polls reported 'Not sure (or Unsure)/Refused,' 'Don't know/Refused,' 'Don't know/No answer,' In these cases, if the percentages were in double digits, given that refusals are generally rare, we assumed that 'Not Sure or Don't know' was offered as an explicit option.

Questions with phrases such as 'do you think (DYT) (72)', to the best of your knowledge (TBYK) (30)', 'as far as you know (AFYK) (21)', 'do you happen to know (DYHTK) (17)', 'do you believe (DYB) (7)', 'do you personally believe (DYPB) (1)', 'based on what you have learned', 'based on what you know (BWYK) (1)', 'based on what you have heard (BWYH) (4)', 'from what you have heard or read (FWYH) (2)', 'comes closest to your view (CTYV) (2)' encourage people to offer a substantive response when, in fact, they don't know. We file these under questions that phrase knowledge questions as a 'matter of opinion.'

Results

Table 1 provides a summary of the various inflationary features—how frequently are knowledge questions phrased as matters of opinion, how frequently is an explicit don't know or not sure present, frequency of different number of options, and frequency of incorrect response encouraging material in the stem.

Only a small fraction of the items have an explicit DK (6.7%) or Not Sure option (2.2%). And binary questions constitute almost half of the entire dataset (42%) which operate as a highly potential device to overestimate the level of misinformation by including not just incorrect knowledge (or misinformation) but also unlucky guessing. As the number of response options increases, the probability of incorrect hesitant (or not confidently held) answers should decrease. Yet, questions that contain three or four numbers of response choices—still considered not quite a wide pool of selection—constitute 31.1%, which leaves those that provide five or more response options comprise of only 16.1%.

Of the 168 misinformation items whose wording encouraged 'matter of opinion,' 40%—i.e., 72 items—contained 'do you think,' 16.7% included 'to the best of your knowledge,' and 11.7% started the question with 'as far as you know.' These phrases all invite respondents who do not *truly* know what the answer is for each question to guess to a certain extent. In this respect, commercial polls are designed to encourage guessing, absent explicit DK options, and overestimate the proportion of confidently held incorrect beliefs.

Effects of Inflationary Features

But what is the consequence of these features? To answer that, we exploit data from three survey experiments—one on MTurk, and the other two on staff and alumni of a large university on the West Coast—to assess the impact of various inflationary measures on estimates of misinformation.

MTurk

We surveyed 1,253 respondents on Amazon Mechanical Turk (MTurk)[6] on July 9th, 2017. (See Appendix B for demographic comparison between MTurk and population benchmarks.) We randomly assigned respondents to one of five branches—Real World (RW), Iron Pyrite Standard (IP), Fewer Substantive Responses (FSR), 14k Gold Standard (14k), and the 24k Gold Standard (24k).

In each condition respondents answered 9 misinformation items, ranging from citizenship and religion of Obama to whether global warming is happening or not. (The exact question wording for each of the items is presented in Appendix C.) Respondents assigned to RW and IP saw a simple preface: "Now here are some questions about what you may know about politics and public affairs," while in all the other conditions, they were reassured that it is ok to not know answers to these questions and to commit to not looking up answers or asking anyone and to mark don't know when they don't know. (Again, see Appendix C for the specific wording.)

The RW condition reflects the real-world standards most closely—it does not feature a 'Don't Know', it often features social proof about the incorrect answer, for instance, "Some people believe Barack Obama was not born in the United States, but was born in another country" on a question about where Mr. Obama was born, and some neutral information about

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[6] MTurk is a market for trading small services. "Workers" are paid for finishing small tasks like filling out surveys, tagging an image, etc. Research suggests that participants recruited on MTurk are "slightly more demographically diverse than are standard Internet samples and are significantly more diverse than typical American college samples" (Buhrmester et al. 2011). Compared to the population, survey respondents recruited on MTurk tend to be younger, better educated, and more likely to identify with the Democratic party (Berinsky et al. 2012), though sectoral breakdown of employment is similar to more representative online surveys---the sectoral differences are no more than 7% (Huff and Tingley 2015). Pleasingly, a broad variety of experiments done on MTurk tend to reach similar conclusions as those done on more representative samples. A study comparing results from 20 experiments implemented on a population-based sample and Amazon's Mechanical Turk (MTurk) found "considerable similarity between ... treatment effects obtained from convenience [includes MTurk] and nationally representative population-based samples" (Mullinix et al. 2016).

the topic, like "According to the Constitution, American presidents must be 'natural born citizens'" on the birthplace question, that may encourage the ignorant to take a guess.

The Iron Pyrite Standard (or the Fool's Gold Standard) reflects the standard likely to inflate the number of incorrect responses the most. It never includes the 'Don't Know', it always includes neutral information that encourages people to take a guess, and it also includes social proof about the incorrect answer.

The FSR standard adds a 'Don't Know' and removes from the question stem any neutral information that is likely to cause people to offer a substantive response when they don't know. The 14k gold standard gives us the best version of the multiple-choice question while maintaining commensurability with other items. The 14k, vis-à-vis FSR removes social proof from the stem as well.

The 24k standard asks respondents to rate the claim on a 0 to 10 scale going from 'definitely false' to 'definitely true.' The question is inspired by other attempts to take account of confidence in distinguishing misinformation from incorrect responses stemming from processes like inference, unlucky guessing, and such (see, for instance, Pasek et al. 2015).[7]

Alumni and Staff Surveys

In 2010, we surveyed Alumni and Staff of a large private university on the West Coast (see Appendix B for how demographics on the surveys compare to the population). We asked questions about the Affordable Care Act (see Appendix D for details about the survey questions being posed.) We randomized whether people saw a 14k version of the question or the 24k version.

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[7] Another, more indirect, way to elicit confidence is to make survey reports about beliefs costly—mark a substantive option if you think it is correct and get some money or else mark 'don't know' for a more modest sum (Bullock et al., 2015) (see also Prior, Sood, and Khanna 2015; Berinsky 2018).

Results

Table 2 presents the results from the MTurk experiment. RW serves as a stand-in for commercial polls. 14k is our best estimate using conventional closed-ended items. And 24k provides us the best estimate of proportion misinformed.

Coding of responses to 24k deserves a mention. In our judgment, only people who are sure that the incorrect answer is correct should be coded as misinformed. Concretely, only people marking 'definitely true' when the correct answer is false, and 'definitely false' when the correct answer is true, should be coded as misinformed. But a case can be made that other cut-offs are 'better.' Thus, in Appendix E and Tables 3 and 4, we present results from different coding decisions. The upshot is that even with the most generous coding (just getting the 'sidedness' correct), the proportion incorrect in 24k is lower, generally considerably, than for RW or IP.

As Table 2 makes amply clear, the proportion of incorrect responses in FSR, 24k, and 14k standard is significantly lower than what RW will have one believe. On average, the average proportion incorrect on RW was .249. In the 14k version, the average proportion incorrect dropped to .160. And on 24k, the average proportion incorrect, coding only respondents "definitely correct" to incorrect answers as incorrect or vice versa, was a mere .050, close to fifth of what it was in the RW.

There is a fair bit of variation across the items. Proportion incorrect on RW was almost 13 times greater than on 24k on whether ACA provides help to illegal immigrant. But the ratio was about half on whether Obama is a Muslim: proportion of misinformed respondents on RW was 668% greater than on 24k. On other items, the gap was considerably narrower. But on all 9 items, the proportion incorrect on RW was significantly greater than in 24k. And compared to 14k, the proportion incorrect on RW was significant greater for 7 out of 9 items.

The comparisons to IP are also revealing. Expectedly, IP is considerably higher than FSR, 14k, and 24k. But unexpectedly, IP is somewhat lower than RW. We don't have a good explanation but attribute it to sampling variation.

Moving to FSR, the story is muddier. Proportion incorrect on FSR is expectedly lower than RW and IP. But proportion incorrect on FSR is also somewhat lower than in 14k, though none of the differences between 14k and FSR are statistically significant. It appears that FSR is about as good as 14k. Adding some additional information around 'some people believe' does little to change people's responses, and may even deter them from picking the incorrect response.

Limiting ourselves to comparison between 14k and 24k, with the preferred coding— coding only people who are sure that incorrect answer is correct as misinformed—the patterns are again consistent and robust. As Tables 2, 3, and 4 illustrate, proportion incorrect in 24k is almost always lower than in the 14k. In all, the story is pretty clear: the actual misinformation levels are substantially lower and adding some token social proof does little to encourage people to pick the incorrect answer and may even discourage them as people may infer that what some people believe is actually incorrect.

Discussion

Poll-based political reporting, long dotted with statistical vignettes suggesting the existence of widespread ignorance (the absence of relevant cognition), now features similar vignettes suggesting the existence of widespread misinformation (the presence of incorrect cognition). Barack Obama is a Muslim. The Affordable Care Act includes "death panels." Etc. Has widespread ignorance been replaced with widespread misinformation? The data suggest not. Survey items used to measure misinformation often include features that overstate the extent to which people are misinformed. And that has caused misinformation about misinformation.

People are less misinformed than uniformed.

The considerably higher levels of ignorance (and simultaneously, considerably lower levels of misinformation) that we find make sense in light of other facts. On the whole, the American public is politically disinterested and disengaged. To cite but one jaw dropping piece of data, Flaxman et al. (2016) find that over a three-month period, only 4% of the users read 10 or more news articles and 2 or more opinion pieces on one of the browsers on their computer. And in that lies the heart of the matter. Misinformation is closer to knowledge in that people generally need to consume political information to walk away with facts or commonly espoused fictions. And if people aren't consuming much political information, chances are that they aren't aware of the prominent untruths that underlie many of the claims about public being awash with misinformation. It also reasons, though we have no data to say much, that people's caches of misinformation on topics they pay more attention to, topics like, celebrity affairs, health and welfare, broadly speaking, etc. are considerably larger.

Furthermore, the case for partisan selective exposure is far weaker than initially apprehended (Garz et al. 2017; Gentzkow and Shapiro 2011; Prior 2013). And if people receive balanced information, they plausibly see both misinformation and 'corrections.' And the only question is people learn in a partisan manner and whether the 'corrections' succeed. The answer, it appears, is that people are pretty even handed in how they learn (see Khanna and Sood 2018) and the emerging consensus, displacing earlier evidence (Nyhan et al. 2010), is that the 'corrections' succeed (Guess and Coppock 2017; Nyhan et al. 2017; Wood and Porter 2016). In all, the evidence we present here is in line with what other research predicts.

Finding that far fewer people are misinformed about the most prominently advocated untruths is not the same as saying that the public is not misinformed about politics. Our data are

only about prominent political untruths. It is plausible that people invent a broad variety of political fictions to suit their prejudices and whims and the net amount of misinformation they have is much larger. It is also plausible that the rise of social media makes it yet easier for people to share their home spun fictions. That is a related but separate claim that needs to be studied. Our goal in this paper was narrower—to interrogate the levels of misinformation about common political untruths. And data show that the levels are considerably lower than claimed by commercial polls.

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Table 1: Features of Media Poll Misinformation Items

Design Feature	Proportion of Items
Explicit DK/Not Sure	
DK	.067
Not Sure	.022
SR-Encouraging wording	
TBYK	.167
DYT	.400
AFYK	.117
Other	.318
Number of options	
2	.417
3	.172
4	.139
5 or more	.161
IRE	.061

Notes: $n = 180$

Table 2: Mean Proportions Incorrect, by Item

	RW	IP	FSR	14k	24k	Diff. from RW				Diff. from IP			Diff. from FSR	
						RW–IP	RW–FSR	RW–14k	RW–24k	IP–FSR	IP–14k	IP–24k	FSR–14k	FSR –24k
Obama Birthplace	.139	.144	.083	.073	.064	-.005	.056*	.066*	.069*	.061	.071*	.074*	.010	.013*
Obama Religion	.274	.232	.186	.175	.041	.042	.088*	.099*	.227*	.046	.057*	.185*	.011	.138*
ACA Illegal	.380	.316	.158	.228	.030	.064	.222*	.152*	.328*	.158	.088*	.264*	-.070	.106*
ACA Death Panels	.338	.236	.130	.167	.075	.102	.207*	.171*	.206*	.106	.069*	.104*	-.036	-.001*
GW Causes	.291	.260	.229	.207	.056	.031	.062*	.084*	.231*	.031	.053*	.200*	.022	.169*
GW Scientists Agree	.127	.192	.107	.146	.019	-.065	.020*	-.020*	.107*	.085	.046*	.172*	-.040	.087*
Voter Fraud	.354	.368	.194	.159	.071	-.014	.161*	.196*	.278*	.174	.209*	.292*	.035	.117*
MMR Vaccine	.139	.124	.099	.081	.019	.015	.040*	.058*	.118*	.025	.043*	.103*	.018	.078*
Budget Deficit	.198	.100	.055	.203	.075	.098	.143*	-.005*	.090*	.045	-.103*	-.008*	-.148	-.053*
Average	.249	.219	.138	.160	.050	.030	.130	.089	.184	.081	.059	.154	-.022	.073
n	237	250	253	246	267	–	–	–	–	–	–	–	–	–

Notes: All tests are two-tailed. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3: 14k vs. 24k, Staff Survey

	Multiple Choice (14k)	Confidence (24k)		
		0–.5	.6–.8	.9–1.0
Death Panels	.05	.92	.02	.02
Medicare with a public option	.13	.93	.07	.01
Cuts Medicare Benefits	.06	.81	.19	.09
Covers Illegal Immigrants	.00	.84	.16	.06
Replaces health insurance with single payer	.08	.84	.10	.06
Mammograms not reimbursed	.18	.76	.15	.09

Table 4: 14k vs. 24k, Alumni Survey

	Multiple Choice (14k)	Confidence (24k)		
		0–.5	.6–.8	.9–1.0
Death Panels		.89	.08	.03
Medicare with a public option	.07	.90	.07	.03
Cuts Medicare Benefits	.09	.85	.10	.04
Covers Illegal Immigrants	.03	.88	.07	.06
Replaces health insurance with single payer	.04	.93	.05	.02
Mammograms not reimbursed	.17	.82	.10	.09

Appendix A: Polling Firms

Polling Organization	Number of Polls
60 Minutes/Vanity Fair	1
ABC News	5
ABC News/Washington Post	8
Abt SRBI, Inc.	5
Anderson Robbins Research/Shaw & Co. Research	7
AP/GfK Roper Public Affairs & Corporate Communications	1
CBS News	9
CBS News/New York Times	7
CNN/ORC	1
Economist/YouGov	20
Gallup Organization	10
GfK Knowledge Networks	2
GfK Public Affairs & Corporate Communications	1
Greenberg Quinlan Rosner Research	1
Hart and McInturff Research Companies	2
Hart and Newhouse Research Companies	1
ICR-International Communications Research	2
Ipsos-Public Affairs	5
Knowledge Networks	6
Latino Decisions	1
Morning Consult	1
Morning Consult/Politico	1
Opinion Dynamics	1
Opinion Research Corporation	12
ORC International	2
Peter D. Hart and Robert M. Teeter Research Companies	2
Princeton Survey Research Associates	3
Princeton Survey Research Associates International	53
Public Religion Research Institute	2
Reuters	2
Selzer & Co.	1
Social Science Research Solutions/ICR	1
Techno Metrica Institute of Policy and Politics	2
Washington Post	1
YouGov/Huffington Post	1

Appendix B: Sample Characteristics by Study

	AREP (2010)	SREP (2010)	MTurk (2017)	National Sample (2010)	National Sample (2015)
Democrat	.72	.76	.55	.46	.42
Republican	.21	.18	.26	.39	.43
Independent	.08	.06	.18	.14	.15
Conservative	.15	.15	-	.39	.42
Liberal	.67	.70	-	.26	.30
HS or Less	0	.03	.11	.44	.41
Some College	0	.03	.36	.30	.31
College Degree	.23	.54	.40	.16	.17
Post-Graduate	.77	.37	.13	.09	.10
18-29 years old	.06	.13	.26	.17	.17
30-44 years old	.25	.34	.46	.20	.20
45-64 years old	.50	.52	.23	.26	.26
65+ years old	.20	.02	.05	.13	.14
Female	.61	.84	.54	.51	.51
White	.77	.71	.83	.74	.74
Black	.02	.01	.06	.13	.13
Latino/Hispanic	.07	.06	.07	.05	.05
Asian	.07	.18	.05	.16	.17
Other/Mixed	.07	.05	.05	.08	.08

Notes: AREP has no responses for "HS or Less" and "Some College". MTurk did not include a Liberal-Conservative measure. Party identification and Liberal-Conservative measure for national samples are from the 2012 and 2016 ANES Time Series studies. All other demographics in the national samples are from the 2010 and 2015 ACS. PID includes leaners.

Appendix C: Item Text for the MTurk Study

Preface for Different Conditions

RW, IP

Now here are some questions about what you may know about politics and public affairs.

FSR, 14k, 24k

Now here are some questions about what you may know about politics and public affairs. We are interested in measuring what people currently know and can recall on their own and are just as interested in what people don't know as in what they do know. So we'd like your agreement to just say "don't know" if you don't know the answer—without looking anything up or talking with anyone about it.

Item Text

24k

Now here are a series of statements. On a scale of 0 to 10, where 0 means definitely false, 10 means definitely true, and 5 is exactly in the middle, how definitely true or false is each statement?

- Barack Obama was born in the US (T)
- Barack Obama is a Muslim (F)
- The Affordable Care Act gives illegal immigrants financial help to buy health insurance (F)
- The Affordable Care Act does *not* create government panels to make decisions about end-of-life care (T)
- Temperatures around the world are increasing because of human activity, like burning coal and gasoline (T)
- Most climate scientists believe that global warming is *not* occurring (F)
- In the 2016 presidential election, President Trump won the majority of the legally cast votes (F)
- The vaccine for measles, mumps, and rubella (MMR) causes autism in children. (F)
- Since 2012, the annual federal budget deficit has increased. (T)

Rest of the Conditions, By Item

1. Obama's Birthplace

- **RW and IP**

According to the Constitution, American presidents must be "natural born citizens." Some people believe Barack Obama was not born in the United States, but was born in another country. Do you think Barack Obama was born in …?
- o The US
- o Another country

- **FSR**

Some people believe Barack Obama was not born in the United States, but was born in another country. Was he born in …?
- o The US
- o Another country
- o DK (plus DK pref)

- **14k**

Was Barack Obama born in…?
- o the US
- o Another country
- o DK (plus DK pref)

2. Obama Religion

- **RW**

Do you personally believe that Barack Obama is a …?
- o Muslim
- o Christian

- **IP**

Most people have a religion. Some people believe Barack Obama is a Muslim. Do you personally believe that Barack Obama is a …?
- o Muslim
- o Christian

- **FSR**

Some people believe Barack Obama is a Muslim. Is he a …?
- o Muslim
- o Christian
- o DK (+ DK pref)

- **14k**

Is Barack Obama a …?

- o Muslim
- o Christian
- o DK (plus DK pref)

3. ACA Illegal

- **RW**

  To the best of your knowledge, would you say the Affordable Care Act…?
  - o *Gives* illegal immigrants financial help to buy health insurance
  - o *Does not give* illegal immigrants financial help to buy health insurance

- **IP**

  As you may know, there is currently talk of changing the Affordable Care Act (ACA), enacted in 2010. Some people believe that the ACA gives illegal immigrants financial help to buy health insurance. To the best of your knowledge, would you say the ACA…?
  - o *Gives* illegal immigrants financial help to buy health insurance
  - o *Does not give* illegal immigrants financial help to buy health insurance

- **FSR**

  Some people believe that Affordable Care Act gives illegal immigrants financial help to buy health insurance. Does the Affordable Care Act…?
  - o *Give* illegal immigrants financial help to buy health insurance
  - o *Not give* illegal immigrants financial help to buy health insurance
  - o DK (+ DK pref)

- **14k**

  Does the Affordable Care Act…?
  - o *Give* illegal immigrants financial help to buy health insurance
  - o *Not Give* illegal immigrants financial help to buy health insurance
  - o Don't know (+ DK pref)

4. ACA—Death Panels

- **RW**

  To the best of your knowledge, would you say that the Affordable Care Act …?
  - o *Creates* government panels to make decisions about end-of-life care
  - o *Does not create* government panels to make decisions about end-of-life care

- **IP**

Some people believe that Affordable Care Act establishes a government panel to make decisions about end-of-life care. To the best of your knowledge, would you say that the Affordable Care Act …?
- o *Creates* government panels to make decisions about end-of-life care
- o *Does not create* government panels to make decisions about end-of-life care

- **FSR**

Some people believe that Affordable Care Act establishes a government panel to make decisions about end-of-life care. Does the Affordable Care Act…?
- o *Creates* government panels to make decisions about end-of-life care
- o *Does not create* government panels to make decisions about end-of-life care
- o DK (+ DK pref)

- **14k**

Does the Affordable Care Act …?
- o *Creates* government panels to make decisions about end-of-life care
- o *Does not create* government panels to make decisions about end-of-life care
- o DK (+ DK pref)

5. **Global Warming—Happening + Causes**

- **RW**

Which of the following best fits your view about this? Are temperatures around the world …?
- o Increasing because of natural variation over time, such as produced the ice age
- o Increasing because of human activity, like burning coal and gasoline
- o Staying about the same as they have been

- **IP**

Recently, you may have noticed that global warming has been getting some attention in the news. Some people believe that temperatures are increasing around the world because of natural variation over time, such as produced the ice age. Which of the following best fits your view about this? Would you say that temperatures around the world are…?
- o Increasing because of natural variation over time, such as produced the ice age
- o Increasing because of human activity, like burning coal and gasoline
- o Staying about the same as they have been

- **FSR**

Some people believe that temperatures are increasing around the world because of natural variation over time, such as produced the ice age. Are temperatures around the world …?
- o Increasing because of natural variation over time, such as produced the ice age
- o Increasing because of human activity, like burning coal and gasoline
- o Staying about the same as they have been
- o DK (+ DK pref)

- **14k**

Are temperatures around the world …?
- o Increasing because natural variation over time, such as produced the ice age
- o Increasing because human activity, like burning coal and gasoline
- o Staying about the same as they have been
- o DK (+ DK pref)

6. **GW—Scientist Agreement**

- **RW**

Just your impression, which one of the following statements do you think is most accurate?
- o Most climate scientists believe that global warming *is* occurring.
- o Most climate scientists believe that global warming *is not* occurring.
- o Climate scientists are about equally divided about whether global warming is occurring or not

- **IP**

As you may know, the term "global warming" refers to the claim that temperatures have been increasing around the world. Some people believe that most climate scientists believe that global warming is *not* occurring. Just your impression, which one of the following statements do you think is most accurate?
- o Most climate scientists believe that global warming *is* occurring.
- o Most climate scientists believe that global warming *is not* occurring.
- o Climate scientists are about equally divided about whether global warming is occurring or not

- **FSR**

Some people believe that most climate scientists believe that global warming is *not* occurring. Which one of the following statements is most accurate?
- o Most climate scientists believe that global warming *is* occurring.
- o Most climate scientists believe that global warming *is not* occurring.
- o Climate scientists are about equally divided about whether global warming is occurring or not

        o   DK (+ DK pref)

- **14k**

    Which one of the following statements is most accurate?
    - Most climate scientists believe that global warming is occurring.
    - Most climate scientists believe that global warming is NOT occurring.
    - Climate scientists are about equally divided about whether global warming is occurring or not
    - DK (+ DK pref)

7. **Voter Fraud**

- **RW**

    As you may know, President Trump has said that several million people voted illegally in the 2016 presidential election and that he won the majority of the legally cast votes. Do you believe that President Trump …?
    - Won the majority of the legally cast votes
    - Did not win the majority of the legally cast votes

- **IP**

    As you may know, not everyone living in the US has the legal right to vote. President Trump has said that several million people voted illegally in the 2016 presidential election and that he won the majority of the legally cast votes. Do think that that President Trump …?
    - Won the majority of the legally cast votes
    - Did not win the majority of the legally cast votes

- **FSR**

    As you may know, President Trump has said that several million people voted illegally in the 2016 presidential election and that he won the majority of the legally cast votes. Did President Trump …?
    - Won the majority of the legally cast votes
    - Did not win the majority of the legally cast votes
    - DK (+ DK pref)

- **14k**

    In the 2016 presidential election, did President Trump …?
    - Won the majority of the legally cast votes
    - Did not win the majority of the legally cast votes
    - DK (+ DK pref)

8. Vaccines

- **RW**

  From what you have read or heard, do you personally think that the vaccine for Measles, Mumps, and Rubella (MMR):
  - *Causes* autism in children
  - *Does not cause* autism is children

- **IP**

  As you may know, most children receive the vaccine for Measles, Mumps, and Rubella (MMR). Some people believe that the MMR vaccine causes autism in children. From what you have read or heard, do you personally think that the MMR vaccine:
  - *Causes* autism in children
  - *Does not cause* autism is children

- **FSR**

  Some people believe that the vaccine for Measles, Mumps, and Rubella (MMR) causes autism in children. Does the MMR vaccine …?
  - *Cause* autism in children
  - *Not cause* autism in children.
  - DK (+ DK pref)

- **14k**

  Does the vaccine for Measles, Mumps, and Rubella (MMR) …?
  - *Cause* autism in children
  - *Not cause* autism in children.
  - DK (+ DK pref)

9. Obama—Budget Deficit

- **RW**

  As you may know, the federal government runs a deficit when it spends more than it takes in. Since 2012, would you say that the annual federal budget deficit has …
  - Increased
  - Stayed about the same
  - Decreased

- **IP**

As you may know, the federal government runs a deficit when it spends more than it takes in. Since 2012, with the Republicans having the majority in the U.S. House of Representatives, would you say that the annual federal budget deficit has …
- o Increased
- o Stayed about the same
- o Decreased

- **FSR**

  Since 2012, with the Republicans having the majority in the U.S. House of Representatives,
  - o has the annual federal budget deficit ….
  - o Increased
  - o Stayed about the same
  - o Decreased
  - o DK (+ DK pref)

- **14k**

  Since 2012, has the annual federal budget deficit …
  - o Increased
  - o Stayed about the same
  - o Decreased
  - o DK (+ DK pref)

Appendix D: Item Text for Alumni and Staff Surveys

14k

The recently passed health care bill ...?
- Provides coverage for people who are currently in the country illegally
- Replaces private health insurance with a "single payer system"
- Increases the Medicare payroll tax for upper-income Americans
- Does not reimburse routine mammograms for women younger than 50
- Couldn't say

The recently passed health care bill ...?
- Allows a government panel to make decisions about end-of-life care for people on
- Medicare
- Replaces Medicare with a "public option"
- Limits future increases in payments to Medicare providers
- Cuts benefits to existing Medicare patients
- Couldn't say

24k

Here are some statements about the recently passed health care bill. On a scale of 0 to 10, where 0 means definitely false, 10 means definitely true, and 5 is exactly in the middle, how definitely true or false would you that each statement is? The healthcare bill… (Please enter a number between 0 and 10.)

- Allows a government panel to make decisions about end-of-life care for people
- on Medicare
- Replaces Medicare with a "public option"
- Limits future increases in payments to Medicare providers
- Cuts benefits to existing Medicare patients
- Provides coverage for people who are currently in the country illegally
- Replaces private health insurance with a "single payer system"
- Increases the Medicare payroll tax for upper-income Americans
- Does not reimburse routine mammograms for women younger than 50

Appendix E: Alternate Thresholds for Scoring Incorrect

Table E1: Proportion Incorrect, by Threshold

Item	= 10	> 8	>7	> 5
Obama Birthplace	.064	.079	.086	.105
Obama Religion	.041	.045	.067	.101
ACA Illegal	.030	.045	.075	.165
ACA Death Panels	.075	.086	.094	.139
GW Causes	.056	.079	.101	.135
GW Scientists Agree	.019	.022	.034	.067
MMR Vaccine	.019	.026	.034	.064
Average	.043	.055	.070	.111