Online Appendix
Acquiescence Bias Inflates Estimates of Conspiratorial Beliefs and Political Misperceptions
Political Analysis

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Contents

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A Positive- and negative-key question wordings

Tables A1, A2, A3, and A4 present question wordings for all items fielded for the paper. We document details of each individual survey in Section B below.

Table A1: China 2021 question wordings, Chinese

Item	Positive keyed	Negative keyed
GMO Bioterrorism, China	起源于美国的转基因技术是用于对中国进行生物恐怖袭击的科技。	起源于美国的转基因技术不是用于对中国进行生物恐怖袭击的科技。
GMO Increase Yield, China	与传统的杂交技术相比，精密的转基因技术将会增加和保持产量，改善食品的质量并且延长食品的保质期。	与传统的杂交技术相比，精密的转基因技术不会增加和保持产量，也不会改善食品的质量或者延长食品的保质期。
Obama birth, China	美国前总统奥巴马并非真的从美国出生，也没有一个确凿的夏威夷出生证明。	美国前总统奥巴马是从美国出生，并且拥有一个确凿的夏威夷出生证明。
Soros conspiracy, China	金融巨鳄乔治-索罗斯暗地建立了自己的秘密组织，企图破坏美国政府的稳定，操控媒体，从而控制世界。	金融巨鳄乔治-索罗斯没有建立自己的秘密组织，没有企图破坏美国政府的稳定，操控媒体，或控制世界。
9/11 consipracy, China	某些美国的政府官员谋划了“911事件”（2001年9月11日的美国本土袭击），因为他们希望美国借此对中东发动战争。	美国的政府官员没有谋划了“911事件”（2001年9月11日的美国本土袭击），也没有希望美国借此对中东发动战争。

Table A2: China 2021 question wordings, English

Item	Positive keyed	Negative keyed
GMO Bioterrorism, China	GM technologies originated in the USA for the purpose of being directed as bioterrorism against China.	GM technologies originated in the USA not for the purpose of being directed as bioterrorism against China.
GMO Increase Yield, China	Compared with traditional hybrid technologies, precision GM technology will increase and maintain yield, improve food quality and extend food shelf life.	Compared with traditional hybrid technologies, precision GM technology will not increase and maintain yield, improve food quality or extend food shelf life.
Obama birth, China	President Barack Obama was not really born in the United States and does not have an authentic Hawaiian birth certificate.	President Barack Obama was born in the United States and has an authentic Hawaiian birth certificate.

Soros conspiracy, China	Billionaire George Soros is behind a hidden plot to destabilize the American government, take control of the media, and put the world under his control.	Billionaire George Soros is not behind a hidden plot to destabilize the American government, take control of the media, and put the world under his control.
9/11 consipracy, China	Certain U.S. government officials planned the attacks of September 11, 2001, because they wanted the United States to go to war in the Middle East.	U.S. government officials did not plan the attacks of September 11, 2001, because they wanted the United States to go to war in the Middle East.

Table A3: U.S. Lucid 2020 study question wordings

Item	Positive keyed	Negative keyed
9/11 conspiracy	Certain U.S. government officials planned the attacks of September 11, 2001, because they wanted the United States to go to war in the Middle East.	U.S. government officials tried to prevent the attacks of September 11, 2001. They DID NOT want the United States to go to war in the Middle East.
Accept election loss	Presidential candidates should accept the outcome of elections even if they narrowly lose.	Presidential candidates need not accept the outcome of elections if they narrowly lose.
Beyonce rally	The musicians Beyonce and Jay Z appeared at a rally in support of Hillary Clinton.	The musicians Beyonce and Jay Z DID NOT appear at a rallies in support of Hillary Clinton.
China currency	In August 2015, the Chinese currency, the Yuan, was worth more against the U.S. dollar than it had been in the time period from September 2012 to July 2015.	In August 2015, the Chinese currency, the Yuan, was worth less against the U.S. dollar than it had been in the time period from September 2012 to July 2015.
Clinton Foundation	The Clinton Foundation bought $137 million in illegal arms.	The Clinton Foundation DID NOT buy millions of dollars worth of illegal arms.
Clinton deplorables	Hillary Clinton said that you could put half of Trump's supporters into what I call the basket of deplorables.	Hillary Clinton DID NOT say that you could put half of Trump's supporters into what I call the basket of deplorables.
Clinton stumbled	At the 9/11 memorial ceremony, Hillary Clinton stumbled and had to be helped into a van.	At the 9/11 memorial ceremony, Hillary Clinton was healthy and walked herself back to a van.

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Table A3 – continued from previous page

Item	Positive keyed	Negative keyed
Contrails conspiracy	Vapor trails left by aircraft are actually chemical agents deliberately sprayed in a clandestine program directed by government officials.	Vapor trails left by aircraft are produced by aircraft engine exhaust or changes in air pressure and have nothing to do with government officials.
Coronavirus weapon	The Chinese government created the coronavirus as a biological weapon. Do you believe this is...	The Chinese government DID NOT create the coronavirus as a biological weapon. Do you believe this is...
Death panels	True of False: Changes to the health care system enacted by Congress and the Obama administration created death panels which have the authority to determine whether or not a gravely ill or injured person should receive health care based on their level of productivity in society?	True of False: Changes to the health care system enacted by Congress and the Obama administration DID NOT create death panels which have the authority to determine whether or not a gravely ill or injured person should receive health care based on their level of productivity in society?
FBI Clinton charges	Two days before the election, the FBI director told Congress that a newer batch of emails linked to Hillary Clinton's private email server changed his conclusion that Clinton should face no charges over her handling of classified information.	Two days before the election, the FBI director told Congress that a newer batch of emails linked to Hillary Clinton's private email server DID NOT change his conclusion that Clinton should face no charges over her handling of classified information.
FBI agent	An FBI agent connected to Hillary Clinton's email disclosures murdered his wife and shot himself.	An FBI agent connected to Hillary Clinton's email disclosures DID NOT murder his wife or shoot himself.
FBI director	On October 28th, the FBI director alerted members of Congress that the FBI had discovered new emails relevant to its investigation of Hillary Clinton's personal server.	In late October, the FBI director kept to himself and DID NOT alert members of Congress that the FBI had discovered new emails relevant to its investigation of Hillary Clinton's personal server.
Hand wash	Regular hand washing and avoiding those showing symptoms DOES NOT help prevent infection with coronavirus. Do you believe this is...	Regular hand washing and avoiding those showing symptoms helps prevent infection with coronavirus. Do you believe this is...
Immigrant pop Canada	Out of every 100 people living in Canada, how many do you think were born outside of Canada?	Out of every 100 people living in Canada, how many do you think were born in Canada?

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Table A3 – continued from previous page

Item	Positive keyed	Negative keyed
Immigrant pop US	Out of every 100 people living in the United States, how many do you think were born outside of the country?	Out of every 100 people living in the United States, how many do you think were born in the United States?
Iraq WMD	Immediately before the U.S. invasion in 2003, Iraq had an active weapons of mass destruction program and large stockpiles of WMD.	Immediately before the U.S. invasion in 2003, Iraq DID NOT have either an active weapons of mass destruction program nor large stockpiles of WMD.
Iraq conspiracy	The U.S. invasion of Iraq was not part of a campaign to fight terrorism, but was driven by oil companies and Jews in the U.S. and Israel.	The U.S. invasion of Iraq was part of a campaign to fight terrorism, not driven by oil companies and Jews in the U.S. and Israel.
Ireland asylum	In May 2016, Ireland announced that it was officially accepting Americans requesting political asylum from a Donald Trump presidency.	Ireland DID NOT announce that it was officially accepting Americans requesting political asylum from a Donald Trump presidency.
Obama birth certificate	Barack Obama was not really born in the United States and DOES NOT have an authentic Hawaiian birth certificate.	Barack Obama was born in the United States and has an authentic Hawaiian birth certificate.
Pence vulgar	Mike Pence said that Michelle Obama is the most vulgar First Lady we've ever had.	Mike Pence DID NOT say that Michelle Obama is the most vulgar First Lady we've ever had.
Pope endorse	Pope Francis endorsed Donald Trump.	Pope Francis DID NOT endorse Donald Trump.
RuPaul groped	Celebrity RuPaul said that Donald Trump mistook him for a woman and groped him at a party in 1995.	Celebrity RuPaul DID NOT say that Donald Trump mistook him for a woman and groped him at a party in 1995.
Soros conspiracy	Billionaire George Soros is behind a hidden plot to destabilize the American government, take control of the media, and put the world under his control.	Billionaire George Soros is not trying to destabilize the American government, take control of the media, or put the world under his control.
Trump concede	At the third presidential debate, Donald Trump refused to say whether he would concede the election if he lost.	At the third presidential debate, Donald Trump said he would concede the election if he lost.

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Table A3 – continued from previous page

Item	Positive keyed	Negative keyed
Trump food stamps	The 2018 budget of the Trump administration proposed to cut spending on food stamps (the Supplemental Nutrition Assistance Program) by more than $60 billion over the fiscal years 2018 to 2022.	The 2018 budget of the Trump administration proposed to cut spending on food stamps (the Supplemental Nutrition Assistance Program) by less than $60 billion over the fiscal years 2018 to 2022.
US created coronavirus	The US government created the coronavirus. Do you believe this is...	The US government DID NOT create the coronavirus. Do you believe this is...
Violence for votes	Sometimes regular people need to be a little violent to make sure votes are counted correctly.	Regular people DO NOT need to be a little violent to make sure votes are counted correctly.
Vitamin C	Taking vitamin C can prevent a person from being infected with the coronavirus. Do you believe this is...	Taking vitamin C DOES NOT prevent a person from being infected with the coronavirus. Do you believe this is...

Table A4: U.S. MTurk 2016, TESS 2017, China 2017, and China 2019 study question wordings

U.S. MTurk and TESS	1	In the third quarter of 2014, gross domestic product (GDP) of the United States grew at the fastest quarterly rate since [2003/1998].
	2	The U.S. Economy added [fewer/more] than 45,000 net jobs in May, 2016.
	3	In August 2015, the Chinese currency, the Yuan, was worth [less/more] against the U.S. dollar than it had been in the time period from September 2012 to July 2015.
	4	On January 8, 2012, the length of the day from sunrise to sunset in the city of Doha, Qatar was [less/more] than 11 hours.
China 2017	1	GDP growth in 2015 was [above/below] 6.5%.
	2	Defense spending increased by [more/less] than 10% in 2015.
	3	The renminbi entered the IMF SDR currency basket at a rate [greater/less] than 10%.
	4	In August 2015, the Chinese currency, the Yuan, was worth [less/more] against the U.S. dollar than it had been in the time period from September 2012 to July 2015.
	5	In 2015, the National Development and Reform Commission of China fines Qualcomm for monopoly behavior with a fine [more/less] than 4 billion yuan.
	6	China's GDP growth rate in 2016 was [higher/lower] than the GDP growth rate in 2015.
China 2019	1	In 2017, ZTE agreed to pay a fine of [more than/less than] US$1 billion to the United States.
	2	A survey in 2015 showed that Hong Kong people work [more than/less than] 60 per week on average.
	3	U.S. soybeans exported to China [more than/less than] a quarter of the total U.S. production.
	4	In 2018, there were [more than/less than] 70 fighters participating in the South China Sea parade.
	5	In 2017, the number of Chinese students studying abroad were [more than/less than] 600,000.
	6	In 2016, the Chinese government provided scholarships to [more than/less than] 100,000 international students..

Note: We asked about a fifth fact of the U.S. MTurk sample on monthly changes in retail sales in June, 2015. We believe the statement itself was ambiguous to participants, as on average subjects learned from all four headlines in the wrong (away from truth) direction. We exclude this statement from analysis.

B Details of studies

B.1 April 2021 China.

We fielded a survey of 1,058 respondents aged 18 and older, from China, and who passed an attention screener from the online survey platform Qualtrics, beginning March 30, 2020. Respondents were recruited by quota sampling on age, gender, education, and geography to reflect urban residents in China. As part of this survey, respondents were asked about their beliefs in 5 conspiratorial and factual statements relevant to GMOs and U.S. politics. We drew these 5 statements from prominent studies in the U.S. and China. We present both versions of the 5 questions in Chinese and English respectively in Tables A1 and A2.

B.2 December 2020 U.S.

We fielded a survey to 2,055 subjects aged 18 and older, U.S. citizens, and who passed an attention screener from the online survey platform Lucid between December 21 and December 23, 2020. We advertised prominently on the consent screen that our study did not deceive. Prior to creating post-stratification weights, respondents were 55 percent female, 76 percent identified their race as white, 11 percent reported Hispanic ethnicity, 20 percent reported abstaining in the 2020 election, 46 percent voted Biden, and 30 percent voted Trump. We raked post-stratification weights to target marginals to account for differential non-response using the R Core Team (2020) package survey (Lumley, 2011). Weights varied in size from 0.2 to 4.

We followed the survey design of Allcott and Gentzkow (2017) in, after consenting to participate, asking subjects to confirm they would provide thoughtful answers. Subjects then proceeded to report their beliefs about each of 29 political conspiratorial or factual statements of fact relevant to politics. We drew these 29 statements from prominent studies in the realm of political conspiracies and facts. We created a negative-keyed version of each question and randomized delivery at the level of subject-question. We randomized question order for the twelve Allcott and Gentzkow (2017). We broke up the factual and conspiratorial questions with batteries that elicited policy attitudes and that measured numeracy. The survey closed with a set of demographic questions. We present both versions of the 29 questions in Table A3.

B.3 March to July 2019 China

We recruited 1,025 survey respondents from China, 18 and older using the online survey platform Qualtrics between March 26 and July 21, 2019. Participants were paid through Qualtrics, with the opportunity to make an additional eight yuan depending on their performance. The sample was about 53% male, 47% female, with a mean age of 42. Like the 2017 sample, we selected six statements of fact about economics and politics released from official sources. We report these statements of facts below.

B.4 December 2017 U.S.

We fielded a study with American subjects December 2017 through January 2018 with NORC, a survey firm at the University of Chicago. Partial funding for this study was provided through Time-Sharing Experiments for the Social Sciences. NORC maintains an online panel that is nationally representative, and delivered to us responses from 1,992 18+ U.S. citizens. Subjects were compensated with standard rewards for participation through NORC, plus an additional $2.00 along with the opportunity to earn $0.10 per round via the crossover scoring mechanism.

The design of the NORC study follows that of the MTurk study but for the following changes. NORC's survey team made edits to our presentation of the incentive rule and elicited probabilities using a graphical slider rather than a text input box. Subjects completed one section of headlines without source, two sections of headlines with source, and a final section where they could choose from which source they would observe a headline. In this section, only two rounds of beliefs were elicited – prior beliefs before seeing the source and beliefs after choosing and observing the source. Each section had only three rounds rather than five.

We fielded three of the five facts used in the MTurk study along with one new fact, and rewords the true/false version of one of the continuing facts. See Table A4 for all facts.

B.5 February to April 2017 China

We recruited 1,109 survey respondents from China, 18 and older using the online survey platform Qualtrics between February 3 and April 21, 2017. Participants were paid through Qualtrics, with the opportunity to make an additional eight yuan depending on their performance. The sample was 56% male, 44% female, with a mean age of 40.

We selected six statements of fact about economics and politics released from official sources. Like the U.S. case, we selected facts that were informative about domestic and international politics. We were interested in using a mix of official, commercial, and international sources and also wanted to select one overlapping fact with the U.S. sample. We used the facts in Table A4 with headlines from four sources: BBC, Xinhua, Global Times, and Nanfang Dushibao. BBC is a Western source, Xinhua is one of the two main official sources of the Chinese Communist Party, Global Times is a official paper that is known to have a nationalistic and anti-Western slant, and Nanfang Dushibao is a commercial Chinese paper in the South and known to be more independent of the government.

B.6 September 2016 U.S.

We recruited 794 subjects aged 18 and older and U.S. citizens from Amazon.com's Mechanical Turk (MTurk) worker platform between September 8 and 12, 2016. Participants were paid a $0.60 flat fee and offered the opportunity to earn bonuses of up to $4.00 depending upon their performance in the experiment, which was advertised to and did take about 15 minutes. The study did not deceive, which was advertised prominently on the consent screen. Respondents were 53 percent female and had an average age of 35, and 48 percent had a four year college degree or more. The sample wasn't overly political – 65 percent reported voting in the 2012 presidential election – but tilted Democratic and liberal, with 54 percent Democrat (including leaners) and 28 percent Republican, and only 19 percent conservative or very conservative.

Upon consenting to participate, subjects first took an IQ-like quiz. They had two minutes to answer up to 15 logic and reasoning questions. They were paid $0.10 for each point of their total score on the quiz, which was the number answered correctly less the number answered incorrectly, skipped questions not counted. The average quiz score was 2.1, with a minimum of -11 and a maximum of 11. Subjects were told that money would not be deducted from the show-up fee for scores less than zero. After the IQ-like quiz, subjects were taught about the main section of the experiment. They were told that they would participate in a section consisting of 25 rounds. For each round won, they would be paid a $0.10 bonus, $0.00 otherwise. In each round, they would be asked to evaluate a difficult factual statement with a number from 0 to 100 that described

how likely they believed the statement to be true.[1] The instructions presented the response as a probability in terms designed to be accessible to those not trained in statistics and then explained how participants would win each round, which was a function of their probabilistic belief through the crossover design. The experiment highlighted at multiple points that the subject's chances of winning would be highest if they accurately reported their probabilistic belief.

After presenting the overview of the section and the mechanism of payment, subjects were instructed that they would evaluate the same factual statement in multiple rounds, and that in some rounds they would receive a signal from the computer about whether or not the statement was true. They were told that the signal from the computer would indicate that the correct answer was true or false, and that this signal would be correct three out of four times on average. They were also told that in other rounds, they may receive a news headline related to the statement of fact. They were told that they might want to change their beliefs in response to signals or headlines.

After the instructions for the section, the subjects played three practice rounds evaluating the factual statement "It rained (more than 0.00 inches of precipitation) in Santa Fe, New Mexico on July 7, 2004." Mimicking the section they would play, in the first round they evaluated the statement without any signal from the computer. In the second round they received signals from the computer and again evaluated the statement. In the third round, they received a headline from a newspaper related to the fact and again evaluated the statement. After the third round, the instructions explained how they would be paid as a function of their response.

Once the practice section was complete, participants then proceeded to the main section for which they were paid based upon their performance. For each of five statements of fact, beliefs were elicited for five rounds. Beliefs were elicited in the first round for each statement prior to the delivery of any signal or headline, measuring the subject's initial belief. In each round subsequent to the first, their previous response was presented for their reference.[2]

The first and fifth section were sections where subjects received signals from the computer as to the truth of the statement. In rounds two through five of these two sections, they received one new (independent) signal in each round from the computer about the statement and reported their (potentially-updated) belief. In each round with a signal, the subject was reminded that the signal would be correct three out of four times. With this design, we observe how subjective beliefs about the statement change over time in response to the noisy signals received.

In the second, third, and fourth sections, subjects received news headlines published on the day of or shortly after the statistic related to the statement of fact in rounds two, three, four, and five. That is, for each statement of fact we collected four news headlines, and these four headlines were delivered in random order to each subject. In the second section, the four headlines were delivered without information about the news source that produced the headline. This allows us to observe learning about each headline when subjects are not yet aware that we might deliver the source of headlines in subsequent rounds. In the third and fourth sections, headlines were presented along with the news source that published it. We thus observe how subjects change their beliefs about the truth of the statement in response to each headline and in response to the same headline along with the news source that published it, with randomized order across subjects.

[1] The prompt in each round was "Please tell us how likely you believe this statement is true: [Statement presented]. How likely you believe that the statement is true (for example, 1 if you believe it almost certainly false, 99 if you believe it almost certainly true, 50 if totally unsure): [textbox entry]."

[2] In all rounds, subjects had 20 seconds to evaluate the statement, to limit the option of searching for the truth on the web. After 20 seconds, responses were recorded and they were automatically forwarded to the next round.

All subjects had beliefs elicited about five different statements of fact for five rounds each. All subjects evaluated one statement of fact about an abstract, non-economic, non-political topic, the length of the day in Doha, Qatar on January 8, 2012. Subjects only evaluated this fact in one of the two computer signal sections (the first or fifth section, at random) as we did not have headlines related to this fact. This fact serves as a benchmark of learning about non-economic, non-political facts. Subjects additionally evaluated four other facts. Half of the sample evaluated one fact not presented in this essay for use in a separate research project. This half evaluated three of the four facts for this project in addition to the Doha fact. The other half of the sample evaluated all four of the facts for this project in addition to the Doha fact. Which facts were delivered with computer signals versus headlines versus headlines with news sources were all randomized at the subject level. Finally, we randomized for each statement whether the subjects evaluated a true or a false version of the statement to protect against any global bias toward evaluating statements as true or false. We find little difference on this dimension, and so recode all signals and response in the direction of true.

We selected four statements of fact about economic statistics released from official sources that the news media deemed sufficiently salient to mention in a news story headline. In Section K, we document how we selected facts and news sources for the U.S. studies, with a similar procedure for the China study. Our goal was to select facts that were difficult but similar to economic judgments the public would have to make, particularly in evaluating the economic outcomes under incumbent governments. We sought four facts related to economic releases with an objective value (government-produced statistics or equity market values) that each had headlines relevant to the fact from the same four news sources. We also wanted economic statistics relevant to political knowledge and judgments. After extensive searching over multiple topics and multiple years, we identified the facts (see Table A4) with such headlines for four U.S. news sources: the New York Times, USA Today, CNN, and Fox News. While these are not an exact representative sample from the full set of headlines, our belief having read hundreds of headlines related to economic and political news is that these are roughly representative of how these news sources covered such events during this time period.

Finally, after completing the five sections, participants answered a series of survey questions about their demographics, political attitudes, and political behaviors. This includes standard demographics and political questions such as partisanship and ideology. On the final screen, a code was presented to the subjects for them to submit on Mechanical Turk in order to collect any bonuses from the IQ-like quiz responses and the five sections.

C Results for misperceptions and political facts

In this section, we replicate findings from the main text for factual questions of politics in contrast to rumors or conspiracies.

C.1 Politically-relevant facts

The triangles in Figure 1 represent results on what we categorize as politically-relevant facts (see also Appendix Figure A2). In addition to the five studies above, we also include questions from Nyhan and Reifler (2010) on weapons of mass destruction in Iraq and from Hopkins, Sides, and Citrin (2018) on beliefs about the size of the immigrant population in the United States. Here, positive-keyed is when the agreeable response matches the truth of the fact.

As with the conspiracies and rumors, differences in endorsement on politically-relevant facts varies considerably across items from 44 to less than 2 points. All differences are positive. In some cases, conclusions scholars might draw about politically-relevant beliefs meaningfully diverge by question wording. Under the original Allcott and Gentzkow wording, our sample indicates 64 percent believed that "On October 28th, the FBI director alerted members of Congress that the FBI had discovered new emails relevant to its investigation of Hillary Clinton's personal server" versus only 22 percent in the negated condition, and 44 versus 11 percent believed that "Two days before the election, the FBI director told Congress that a newer batch of emails linked to Hillary Clinton's private email server changed his conclusion that Clinton should face no charges over her handling of classified information."

Jamieson and Albarracin, p 2 conclude from their study on beliefs about the effectiveness of hand washing that, "Because hand washing and social distancing can prevent the spread of respiratory viruses including the flu, the finding that early in March, 87% believed that these practices were preventative signals a success of public health messaging." We find a 20 point difference in this belief between the original and negated version of the question.

C.2 Surveys Eliciting Probabilistic Beliefs

The instruments used by the studies we have so far replicated have each been closed-ended responses with a small number of categories. In this section we document acquiescence bias when beliefs are elicited on a continuous probability scale.[3]

The squares in Figure 1 present results from 16 politically-relevant facts on which we elicited beliefs from survey respondents in China and the U.S. from four surveys spanning years 2016 through 2020 (see also Appendix Figure A3). In contrast to the closed-ended responses (e.g., true vs false) in the two tables above, we elicited subjects' continuous probabilistic beliefs. We asked how likely they believed each fact to be true on a zero to 100 scale with incentives for an accurate report of their probabilistic beliefs.[4] See Appendix Sections B.4, B.5, and B.6 for details on the samples in these studies.

As with the closed-ended instrument, we find variable but in some cases large differences in reported probabilities by question wording. In China, differences vary from 9 points on ZTE Fine

[3]In the case of questions where we elicit probabilistic beliefs on facts, as we describe below, we are not replicating previous work. In this case, we align the "more" as positive-keyed and "less" as negative-keyed for ease of interpretation. Note that our results would not change if we were to align the "less" as positive-keyed and "more" as negative-keyed.

[4]The Hopkins, Sides, and Citrin questions asked subjects the population percentage foreign-born in the U.S. so also on a 0-100 scale but not a probability.

to 27 points on China's currency becoming part of the IMF currency basket. In the U.S., differences vary from 6 points on beliefs about GDP growth in 2014 to 46 points on beliefs about the size of cuts to food stamps in the Trump Administration's 2018 budget proposal (this difference from the TESS 2017-18 survey; on the Lucid 2020 survey, the difference was 32 points). All differences are positive.

D ANES 2020 misinformation items

Recent iterations of the American National Election Studies (ANES) implement a two-question instrumentation to measure political and conspiratorial beliefs. Consistent with our model and analysis, this two-question instrumentation should also help to mitigate acquiescence bias. Here we present the ANES design and a brief analysis to evaluate the presence of acquiescence bias in the 2020 study. We conclude that the ANES design is better than instruments fielded by other scholars, but one might still like to use our methods if analyzing the confidence measures elicited as the second question.

The ANES design first asks the respondent, "Which of these two statements do you think is most likely to be true?" and provides two versions of the target belief, one in the affirmative and one its negation. For example, the first question in the 2020 study had response options, "Russia tried to interfere in the 2016 presidential election" and "Russia did not try to interfere in the 2016 presidential election." If we assume that neither response is perceived as acquiescent to the respondent, this instrument would mitigate acquiescence bias. However, the 2020 study did not randomize the response order of the first question to its misinformation battery. If response order effects, due to acquiescence, shirking, or other factors, led to biased selection of the first response, this design might still yield biased estimates of population beliefs and of correlates of those beliefs.

Following response to the first question, respondents received a follow up question, "How confident are you about that?" with response options Not at all, A little, Moderately, Very, and Extremely. The 2020 study did randomize the order of these response options at the respondent level – all respondents either saw "Not at all" or "Extremely" as the first response to all misinformation questions.

One might imagine our design as randomizing responses to the first question while the ANES design randomizes responses to the second, preventing evaluation of the magnitude of acquiescence bias present in the instrument. We would advocate that in future studies the ANES randomize response options to the first questions in addition to the second.

Nonetheless, we can show that the response order to the second item does influence the reported confidence elicited from respondents about their beliefs. In Table A5, we present the percentage of respondents who indicated they were extremely confident in each belief by assignment to forward or reverse response order on the second question for each belief.

While we cannot evaluate any bias in response to the first question, responses to the second question indicate evidence of acquiescence bias. Those presented the confidence responses in reverse order (where "Extremely" came first), in cases report more extreme confidence or equivalent than those presented responses in forward order (where "Not at all" came first). One might conclude, for example, that the percentage of the population who feels extremely confident that vaccines cause autism is 50 percent higher if presented the responses in reverse rather than forward order.

Depending on the goals of the research, one could want to apply our Weighted Least Squares fix to the confidence responses here to correct for acquiescence bias in population totals and for acquiescence bias in correlations with covariates. As we show in the main body of the paper, simply averaging across the two conditions only yields correct results with perfect balance in the sample. As a researcher zooms in on smaller and smaller subsets (e.g., conservatives who report believing that vaccines cause autism), sampling variability increases expected imbalance.

Overall, the ANES instrumentation, both theoretically and empirically, looks to be superior to

Belief	N	Percent extremely confident Forward	Reverse
1. Russia tried to interfere in the 2016 presidential election	5,226	24	32
2. Russia did not try to interfere in the 2016 presidential election	2,049	15	17
1. Donald Trump's administration deported more unauthorized immigrants	3,982	11	15
2. Barack Obama's administration deported more unauthorized immigrants	3,226	12	16
1. Most scientific evidence shows childhood vaccines cause autism	706	10	15
2. Most scientific evidence shows childhood vaccines do not cause autism	6,536	33	35
1. World temperatures have risen on average over the last 100 years	6,418	31	38
2. World temperatures have not risen on average over the last 100 years	875	9	9
1. The novel coronavirus (COVID-19) was developed intentionally in a lab	3,374	18	22
2. The novel coronavirus (COVID-19) was not developed intentionally in a lab	3,906	26	26
1. Scientific evidence that hydroxychloroquine is a safe and effective treatment	1,751	14	16
2. No scientific evidence that hydroxychloroquine is a safe and effective treatment	5,486	27	30

Table A5: Acquiescence bias in ANES 2020 information items

the approach fielded by many existing surveys on eliciting political and conspiratorial beliefs.

E Results Plots

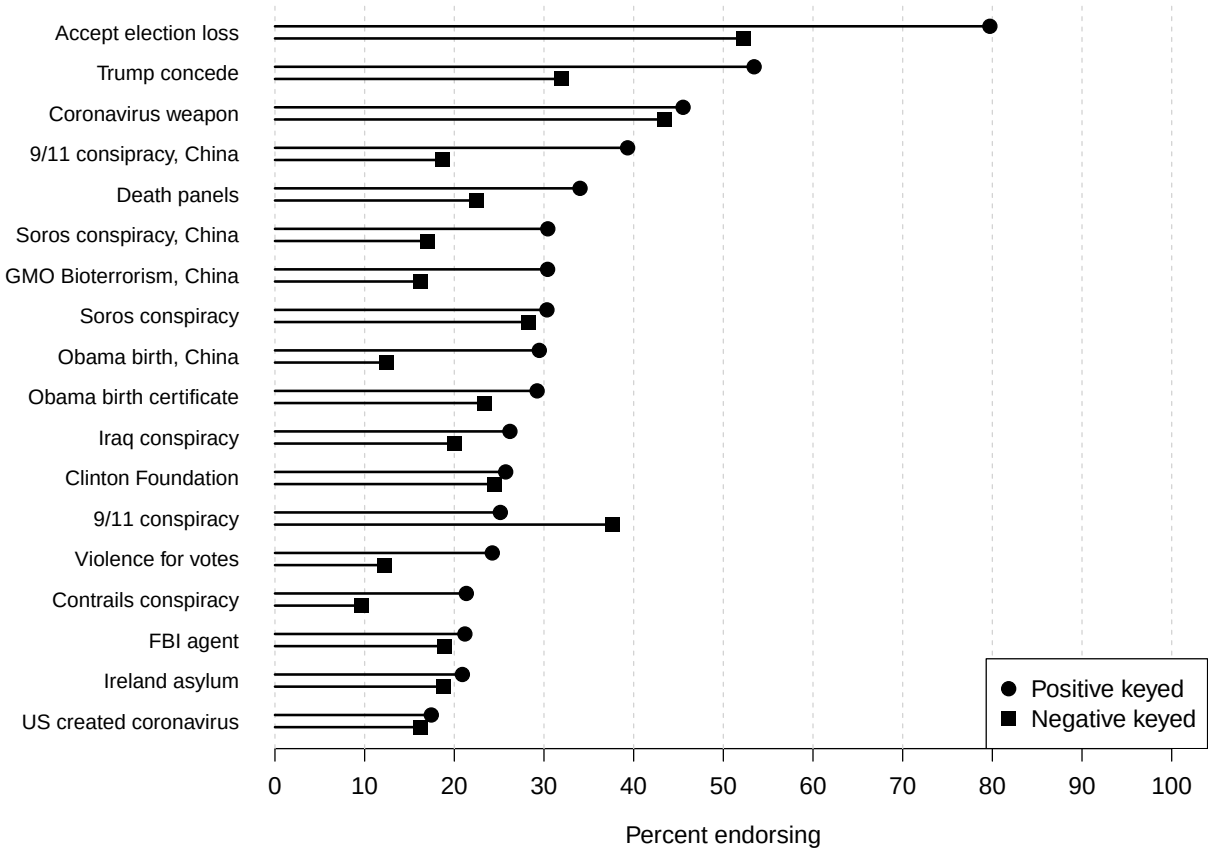


Figure A1: Effect of question wording on reported endorsement of rumors and conspiracies

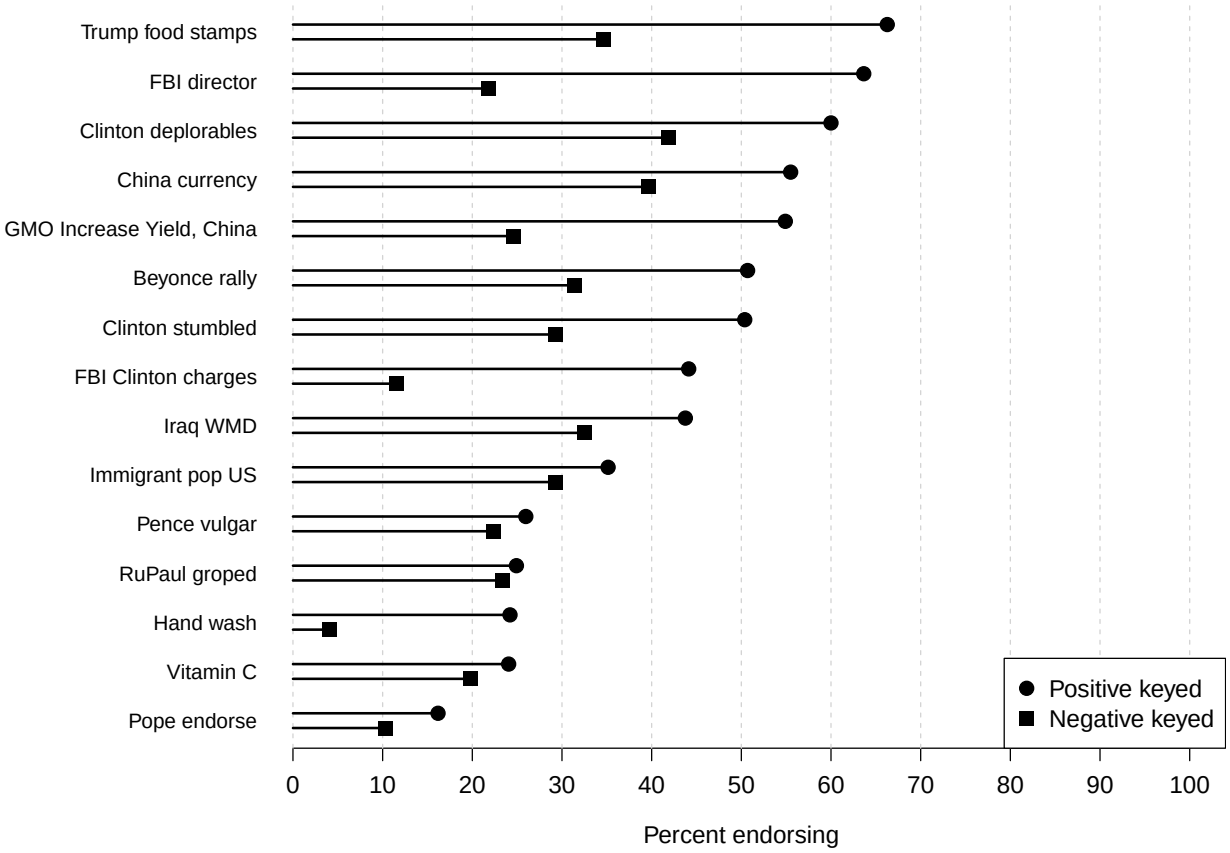


Figure A2: Effect of question wording on reported belief of politically-relevant facts, Replications

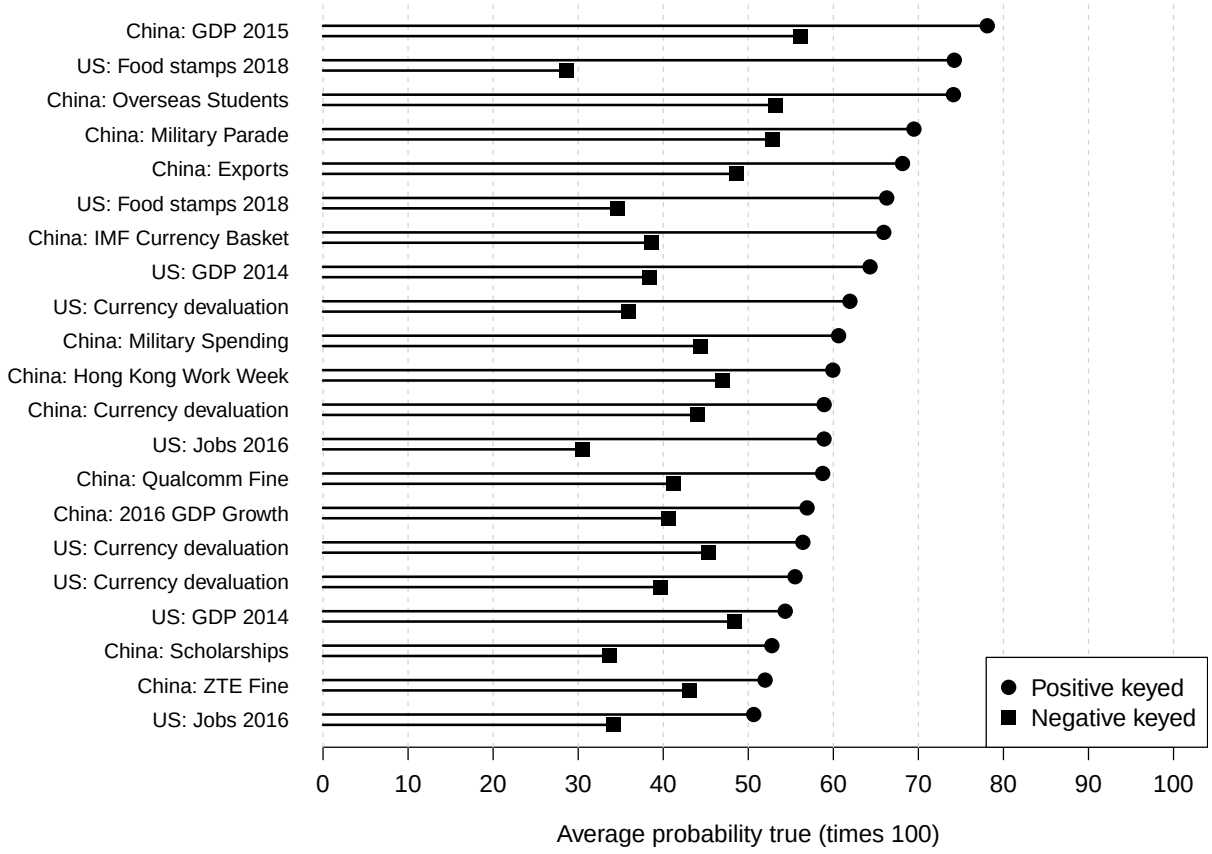


Figure A3: Effect of question wording on reported probabilistic belief in politically-relevant facts, Authors

F Robustness: Logical equivalence and country of study

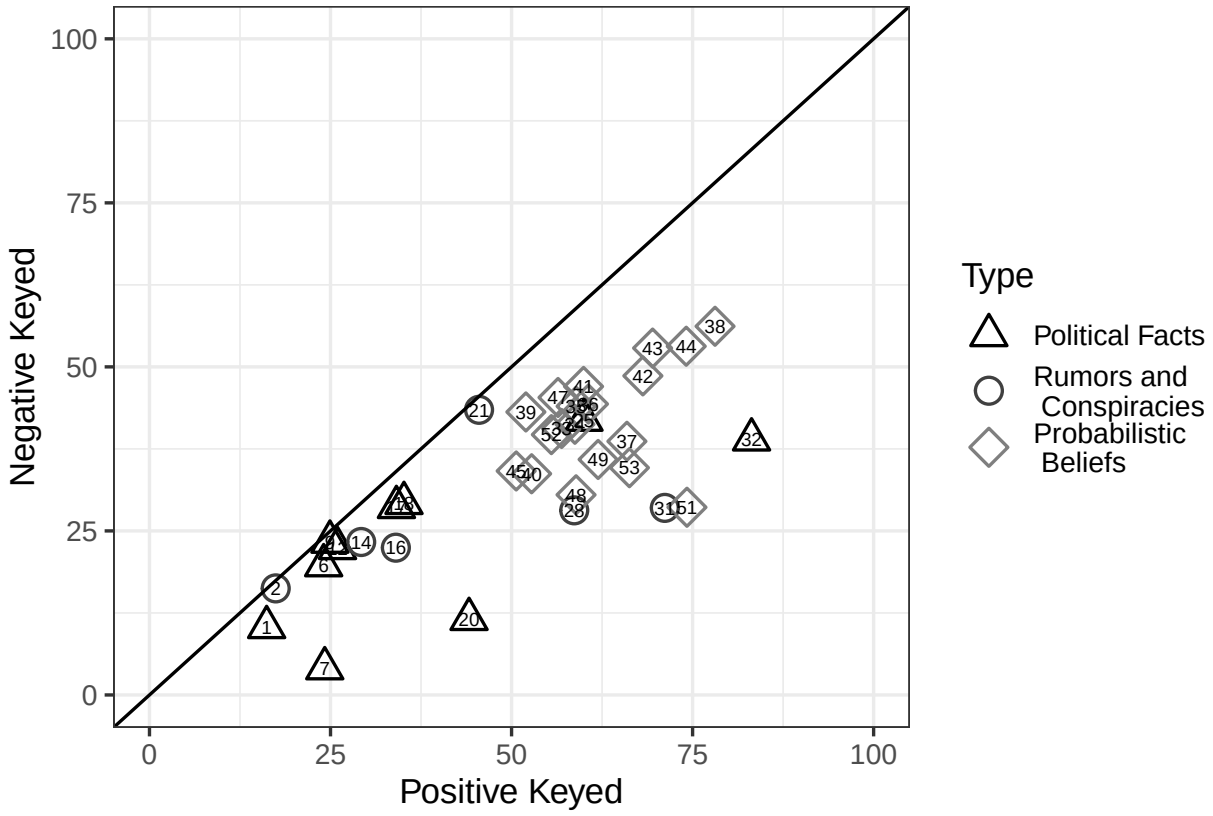
In Figure A4 we reproduce Figure 1 excluding questions where the alternative wording is of ambiguous logical equivalence to the original question wording. For example, we exclude the "9/11 conspiracy" and "Clinton Foundation" questions because the negated versions do more than simply add a "not" to the original version. This leads us to remove 18 questions. Figure A4, however, shows that the pattern present with all items remains when limited to only unambiguous questions of clear logical equivalence. All items fall below the 45 degree line with many far below.

To provide a more formal statistical comparison, we present in Table A6 three regression models. The unit of observation is one question in one study. The dependent variable is the estimated acquiescence bias for that question. Column one includes a variable indicating the alternative question wording is ambiguous (1=yes, 0=no). The point estimate of 1.6 would indicate ambiguous questions lead to *smaller* acquiescence bias. However, not only is the estimate smaller than the standard error, the intercept estimate is 7.3, indicating that ambiguous questions exhibit an average acquiescence bias of 7.3 points. This strongly suggests that ambiguity is not driving the result.

Table A6: Magnitude of acquiescence bias by ambiguity of question and source of study

	(1)	(2)	(3)
Question unambiguous	1.6		0.1
	(1.8)		(1.9)
China sample		4.7	4.7
		(1.8)	(1.9)
Constant	7.3	6.8	6.8
	(1.5)	(1.0)	(1.4)
Observations	53	53	53
R^2	0.01	0.1	0.1
Adjusted R^2	–0.004	0.1	0.1

Column two includes a variable measuring the study population from which the sample was drawn (1=China, 0=U.S.). The coefficient indicates that Chinese respondents exhibited acquiescence bias 4.7 points larger than American respondents, on average. Again, however, the constant term estimates that Americans averaged bias of 6.8 points, showing that study population does not drive the results. Column three includes both indicators in the same model and again suggests findings are not driven by problems of logical equivalence or country of study.



1	Pope endorse (US 2020)	15	Soros conspiracy (US 2020)	29	GMO Bioterrorism (China 2021)	43	Exports (China 2019)
2	US created coronavirus (US 2020)	16	Death panels (US 2020)	30	Soros conspiracy (China 2021)	44	Overseas Students (China 2019)
3	Ireland asylum (US 2020)	17	Immigrant pop Canada (US 2020)	31	9/11 consipracy (China 2021)	45	Jobs 2016 (US 2016)
4	FBI agent (US 2020)	18	Immigrant pop US (US 2020)	32	GMO Increase Yield (China 2021)	46	Currency devaluation (US 2016)
5	Contrails conspiracy (US 2020)	19	Iraq WMD (US 2020)	33	2016 GDP Growth (China 2017)	47	GDP 2014 (US 2016)
6	Vitamin C (US 2020)	20	FBI Clinton charges (US 2020)	34	Currency devaluation (China 2017)	48	Jobs 2016 (US 2017-18)
7	Hand wash (US 2020)	21	Coronavirus weapon (US 2020)	35	Military Spending (China 2017)	49	Currency devaluation (US 2017-18)
8	Violence for votes (US 2020)	22	Clinton stumbled (US 2020)	36	GDP 2015 (China 2017)	50	GDP 2014 (US 2017-18)
9	RuPaul groped (US 2020)	23	Beyonce rally (US 2020)	37	Qualcomm Fine (China 2017)	51	Food stamps 2018 (US 2017-18)
10	9/11 conspiracy (US 2020)	24	Trump concede (US 2020)	38	IMF Currency Basket (China 2017)	52	Currency devaluation (US 2020)
11	Clinton Foundation (US 2020)	25	Clinton deplorables (US 2020)	39	ZTE Fine (China 2019)	53	Food stamps 2018 (US 2020)
12	Pence vulgar (US 2020)	26	FBI director (US 2020)	40	Hong Kong Work Week (China 2019)		
13	Iraq conspiracy (US 2020)	27	Accept election loss (US 2020)	41	Scholarships (China 2019)		
14	Obama birth certificate (US 2020)	28	Obama birth (China 2021)	42	Military Parade (China 2019)		

Figure A4: Effect of question wording on agreement with rumors and facts, unambiguous questions only.

G Alternative solution: Multiple-choice response options

In this section, we evaluate an alternative instrument to elicit beliefs that attempts to remove the problem of acquiescence bias. We term this instrument "multiple-choice" because the instrument provides the respondent a set of concrete responses from which to choose rather than querying agreement with a statement in the question text (as advocated in Clifford, Kim, and Sullivan, 2019). The multiple-choice version is, presumably, not subject to acquiescence bias when no response option appears agreeable.

Although in some cases multiple-choice might be a better instrument, multiple-choice adds complications that might lead other scholars to prefer agree/disagree items. First, not all questions have an obvious multiple-choice instrumentation for a scholar's construct of interest, particularly if interest lies in degree of endorsement. Second, multiple-choice might be more cognitively demanding for the subject than agree/disagree items.

Third, multiple-choice instruments might depend more than agree/disagree on the set of response options. For example, the original Berinsky (2017) question asked "True or False: Changes to the health care system enacted by Congress and the Obama administration created 'death panels' which have the authority to determine whether or not a gravely ill or injured person should receive health care based on their 'level of productivity in society'?" We created a multiple-choice version which asked "Which component was part of the Affordable Care Act passed by Congress in 2010? (select one)" with response options "Prohibited insurers to deny coverage to those with pre-existing conditions," "Established 'death panels' which have the authority to determine whether or not a gravely ill or injured person should receive health care based on their 'level of productivity in society,"' and "Nationalized healthcare, disallowing private insurance companies from continuing to provide coverage."

For subjects who might be answering this multiple choice version of the *death panels* question with cheerleading rather than accuracy motives (Bullock et al., 2015), it might be that the "nationalized healthcare" response provided greater expressive benefit than the "death panel" response. Indeed, we find that 19.7 percent of subjects who endorsed the rumor of death panels in the original true/false question wording later selected the nationalize response to the multiple-choice version.

With no absolute benchmark, it is difficult to know which method most effectively captures beliefs. Scholars wanting to get a best estimate might benefit by fielding multiple methods. That said, in our sample we find individual-level inconsistencies between conspiracy beliefs elicited with the multiple-choice and agree/disagree instruments.

To illuminate the challenge, we compare estimates of population endorsement of three conspiracies/rumors in Figure A5. We present in the darker bars the percent of respondents selecting the conspiratorial belief with a multiple-choice instrument and the lighter bars the WLS-adjusted estimate from the agree/disagree version.[5] The results show that neither instrument consistently delivers lower rates of conspiratorial beliefs. The multiple-choice instrument suggests fewer people endorse believe in death panels but that more believe Barack Obama born abroad. Multiple-choice responses do not appear to provide an unalloyed benchmark of beliefs.

[5] We randomized the order of multiple-choice response options for each respondent.

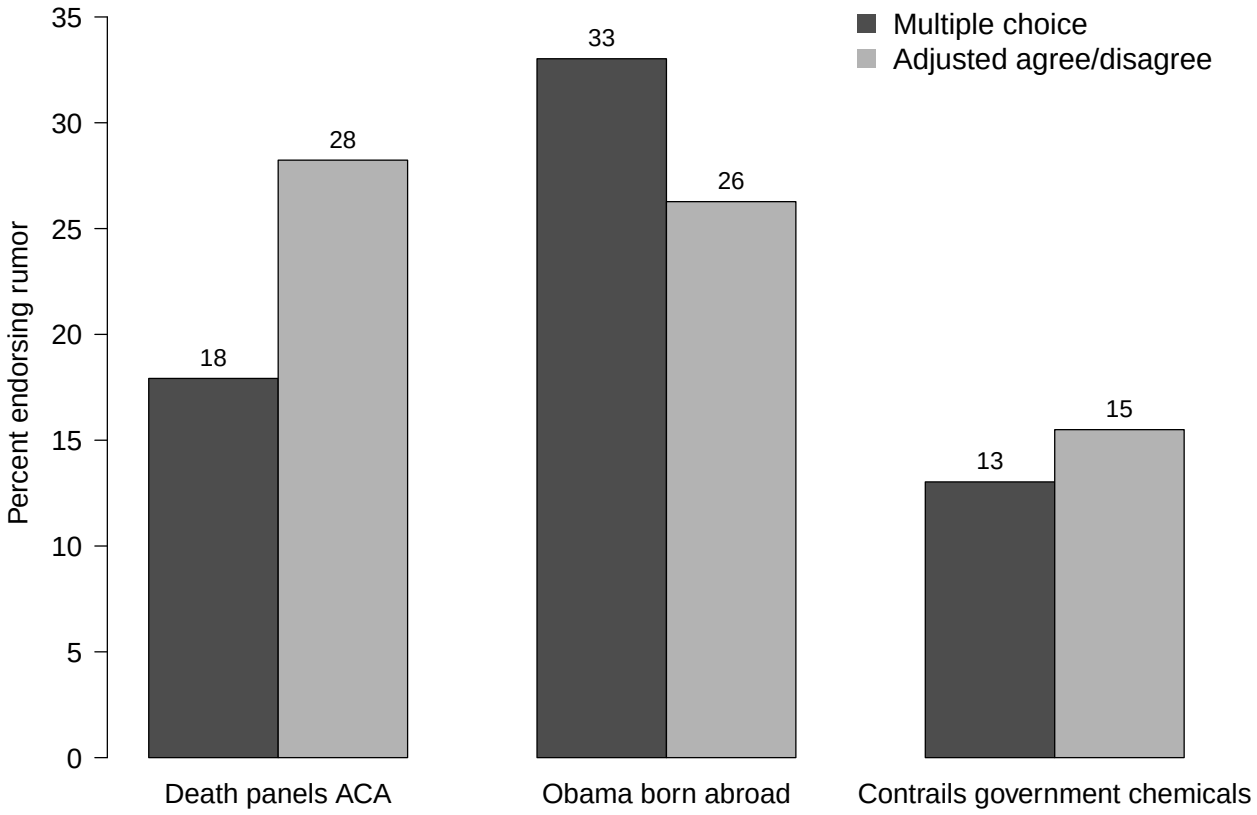


Figure A5: Endorsement of political rumors, multiple-choice versus adjusted agree/disagree instrument. Bar heights extend to weighted sample estimates of population percent endorsing rumor. Agree/disagree adjusted with estimator.

H Acquiescence bias in correlations for additional studies

Table A7: Acquiescence bias in correlations, Oliver and Wood (2014) Agreement coded as 1, Don't know as .5, Disagreement as 0.

	Dependent variable: Agreement with Conspiracy				
	Iraq	9-11	Obama	Contrails	Soros
Pos keyed	0.330	0.440	0.190	0.300	0.170
	(0.051)	(0.053)	(0.055)	(0.047)	(0.051)
Very Conservative	–0.120	–0.017	0.230	0.032	0.150
	(0.038)	(0.040)	(0.040)	(0.035)	(0.041)
Very Liberal	0.022	–0.063	–0.095	–0.015	–0.160
	(0.037)	(0.038)	(0.039)	(0.033)	(0.038)
Numeracy	0.005	–0.005	–0.043	–0.047	–0.019
	(0.016)	(0.017)	(0.016)	(0.014)	(0.017)
Age	–0.001	0.006	0.001	–0.004	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Education	0.00003	–0.00005	–0.00002	0.00004	0.0001
	(0.0001)	(0.00004)	(0.0001)	(0.00004)	(0.00005)
Pos keyed*Very Conservative	0.160	0.100	0.130	0.100	0.170
	(0.056)	(0.057)	(0.059)	(0.050)	(0.055)
Pos keyed*Very Liberal	0.098	0.170	0.024	0.031	0.100
	(0.051)	(0.054)	(0.055)	(0.047)	(0.051)
Pos keyed*Numeracy	–0.056	–0.037	0.009	–0.009	–0.033
	(0.022)	(0.023)	(0.024)	(0.020)	(0.022)
Pos keyed*Age	–0.005	–0.013	–0.003	–0.004	–0.004
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Pos keyed*Education	–0.00001	–0.00000	–0.0001	–0.00001	–0.0001
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Constant	0.400	0.280	0.280	0.380	0.420
	(0.037)	(0.037)	(0.038)	(0.033)	(0.037)
Observations	1,962	1,864	1,847	1,844	1,845
R^2	0.087	0.130	0.077	0.160	0.074
Adjusted R^2	0.082	0.120	0.072	0.150	0.068
Note:					NA

Table A8: Acquiescence bias in correlations, Jamieson and Albarracin (2020). Agreement coded as 1, Don't know as .5, Disagreement as 0.

	Dependent variable: Agreement with statement			
	Vitamin C	Bio Weapon	Hand Wash	US Created
Pos Keyed	0.120	0.077	0.340	0.087
	(0.051)	(0.058)	(0.041)	(0.046)
Very Conservative	0.061	0.150	0.032	–0.038
	(0.037)	(0.050)	(0.032)	(0.037)
Very Liberal	–0.099	–0.220	–0.004	–0.086
	(0.038)	(0.043)	(0.030)	(0.032)
Numeracy	–0.060	–0.073	–0.0004	–0.059
	(0.017)	(0.019)	(0.013)	(0.015)
Age	–0.003	0.001	–0.0004	–0.004
	(0.001)	(0.001)	(0.001)	(0.001)
Education	0.00002	–0.0001	–0.00002	–0.00002
	(0.00005)	(0.00005)	(0.00004)	(0.00004)
Pos keyed*Very Conservative	0.090	0.200	0.110	0.150
	(0.057)	(0.066)	(0.046)	(0.051)
Pos keyed*Very Liberal	0.220	0.140	0.058	0.086
	(0.052)	(0.060)	(0.042)	(0.047)
Pos keyed*Numeracy	0.025	–0.004	–0.060	0.015
	(0.023)	(0.026)	(0.018)	(0.020)
Pos keyed*Age	–0.003	–0.002	–0.003	–0.002
	(0.001)	(0.001)	(0.001)	(0.001)
Pos keyed*Education	0.0001	–0.00001	–0.0001	0.00004
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Constant	0.370	0.480	0.060	0.420
	(0.036)	(0.041)	(0.029)	(0.033)
Observations	2,050	2,052	2,053	2,054
R^2	0.061	0.073	0.130	0.088
Adjusted R^2	0.056	0.068	0.130	0.083

I Full Weighted Least Squares Results

I.1 Results from Oliver and Wood (2014) Questions

Table A9: Covariate Relationships for 911 Conspiracy from Replication of Oliver and olivwood (2014)

	Belief in 911 Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	0.084	0.049	0.034
	(0.040)	(0.030)	(0.029)
D			0.220
			(0.027)
Very Liberal	0.110	0.037	0.024
	(0.037)	(0.029)	(0.027)
Numeracy	–0.042	–0.029	–0.024
	(0.015)	(0.012)	(0.011)
Age	–0.008	–0.001	–0.001
	(0.001)	(0.001)	(0.001)
Education	–0.00005	–0.0001	–0.00005
	(0.0001)	(0.00004)	(0.00003)
Very Conservative:D			0.050
			(0.029)
Very Liberal:D			0.088
			(0.027)
Numeracy:D			–0.018
			(0.011)
Age:D			–0.007
			(0.001)
Education:D			–0.00000
			(0.00003)
Constant	0.720	0.510	0.500
	(0.038)	(0.028)	(0.027)
Observations	916	1,864	1,864
R^2	0.140	0.010	0.130
Adjusted R^2	0.140	0.007	0.120
Note:			NA

Table A10: Covariate Relationships for Soros Conspiracy from Replication of Oliver and olivwood (2014)

	Belief in Soros Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	0.320	0.230	0.230
	(0.037)	(0.028)	(0.028)
D			0.083
			(0.026)
Very Liberal	–0.054	–0.100	–0.110
	(0.035)	(0.026)	(0.026)
Numeracy	–0.051	–0.036	–0.035
	(0.015)	(0.011)	(0.011)
Age	–0.002	–0.001	–0.001
	(0.001)	(0.001)	(0.001)
Education	–0.0001	0.00001	0.00000
	(0.00005)	(0.00003)	(0.00003)
Very Conservative:D			0.087
			(0.028)
Very Liberal:D			0.052
			(0.026)
Numeracy:D			–0.016
			(0.011)
Age:D			–0.002
			(0.001)
Education:D			–0.0001
			(0.00003)
Constant	0.580	0.500	0.500
	(0.035)	(0.026)	(0.026)
Observations	974	1,845	1,845
R^2	0.093	0.055	0.074
Adjusted R^2	0.089	0.052	0.068
Note:			NA

Table A11: Covariate Relationships for Contrails Conspiracy from Replication of Oliver and olivwood (2014)

	Belief in Contrails Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	0.140	0.080	0.083
	(0.040)	(0.026)	(0.025)
D			0.150
			(0.023)
Very Liberal	0.015	0.002	0.0001
	(0.036)	(0.024)	(0.023)
Numeracy	–0.056	–0.052	–0.051
	(0.015)	(0.010)	(0.010)
Age	–0.008	–0.006	–0.006
	(0.001)	(0.0005)	(0.0005)
Education	0.00003	0.0001	0.00004
	(0.0001)	(0.00003)	(0.00003)
Very Conservative:D			0.052
			(0.025)
Very Liberal:D			0.015
			(0.023)
Numeracy:D			–0.005
			(0.010)
Age:D			–0.002
			(0.0005)
Education:D			–0.00000
			(0.00003)
Constant	0.680	0.540	0.530
	(0.036)	(0.024)	(0.023)
Observations	938	1,844	1,844
R^2	0.140	0.110	0.160
Adjusted R^2	0.140	0.110	0.150
Note:			NA

Table A12: Covariate Relationships for Iraq Conspiracy from Replication of Oliver and olivwood (2014)

	Belief in Iraq Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	0.038	–0.048	–0.041
	(0.040)	(0.028)	(0.028)
D			0.160
			(0.026)
Very Liberal	0.120	0.083	0.071
	(0.035)	(0.026)	(0.026)
Numeracy	–0.051	–0.025	–0.023
	(0.015)	(0.011)	(0.011)
Age	–0.006	–0.004	–0.004
	(0.001)	(0.001)	(0.001)
Education	0.00002	0.00001	0.00002
	(0.00004)	(0.00003)	(0.00004)
Very Conservative:D			0.079
			(0.028)
Very Liberal:D			0.049
			(0.026)
Numeracy:D			–0.028
			(0.011)
Age:D			–0.003
			(0.001)
Education:D			–0.00000
			(0.00004)
Constant	0.730	0.570	0.560
	(0.035)	(0.026)	(0.026)
Observations	1,011	1,962	1,962
R^2	0.120	0.049	0.087
Adjusted R^2	0.120	0.047	0.082
Note:			NA

Table A13: Covariate Relationships for Obama Conspiracy from Replication of Oliver and olivwood (2014)

	Belief in Obama Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	0.360	0.290	0.300
	(0.044)	(0.030)	(0.030)
D			0.097
			(0.027)
Very Liberal	–0.071	–0.082	–0.083
	(0.039)	(0.028)	(0.028)
Numeracy	–0.034	–0.038	–0.038
	(0.017)	(0.012)	(0.012)
Age	–0.003	–0.001	–0.001
	(0.001)	(0.001)	(0.001)
Education	–0.0001	–0.0001	–0.0001
	(0.0001)	(0.00004)	(0.00004)
Very Conservative:D			0.064
			(0.030)
Very Liberal:D			0.012
			(0.028)
Numeracy:D			0.005
			(0.012)
Age:D			–0.002
			(0.001)
Education:D			–0.00003
			(0.00004)
Constant	0.470	0.370	0.370
	(0.040)	(0.028)	(0.027)
Observations	905	1,847	1,847
R^2	0.089	0.065	0.077
Adjusted R^2	0.084	0.063	0.072

Note: NA

I.2 Results from Jamieson and Albarracin (2020) Questions

Table A14: Covariate Relationships for VitaminC Conspiracy from Replication of Jamieson and Albarracin (2020)

	Belief in VitaminC Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	0.150	0.098	0.110
	(0.044)	(0.029)	(0.029)
D			0.059
			(0.025)
Very Liberal	0.120	0.019	0.013
	(0.037)	(0.026)	(0.026)
Numeracy	–0.035	–0.047	–0.048
	(0.016)	(0.011)	(0.011)
Age	–0.005	–0.004	–0.004
	(0.001)	(0.001)	(0.001)
Education	0.0001	0.00005	0.00005
	(0.0001)	(0.00003)	(0.00003)
Very Conservative:D			0.045
			(0.029)
Very Liberal:D			0.110
			(0.026)
Numeracy:D			0.013
			(0.011)
Age:D			–0.001
			(0.001)
Education:D			0.00003
			(0.00003)
Constant	0.480	0.420	0.430
	(0.036)	(0.026)	(0.025)
Observations	1,017	2,050	2,050
R^2	0.080	0.044	0.061
Adjusted R^2	0.075	0.041	0.056
Note:			NA

Table A15: Covariate Relationships for HandWash Conspiracy from Replication of Jamieson and Albarracin (2020)

	Belief in HandWash Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	0.140	0.088	0.086
	(0.042)	(0.024)	(0.023)
D			0.170
			(0.021)
Very Liberal	0.054	0.027	0.025
	(0.039)	(0.023)	(0.021)
Numeracy	–0.060	–0.028	–0.030
	(0.017)	(0.010)	(0.009)
Age	–0.003	–0.002	–0.002
	(0.001)	(0.0004)	(0.0004)
Education	–0.0001	–0.0001	–0.0001
	(0.00005)	(0.00003)	(0.00003)
Very Conservative:D			0.053
			(0.023)
Very Liberal:D			0.029
			(0.021)
Numeracy:D			–0.030
			(0.009)
Age:D			–0.001
			(0.0004)
Education:D			–0.00005
			(0.00003)
Constant	0.400	0.230	0.230
	(0.039)	(0.022)	(0.021)
Observations	996	2,053	2,053
R^2	0.049	0.023	0.130
Adjusted R^2	0.044	0.021	0.130
Note:			NA

Table A16: Covariate Relationships for BioWeapon Conspiracy from Replication of Jamieson and Albarracin (2020)

	Belief in BioWeapon Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	0.350	0.270	0.250
	(0.042)	(0.032)	(0.033)
D			0.039
			(0.029)
Very Liberal	–0.085	–0.150	–0.150
	(0.041)	(0.030)	(0.030)
Numeracy	–0.078	–0.075	–0.076
	(0.018)	(0.013)	(0.013)
Age	–0.002	–0.001	–0.001
	(0.001)	(0.001)	(0.001)
Education	–0.0001	–0.0001	–0.0001
	(0.0001)	(0.00004)	(0.00004)
Very Conservative:D			0.100
			(0.033)
Very Liberal:D			0.068
			(0.030)
Numeracy:D			–0.002
			(0.013)
Age:D			–0.001
			(0.001)
Education:D			–0.00000
			(0.00004)
Constant	0.560	0.530	0.520
	(0.041)	(0.029)	(0.029)
Observations	1,044	2,052	2,052
R^2	0.088	0.064	0.073
Adjusted R^2	0.084	0.062	0.068
Note:			NA

Table A17: Covariate Relationships for USCreated Conspiracy from Replication of Jamieson and Albarracin (2020)

	Belief in USCreated Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	0.110	0.039	0.037
	(0.036)	(0.026)	(0.026)
D			0.044
			(0.023)
Very Liberal	–0.0002	–0.047	–0.043
	(0.035)	(0.023)	(0.023)
Numeracy	–0.043	–0.050	–0.051
	(0.015)	(0.010)	(0.010)
Age	–0.006	–0.005	–0.005
	(0.001)	(0.0005)	(0.0005)
Education	0.00002	0.00000	–0.00000
	(0.00005)	(0.00003)	(0.00003)
Very Conservative:D			0.075
			(0.026)
Very Liberal:D			0.043
			(0.023)
Numeracy:D			0.008
			(0.010)
Age:D			–0.001
			(0.0005)
Education:D			0.00002
			(0.00003)
Constant	0.510	0.470	0.470
	(0.033)	(0.023)	(0.023)
Observations	1,034	2,054	2,054
R^2	0.099	0.079	0.088
Adjusted R^2	0.094	0.077	0.083
Note:			NA

I.3 Results from Allcott and Getnzkow (2017) "Big Fake" Questions

Table A18: Covariate Relationships for Pope.endorse Conspiracy from Replication of Allcott and Gentzkow (2017)

	Belief in Pope.endorse Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	0.039	0.048	0.049
	(0.039)	(0.028)	(0.028)
D			0.016
			(0.029)
Very Liberal	–0.023	–0.064	–0.056
	(0.037)	(0.025)	(0.026)
Numeracy	–0.049	–0.044	–0.045
	(0.017)	(0.012)	(0.012)
Age	–0.005	–0.005	–0.005
	(0.001)	(0.001)	(0.001)
Education	0.0001	0.0001	0.0001
	(0.0001)	(0.00003)	(0.00003)
Very Conservative:D			–0.010
			(0.028)
Very Liberal:D			0.033
			(0.026)
Numeracy:D			–0.004
			(0.012)
Age:D			0.0001
			(0.001)
Education:D			–0.00000
			(0.00003)
Constant	0.600	0.590	0.590
	(0.039)	(0.028)	(0.029)
Observations	709	1,282	1,282
R^2	0.071	0.077	0.082
Adjusted R^2	0.064	0.073	0.074
Note:			NA

Table A19: Covariate Relationships for RuPaul Conspiracy from Replication of Allcott and Gentzkow (2017)

	Belief in RuPaul Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	–0.140	–0.110	–0.110
	(0.040)	(0.030)	(0.030)
D			0.120
			(0.030)
Very Liberal	0.110	0.041	0.045
	(0.038)	(0.028)	(0.027)
Numeracy	0.001	–0.006	–0.007
	(0.018)	(0.013)	(0.013)
Age	–0.005	–0.002	–0.002
	(0.001)	(0.001)	(0.001)
Education	–0.00005	–0.00002	–0.00003
	(0.0001)	(0.00004)	(0.00004)
Very Conservative:D			–0.029
			(0.030)
Very Liberal:D			0.069
			(0.027)
Numeracy:D			0.007
			(0.013)
Age:D			–0.003
			(0.001)
Education:D			–0.00002
			(0.00004)
Constant	0.730	0.610	0.610
	(0.041)	(0.031)	(0.030)
Observations	703	1,281	1,281
R^2	0.100	0.031	0.062
Adjusted R^2	0.094	0.027	0.054
Note:			NA

Table A20: Covariate Relationships for Clinton.arms Conspiracy from Replication of Allcott and Gentzkow (2017)

	Belief in Clinton.arms Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	0.260	0.210	0.210
	(0.040)	(0.031)	(0.031)
D			0.036
			(0.032)
Very Liberal	–0.080	–0.110	–0.110
	(0.037)	(0.028)	(0.029)
Numeracy	–0.055	–0.042	–0.044
	(0.017)	(0.013)	(0.013)
Age	–0.004	–0.003	–0.003
	(0.001)	(0.001)	(0.001)
Education	–0.00003	–0.00001	–0.00000
	(0.00004)	(0.00004)	(0.00004)
Very Conservative:D			0.048
			(0.031)
Very Liberal:D			0.030
			(0.029)
Numeracy:D			–0.012
			(0.013)
Age:D			–0.001
			(0.001)
Education:D			–0.00003
			(0.00004)
Constant	0.640	0.600	0.600
	(0.041)	(0.031)	(0.032)
Observations	719	1,282	1,282
R^2	0.110	0.076	0.085
Adjusted R^2	0.100	0.072	0.077

Note: NA

Table A21: Covariate Relationships for Ireland.asylum Conspiracy from Replication of Allcott and Gentzkow (2017)

	Belief in Ireland.asylum Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	0.029	–0.016	–0.020
	(0.038)	(0.029)	(0.030)
D			0.100
			(0.030)
Very Liberal	0.120	0.058	0.054
	(0.036)	(0.027)	(0.027)
Numeracy	–0.021	–0.024	–0.026
	(0.017)	(0.013)	(0.013)
Age	–0.004	–0.002	–0.002
	(0.001)	(0.001)	(0.001)
Education	0.00004	0.00003	0.00004
	(0.00004)	(0.00004)	(0.00004)
Very Conservative:D			0.049
			(0.030)
Very Liberal:D			0.070
			(0.027)
Numeracy:D			0.005
			(0.013)
Age:D			–0.002
			(0.001)
Education:D			–0.00000
			(0.00004)
Constant	0.660	0.550	0.550
	(0.041)	(0.030)	(0.030)
Observations	714	1,284	1,284
R^2	0.069	0.020	0.047
Adjusted R^2	0.063	0.016	0.039
Note:			NA

Table A22: Covariate Relationships for Pence.vulgar Conspiracy from Replication of Allcott and Gentzkow (2017)

	Belief in Pence.vulgar Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	0.018	–0.019	–0.018
	(0.043)	(0.032)	(0.032)
D			0.068
			(0.032)
Very Liberal	0.110	0.066	0.063
	(0.040)	(0.029)	(0.029)
Numeracy	–0.015	–0.003	–0.004
	(0.018)	(0.014)	(0.014)
Age	–0.005	–0.004	–0.004
	(0.001)	(0.001)	(0.001)
Education	–0.00000	0.00001	0.00002
	(0.00005)	(0.00004)	(0.00004)
Very Conservative:D			0.036
			(0.032)
Very Liberal:D			0.049
			(0.029)
Numeracy:D			–0.011
			(0.014)
Age:D			–0.001
			(0.001)
Education:D			–0.00002
			(0.00004)
Constant	0.700	0.630	0.640
	(0.045)	(0.032)	(0.032)
Observations	702	1,283	1,283
R^2	0.072	0.039	0.051
Adjusted R^2	0.065	0.036	0.043
Note:			NA

Table A23: Covariate Relationships for FBI.agent Conspiracy from Replication of Allcott and Gentzkow (2017)

	Belief in FBI.agent Conspiracy		
	Positively Keyed Only	Weighted Least Squares	Interaction with D
	(1)	(2)	(3)
Very Conservative	0.140	0.078	0.079
	(0.041)	(0.029)	(0.030)
D			0.051
			(0.030)
Very Liberal	–0.035	–0.062	–0.067
	(0.036)	(0.027)	(0.028)
Numeracy	–0.040	–0.037	–0.037
	(0.017)	(0.013)	(0.013)
Age	–0.003	–0.002	–0.002
	(0.001)	(0.001)	(0.001)
Education	–0.0001	–0.0001	–0.0001
	(0.00004)	(0.00004)	(0.00004)
Very Conservative:D			0.063
			(0.030)
Very Liberal:D			0.031
			(0.028)
Numeracy:D			–0.002
			(0.013)
Age:D			–0.001
			(0.001)
Education:D			0.00000
			(0.00004)
Constant	0.580	0.540	0.530
	(0.041)	(0.030)	(0.030)
Observations	714	1,289	1,289
R^2	0.046	0.024	0.034
Adjusted R^2	0.039	0.021	0.025
Note:			NA

J Acquiescence bias in learning about political facts

We focus in the main body of our essay on rates and correlates of beliefs in political conspiracies and politically-relevant facts. Recent scholarship, however, has been interested not only in population beliefs, but in how delivery of information relevant to those beliefs changes – or does not change – such beliefs (e.g., Hill, 2017; Hill and Huber, 2019; Nyhan and Reifler, 2010). For example, Y_{i1} could be subject beliefs that a statement of fact about economic growth is true when first queried about a topic. But after delivered government reports, news headlines or articles (Nyhan and Reifler, 2010), or political speeches (Carlson, 2019), they may update beliefs to $Y_{i2} \neq Y_{i1}$. One may be tempted to subtract the sample estimate of Y_{i2} from Y_{i1} to estimate the informational value of the stimulus delivered (perhaps in an experimental setting to gain an estimate of the causal effect). This is particularly attractive because it would difference off any fixed acquiescence bias to the instrument, δ_i. However, if there is also *acquiescence bias in learning*, the difference $(Y_{i2}-Y_{i1})$ is a biased estimate of true learning. That is, it may be that subjects overlearn towards true and underlearn towards false.

A model similar to that above provides structure to this problem and leads to an unbiased estimator for learning in the presence of acquiescence bias. Begin by extending the data-generating Equation 2 to two separate elicitations at time 1 and time 2. Subject i's response at the two periods are $Y_{i1}(D_i)$ and $Y_{i2}(D_i)$.

Suppose participants are delivered some stimulus between time 1 and time 2. We define learning from that stimulus by

$$Y_{i2}(D_i) = Y_{i1}(D_i) + \lambda_i.$$

Here λ_i is the change in beliefs after delivery of the stimulus. For example, if the stimulus increases agreement with the conspiracy or fact $\lambda_i > 0$.

Absent acquiescence bias in learning, one could subtract Y_{i1} from Y_{i2} as an estimate of λ_i. If, however, we are concerned that acquiescence bias influences how subjects respond to a stimulus, the difference would be biased by this influence. Define the data-generating process for Y_{i2} in the presence of bias in learning

$$Y_{i2}(D_i) = \underbrace{Y_i^* + D_i\delta_i}_{\text{Original belief + bias}} + \underbrace{\lambda_i + D_i\kappa_i}_{\text{Learning + bias}} \tag{A1}$$

where κ_i is acquiescence bias in learning with similar operation to acquiescence bias δ_i.

To estimate average learning from the stimulus, $E(\lambda)$, consider a least-squares regression specification

$$(Y_2 - Y_1) = \alpha + \beta D + \varepsilon \tag{A2}$$

where Y_t and D are $\mathcal{N}$-vectors for the sample of Y_i and D_i and ε a $\mathcal{N}$-vector of idiosyncratic mean-zero errors.

The parameter estimates from Eq. A2 map back to the parameters of Eq. A1. The intercept α estimates average learning from the stimulus $E(\lambda)$, and the coefficient β the average bias in learning $E(\kappa)$.

J.1 Application to US and China learning samples, learning

In this section, we estimate how acquiescence bias in learning varies across political statements of fact and samples. We compare how respondents asked the positive-keyed version learn after

Table A24: Estimates of learning, true versus false statements

Statement1	Naive False	Naive True	Learning	Learning Bias
US: Jobs 2016	23.0	10.7	16.9	-6.2
US: Jobs 2016	15.9	5.1	10.5	-5.4
US: Food stamps 2018	3.8	-4.4	-0.3	-4.1
US: Currency devaluation	9.6	7.5	8.5	-1.1
China: GDP 2015	-4.3	-5.6	-5.0	-0.7
US: Currency devaluation	15.8	15.0	15.4	-0.4
China: Hong Kong Work Week	-6.1	-4.6	-5.4	0.7
China: Overseas Students	-0.8	1.4	0.3	1.1
China: 2016 GDP Growth	-2.0	0.4	-0.8	1.2
China: Scholarships	-1.6	0.9	-0.4	1.3
US: GDP 2014	2.8	5.8	4.3	1.5
China: Military Parade	-0.9	4.4	1.8	2.7
China: Exports	-3.8	1.8	-1.0	2.8
China: ZTE Fine	-2.6	3.9	0.7	3.3
China: Currency devaluation	-1.4	6.5	2.5	4.0
China: Military Spending	-6.1	2.4	-1.8	4.3
China: Qualcomm Fine	-3.5	7.5	2.0	5.5
China: IMF Currency Basket	-4.5	8.3	1.9	6.4
US: GDP 2014	-8.5	13.4	2.4	10.9

being presented with news headlines about the statement compared to respondents presented the negative-keyed version. We provide details of the headlines delivered to subjects in Section K below. In Table A24, we present estimates applying Eq. A2 of acquiescence bias in learning and learning for each statement of fact our subjects evaluated.

Like our estimates on overall beliefs in political conspiracies, we see differences in estimates of learning when using the negatively keyed version of the question as compared to the positively keyed version of the question. As presented in the Learning Bias column of Table A24, on average, we overestimate learning for positively keyed questions, and underestimate learning for negatively keyed questions. However, this finding is less consistent across questions than acquiescence bias in overall beliefs, and in some cases we do see negative learning bias, where the negatively keyed version of the question has higher estimated learning.

K Selection of facts, headlines, and news sources

To select news headlines for our MTurk, NORC, and China studies, we selectied six major U.S. news outlets: Fox News, MSNBC, CNN, the New York Times, National Public Radio (NPR), and USA Today. We selected these sources because they all have written articles that readers can access online and extensive previous research has explored their potential bias (e.g., Budak, Goel, and Rao, 2016; Groseclose and Milyo, 2005; Gentzkow and Shapiro, 2010). USA Today and CNN are generally considered moderate news outlets without political slant, while Fox News is more conservative and the New York Times is more liberal (Budak, Goel, and Rao, 2016). After selecting the news outlets, we deliberately excluded opinion or editorial sections as we started our search for news headlines.

Next, we created a list of objective economic facts with political implications about which to find news headlines. We searched for facts that would be (1) relevant to voter decision-making, especially if Americans make decisions based on the state of the economy, and (2) could be verified in an objective data report. We thus focused primarily on economic indicators such as GDP growth, manufacturing data, retail sales, the unemployment rate, and Consumer Price Index (CPI). We then sought topics that were specifically focused on U.S.-China relations to allow for meaningful comparisons across the countries. We focused on trade deficits between the countries, currency exchange rates, and the U.S.-China cap-and-trade deal.

After brainstorming this list of topics, we located the data release dates. For example, the Bureau of Labor Statistics releases a monthly report called "The Employment Situation" that contains information on the unemployment rate, the number of jobs added to the economy, and other economic indicators. Similarly, the Bureau of Economic Analysis releases quarterly reports, as well as revised estimates, of the Gross Domestic Product. We then searched for articles about the relevant topics on the date of the data report releases across each of our six news outlets. We started by using the advanced search tools on Google News, using keywords, restricting the date to the date of the data release, and the source to the news outlet of interest. The search terms used for each topic are listed in Table A25 below. After collecting headlines from Google News, we went to each outlet's website and used the same keyword searches and date restrictions, where applicable, to locate more headlines. Some websites, such as CNN, did not allow us to restrict search results by date, so we used the search terms and sorted the search results by date and scrolled through the list until we reached the data release date. We then cross-referenced these headlines with Lexis Nexis searches. Lexis Nexis worked well for media outlets, such as the New York Times, that have a physical print publication, but it was not comprehensive for news sources that do not have a print publication. Finally, we inspected the content of each article to make sure that it was about the intended topic.

Most statistic releases did not have corresponding headlines from every news source. After compiling a list of headlines for each release, we tabulated the news outlets most commonly having headlines for the releases. For the U.S., we found that the New York Times, USA Today, CNN, and Fox News most often covered the statistics we searched. We decided to use these four sources, and then selected the subset of releases that had headlines from all four of these news outlets. We then selected the four facts above from this list that covered different economic facts, including one U.S.-China fact, and that had headlines that we deemed modestly related to the fact of interest – often, the news article might mention the release but the headline would be on another topic, e.g. how the equity markets had fared. In sum, our goal was to identify four facts that covered

Table A25: Topics considered and search terms used to identify facts and headlines

Topic	Search Terms
GDP Annualized Quarter-over-Quarter	GDP, gross domestic product, economic growth, growth rate, growth, annualized
China devalues the yuan	Yuan, China, currency, devalue
US-China cap and trade	US, China, cap and trade, emissions, carbon, CO2
Nonfarm Payrolls	nonfarm, payrolls, non farm
ISM Manufacturing	ISM Manufacturing
Retail Sales	Retail sales
GDP Quarterly Estimates	GDP, gross domestic product, economic growth, growth rate, growth
Affordable Care Act Enrollments	HHS, enrollment, sign up, signup, Obamacare, ACA, Affordable Care Act, enroll, healthcare, health care, insurance, health insurance, marketplace, healthcare.gov
The Employment Situation	unemployment, jobs, unemployment rate, job growth, employment, employed, unemployment benefits, labor force
Consumer Price Index	consumer price index, CPI, consumer prices, consumer price, inflation
Trade Deficit	trade, goods and services, goods, services, trade deficit, treasury, foreign trade balance, China, international trade

important economic indicators that each had enough informative headlines from four consistent news sources to measure how subjects learned and if they attributed any bias to the news sources. We present the facts in Table A4.

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