

## Have Beliefs in Conspiracy Theories Increased Over Time?

**Abstract:** Recently, scholars, policymakers, and journalists have argued that beliefs in conspiracy theories have increased. Given their association with numerous non-normative tendencies, an over time increase in conspiracy theory beliefs among the population could have troubling societal implications; lawmakers have therefore responded by calling for, or implementing, policies to address these increases. But despite growing concerns, little evidence has been provided to demonstrate that conspiracy theories actually find more support now than in the past. We address this evidentiary gap by examining changes in conspiracy theory beliefs in several ways. In Study 1, we investigate change in the proportion of Americans believing 46 different conspiracy theories and four related pieces of misinformation, including those concerning QAnon and COVID-19; in some instances, our observations span more than half a century. Study 2 examines change in the proportion of individuals across six European countries believing six conspiracy theories between 2016 and 2018. Study 3 traces change in beliefs about which groups (i.e., communists, corporations) are likely to be conspiring against the rest of “us” over a nine-year span in the U.S. Finally, Study 4 tracks generalized conspiracy thinking in the U.S. from 2012 to 2021. Across all studies, we find no systematic evidence for an increase in conspiracism, however operationalized. We conclude by discussing the theoretical and policy implications of our findings and identify areas for future research.

**Significance Statement:** Conspiracy theory beliefs are associated with numerous negative tendencies, including vaccine hesitancy and violence. Many scholars, journalists, and policymakers are concerned that beliefs in conspiracy theories are increasing; however, little evidence has been provided to demonstrate whether such an increase has, in fact, occurred. Despite this lack of evidence, polls show that the public is convinced that conspiracy theory beliefs have increased, and that social media is to blame. We analyze survey data from the United States and six European countries to ascertain whether beliefs in conspiracy theories have increased overtime. In contrast to popular narratives, we find little evidence to suggest that the proportion of people believing conspiracy theories has increased.

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An emerging research program focused on conspiracy theories has led to a robust literature about the nature, causes, and consequences of beliefs in those theories (1). Numerous studies find that beliefs in conspiracy theories are positively associated with nonnormative behaviors, including participation in criminal acts and destructive political movements (2, 3). Studies also find that conspiracy theory beliefs are negatively associated with pro-social behaviors, such as vaccination and reducing one's carbon footprint (4, 5). Likewise, during the COVID-19 pandemic, COVID-19 conspiracy theory beliefs were negatively associated with social distancing and vaccination, but positively associated with hoarding goods and weapons (6, 7).

Recent political events (e.g., the election of Donald Trump, the “Brexit” vote) and acts of conspiracy theory-fueled violence (e.g., the U.S. Capitol riot) have prompted concerns about a potential increase in the proportion of people believing conspiracy theories. News reports claim that we are living in the “golden age” of conspiracy theorizing, a “post truth” era in which conspiracy theories “have never spread this swiftly” or “lodged this deeply in the American psyche” (8-10). Similar sentiments are regularly expressed in reporting outside the U.S., as well (11). Government officials across the globe have proposed or implemented policies to stymie the spread of conspiracy theories online in response to, as one U.S. Congressperson put it, the “stupendous rise in the popularity and prevalence” of conspiracy theories (12). Scholars also view the perceived rise in conspiracism as a “crisis” situation, often citing new communication technologies as a cause (13, 14). The public agrees with these sentiments: 73% of Americans believe that conspiracy theories are “out of control” (15), and 59% of Americans agree that people are more likely to believe conspiracy theories than compared to 25 years ago (16). Three-quarters of Americans believe social media and the internet are to blame (17).

If beliefs in conspiracy theories are increasing, as media narratives and popular intuitions suggest, there is ample reason for alarm. However, little systematic evidence has been generated to show that beliefs in conspiracy theories have, in fact, increased. The dearth of evidence likely owes to the lack of repeated polls measuring specific conspiracy theory beliefs, particularly prior to the internet era. Even though polls show that some conspiracy theories are widely believed, the limited empirical work examining temporal trends finds that at least some conspiracy theories find a stable amount of support over time (7).

Given both the lack of confirmatory evidence and the stakes involved, it is imperative that the popular narrative—that beliefs in conspiracy theories have increased over time—be treated as a falsifiable hypothesis, and then carefully and extensively tested. Therefore, we examine time series data of varying lengths from several countries, including a wide variety of conspiracy theory beliefs and other operationalizations of conspiracism. In Study 1, we investigate change in the proportion of Americans believing 46 individual conspiracy theories and four pieces of misinformation over time, with time spans ranging in length from seven months (e.g., COVID-19 conspiracy theories) to 55 years (e.g., Kennedy assassination conspiracy theories). In Study 2, we examine beliefs in six specific conspiracy theories across six European countries between 2016 and 2018. Moving away from beliefs in specific conspiracy theories and toward other operationalizations of conspiracism, Study 3 tracks changes in perceptions in the U.S. about which social and political groups (e.g., communists, corporations) are conspiring against the rest of us and Study 4 analyzes trends in generalized conspiracy thinking in the U.S. over a nine-year period, from 2012-2021. Across all four studies, we fail to observe compelling evidence that either specific conspiracy theory beliefs or general forms of conspiracism have increased. We conclude by discussing the implications of our findings.

## Study 1: Beliefs in Specific Conspiracy Theories

A conspiracy theory is an explanation of past, present, or future events or circumstances that cites as the primary cause a small group of powerful people working in secret, for their own benefit, against the common good, and in a way that undermines bedrock ground rules against the use of force and fraud (18). Furthermore, conspiracy theories have not been judged as (likely to be) accurate by the appropriate epistemological authorities using publicly available data and evidence (19). A conspiracy theory belief is one's acceptance that a specific conspiracy theory is (likely) true. Our first investigation utilizes more than 40 conspiracy theories to test the simplest version of the hypothesis that conspiracy theory beliefs are increasing:

H<sub>1</sub>: The proportion of people believing specific conspiracy theories in the U.S. has increased over time.

Because we test this hypothesis using numerous conspiracy theories, each conspiracy theory employed constitutes a unique test. We would reject the null hypothesis (that the proportions believing specific conspiracy theories in the U.S. have not increased over time) in favor of H<sub>1</sub> if at least a majority of the conspiracy theory beliefs we examine show significant evidence of increase from Time<sub>1</sub> to Time<sub>2</sub>, and if those increases are larger in magnitude than any observed decreases. We focus on increases in positive expressions of belief (i.e., professing to agree with, or believe in, a conspiracy theory) rather than on changes in levels of disagreement or of being “unsure.” This is because our hypothesis and the popular claims it is based on speak to *increases in belief*, rather than changes in the intensity of non-belief—it is *beliefs* in conspiracy theories (rather than less intense non-beliefs) that drive deleterious actions (2).

To test H<sub>1</sub>, we *re*-poll the U.S. public about their beliefs in dozens of conspiracy theories, repeating the exact item wordings used on national polls fielded between 1966 and 2020. While such a research design—comparing previous survey findings to more recent ones—offers a

straightforward approach, many specifics about what an appropriate test entails are absent from the popular claims. This lack of detail renders it difficult to empirically test or falsify many popular claims; this also leaves us with little guidance as to the proper length between  $T_1$  and  $T_2$ , or to which conspiracy theories should be examined. We address these details in turn.

First, whether made by scholars, journalists, or policymakers, claims about increases in conspiracy theory beliefs often lack specificity regarding the rate or absolute levels of change in conspiracy beliefs. Some accounts suggest that increases should be swift, easily detectable, and on-going, with people venturing down “conspiracy-fueled rabbit holes” on social media, finding “themselves believing in elaborate conspiracy theories about Bill Gates, 5G wireless technology, vaccines and masks,” and then, “within days, they begin to believe that President Donald Trump is waging a secret war to save trafficked children from a cabal of Satan-worshipping baby eaters” (20). Such generalizations aside, one may wonder how far apart  $T_1$  and  $T_2$  should be. Do conspiracy beliefs increase linearly or nonlinearly? By the week? The year? Should we expect greater increases over a 50-year period than a single year? Should increases only be found during the social media era? Previous scholarship fails to offer guidance on these questions as well, leaving theorizing about the form that a growth (or decay) function might take either post-hoc or case specific.<sup>1</sup> We remain agnostic to questions regarding the rate of change, with  $H_1$  positing only that levels of conspiracy theory beliefs at  $T_2$  are significantly greater than levels at  $T_1$ .

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<sup>1</sup> For example, polls show that belief in JFK assassination conspiracy theories has decreased in recent decades (21). One could conclude from this that the length of time since the assassination (58 years) has led to this decrease, implying that as time goes on and the events conspiracy theories address fade into history, conspiracy theory beliefs should diminish as well. However, that explanation cannot account for the increase in JFK assassination conspiracy beliefs in the decade following the assassination, nor would it be congruent with the observation that those levels (near 80%) remained stable for three subsequent decades (21). Moreover, the trend observed with JFK assassination beliefs does not appear to be echoed in the trends of conspiracy theory beliefs about other salient events, such as the 9/11 terror attacks (22). Simply put, the forces driving beliefs in a particular conspiracy theory or the salience of the subject at the center of that conspiracy theory appear to be idiosyncratic, potentially owing to selective attention by the media and political and cultural figures (23), as well as a variety of other factors.

Therefore, we test H<sub>1</sub> comprehensively, intentionally altering assumptions and details where possible. Specifically, we employ 1) measurement comparisons that range from seven months to 55 years apart, and 2) conspiracy theories that vary both in age and in the presumed salience of the events and circumstances they address. Indeed, the conspiracy theories we test range from centuries (e.g., Rothschild banking family) or decades old (e.g., the Pearl Harbor attack), to only a year old (e.g., COVID-19 pandemic). The length of time between our measurements provides ample potential for growth to be detected, even at the shortest time length (seven months).

Second, claims about increases in conspiracy theory beliefs often fail to specify *which* conspiracy theories they are referring to. Many accounts posit that beliefs in *all* conspiracy theories are increasing (8), suggesting that growth should be detectable for any conspiracy theory. Further, popular accounts rarely set limits on their claims by, for example, delineating which specific conspiracy theories or “types” of conspiracy theories should not be expected to exhibit growth in popularity over time. This being said, researchers cannot examine *every* conspiracy theory because there is an infinite universe of conspiracy theories and versions thereof.<sup>2</sup> Given that an investigation of beliefs in *all* or even *most* conspiracy theories is impossible, we test H<sub>1</sub> using a large number of survey items spanning the five categories of conspiracy theories identified by Brotherton, French, and Pickering (2013): government malfeasance (e.g., government assassinating celebrities), extraterrestrial cover-up (e.g., government hiding alien contact), malevolent global conspiracies (e.g., George Soros controlling the world), personal well-being (e.g., vaccines contain tracking devices), and control of information (e.g., Jeffrey Epstein murdered as part of a cover-up) (25). Because this study is situated in the U.S. where partisan politics often inflame conspiracy theory beliefs (26), we also

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<sup>2</sup> As long argued by scholars, this naturally prohibits the literature from providing guidance regarding the “right” set of conspiracy theories from which to make generalizations (24).

include conspiracy theories involving partisan actors and issues (e.g., Barack Obama faked his birth certificate). Casting this wide net ensures that our results provide a comprehensive test of  $H_1$  and generalize to the broader universe of conspiracy theories.

Despite taking these steps, we note two natural limitations on the scope of our study. First, because we are interested in change between  $T_1$  and  $T_2$ , our analyses are restricted to the universe of conspiracy theories that were previously included on at least one national survey. Second, our analyses must rely on previous measurements when they were taken, and not necessarily when the conspiracy theories they address were initially developed or when the event or circumstance those conspiracy theories address occurred.<sup>3</sup> While we acknowledge these constraints, they do not preclude a thorough test of  $H_1$ . We begin by examining two critical cases which attracted perhaps the most attention during 2020: the conspiracy theories surrounding COVID-19 and QAnon. Then, we test  $H_1$  using 37 additional conspiracy theories.

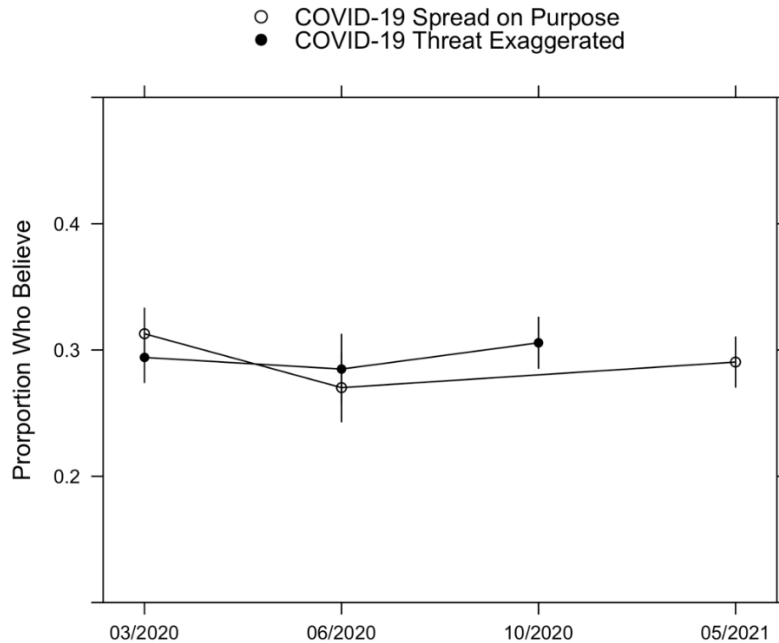
### **COVID-19 Conspiracy Theories**

Scholars and journalist have widely argued that COVID-19 conspiracy theory beliefs increased during the pandemic due to the “perfect storm” of a deadly virus, government lockdowns, economic chaos, an increase in time spent online, and inflamed stress and uncertainty, all of which promoted or were exacerbated by an “explosion in misleading claims” (27-29). COVID-19 conspiracy theories, therefore, represent a critical test of  $H_1$ .

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<sup>3</sup> For example, our measurements of alien contact and faked moon landing beliefs were taken decades after the 1947 incident at Roswell, New Mexico, and the 1969 Apollo missions. Just the same, our analyses cannot examine beliefs in conspiracy theories that were developed prior to the advent of polling (i.e., there are no polls of Rothschild conspiracy theory beliefs from the 1800s).

**Figure 1:** Beliefs in COVID-19 conspiracy theories in the U.S.



We polled on two COVID-19 conspiracy theories in the U.S. in March 2020: “Coronavirus was purposely created and released by powerful people as part of a conspiracy” and “The threat of coronavirus has been exaggerated by political groups who want to damage President Trump.”<sup>4</sup> These two theories cover the basic contours of COVID-19 conspiracy theories in the U.S. at the beginning of the pandemic (7). In repeated polls, however, we observe no increases in either belief (see Figure 1). The theory that the coronavirus was “purposely created and released” found support among 31% of Americans in March 2020, 27% in June 2020, and 29% in May 2021. We note that the “lab leak hypothesis” attracted significant attention from policymakers and journalists in the month leading up to our May 2021 survey, yet this does not appear to have fueled increases in this belief. The theory that the coronavirus was

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<sup>4</sup> Details about survey methodology and sample demographics appear in the appendix.



being exaggerated to “damage President Trump” was at 29% in March 2020, 28% in June 2020, and increased (non-significantly) three points to 31% in October 2020 ( $p=0.086$ ).

**Table 1:** Change in COVID-19 conspiracy beliefs and misinformation between June 2020 and May 2021.

Question wording	June 2020	May 2021	Diff.	<i>p</i> -value for difference
<b><u>Conspiracy theories</u></b>				
1. The coronavirus is being used to force a dangerous and unnecessary vaccine on Americans.	25	24	-1	0.541
2. Bill Gates is behind the coronavirus pandemic.	13	10	-3	0.012
3. The coronavirus is being used to install tracking devices inside our bodies.	18	12	-6	<0.001
<b><u>Misinformation</u></b>				
1. The number of deaths related to the coronavirus has been exaggerated.	29	36	+7	<0.001
2. Hydroxychloroquine can prevent or cure COVID-19.	18	18	0	>0.999
3. 5G cell phone technology is responsible for the spread of the coronavirus.	11	7	-4	<0.001
4. Putting disinfectant into your body can prevent or cure COVID-19.	12	6	-6	<0.001

Note: *P*-value corresponds to two-tailed difference in proportions test. All polls are of U.S. adults. Proportions correspond to those saying they “agree” or “strongly agree” with each sentiment.

Table 1 includes responses to beliefs in three additional pandemic-related conspiracy theories polled in June 2020 and May 2021: “The coronavirus is being used to force a dangerous and unnecessary vaccine on Americans,” “Bill Gates is behind the coronavirus pandemic,” and “The coronavirus is being used to install tracking devices inside our bodies.” All three decreased; the Bill Gates theory significantly decreased three points ( $p=0.012$ ) and the tracking device theory six points ( $p<0.001$ ), respectively. In total, we observe no evidence of increased beliefs for these five COVID-19 conspiracy theories precisely when increases were most expected and carried the greatest tangible consequences. Our results are congruent with those produced by

Romer & Jamieson (2020), who also found that beliefs in three different COVID-19-related conspiracy theories were highly stable between March and July 2020 (7).

Beyond the conspiracy theories, journalists, politicians, and scholars have also been concerned about the prevalence of COVID-19 misinformation. Therefore, we additionally polled respondents about beliefs in 4 pieces of COVID-19 misinformation that were prominent during the pandemic and often tied to conspiracy theories (see Table 1). Each were polled initially in June 2020 and again in May 2021. The hydroxychloroquine item showed no change over time ( $p>0.999$ ), while beliefs regarding 5G and disinfectant both decreased significantly ( $-4$  and  $-6$  points, respectively;  $p<0.001$  in both cases). The only increase identified regarded the idea that the number of COVID-19-related deaths was exaggerated ( $+7$  points,  $p<0.001$ ). In total, we observe no evidence of over time growth in the COVID-19 five conspiracy theory beliefs we queried, and, of the four pieces of misinformation we polled on, only one showed evidence of increase. Precisely during the timeframe when these beliefs were supposedly increasing, we fail to observe evidence of such increases.

### **QAnon Belief and Related Conspiracy Theories**

Our second critical case involves QAnon. Numerous reports in 2020 claimed that QAnon was “spreading,” “growing,” and had rode the pandemic “to new heights” (20, 30, 31). QAnon adherents believe that a government insider was sending them secret messages about President Trump’s battle against the sex-trafficking deep state (32). Beyond this canonical belief, QAnon supporters believe heterogenous collections of conspiracy theories regarding the deep state, Satanic cults, and sex abuse (33), many of which existed long before QAnon’s emergence in 2017 and are believed outside the confines of QAnon (34, 35).

We gauge belief in QAnon using a variety of survey questions. The most direct asks “Are you a believer in QANON?”, to which five percent of respondents replied “yes,” in August 2019. We re-pollled this question in May 2021, observing a nonsignificant increase of one point ( $p=0.205$ ). We also asked respondents to rate the “QAnon movement” on a feeling thermometer ranging from 0 (very “cold,” negative feelings) to 100 (very “warm,” positive feelings) (32). If belief in or support for QAnon were increasing, we would expect increases in the average rating assigned to it. However, we find the opposite: in July 2019 the average rating was 21; in May 2021 the average rating decreased to 16 ( $p<0.001$ ). Thus, we find little evidence that belief in, or support for, QAnon increased between 2019 and 2021.

**Table 2:** Change in QAnon-related conspiracy beliefs over time.

Question wording	Percentage 1 (Time 1)	Percentage 2 (Time 2)	Diff.	<i>p</i> -value for difference
1. There is a “deep state” embedded in the government that operates in secret and without oversight.	43 (03/2020)	44 (05/2021)	+1	0.521
2. Elites, from government and Hollywood, are engaged in a massive child sex trafficking racket.	35 (10/2020)	34 (05/2021)	-1	0.504
3. Jeffrey Epstein, the billionaire accused of running an elite sex trafficking ring, was murdered to cover-up the activities of his criminal network.	50 (03/2020)	48 (05/2021)	-2	0.203

Note: *P*-value corresponds to two-tailed difference in proportions test. All polls are of U.S. adults. Proportions correspond to those saying they “agree” or “strongly agree” with each sentiment.

In Table 2, we examine beliefs in conspiracy theories associated with QAnon including those regarding elite sex traffickers, the “deep state,” and Jeffrey Epstein. These theories garner between 34 and 50 percent agreement, reaching far outside the six percent who identify as a “believer in QAnon.” The baseline levels of beliefs in these theories are both normatively

troubling and consistent with other polls (33), but in no instance do we observe evidence of significant overtime increases. Thus, belief in and support for QAnon, as well as beliefs in ideas that the QAnon movement adopted, remained stable over the course of the pandemic and 2020 election cycle, precisely when these beliefs were perceived to be on the rise.

### **Other Conspiracy Theories**

Moving beyond COVID-19 and QAnon, our analysis continued with a search of the Roper Center for Public Opinion database—the most comprehensive repository of publicly available polling data in the U.S.— for survey items about conspiracy theories that had been administered to national samples in the past. Our search identified only 10 of such items prior to 2010, reflecting the fact that attention to conspiracy theories (especially that involving national polling) is largely concentrated in the last decade (36). Still, the past polls we identified address a range of topics: the assassinations of President Kennedy, Robert Kennedy, and Martin Luther King Jr., as well as the moon landing, UFOs, AIDS, Pearl Harbor, O.J. Simpson, the Reagan Administration, and the police. We continued our search for survey items with a review of prominent studies spanning the last decade (37-39), additionally utilizing conspiracy theory beliefs drawn from our own original surveys.

Our search identified a total of 37 items (polled between 1966–2020) addressing conspiracy theories which vary in who they accuse, which groups in society are/were likely to believe them, the types of events or circumstances they seek to explain, how long they have existed, how widely believed they are/were, and their relative salience. To enable precise comparisons, we re-polled each of the 37 items, retaining the exact question wording and response options used in previous surveys. We also note that some surveys in the past were restricted to registered voters; in those instances, we also restrict our analysis of the follow-up

survey to registered voters. The appendix contains detailed information about all polls. Table 3 presents our findings.

In Table 3, we observe little support for  $H_1$ . Of the 37 conspiracy theory beliefs examined, only six show a significant over time increase, ranging from four to 10 percentage points in magnitude. Of the remaining 31 conspiracy theories, 16 show no significant change over time and 15 show a statistically significant decrease. Significant decreases range in magnitude from three to 31 points. The average change across all conspiracy beliefs is  $-4.57$  points. Altogether, the number of conspiracy theory beliefs that increased—six out of 37—is outweighed by the 31 conspiracy theories showing either no change or a significant decrease.

To account for these findings, one might wonder whether the conspiracy theories that fail to show an increase, or that show a decrease, are somehow systematically different from those that show an increase. Examining the conspiracy theory beliefs that increased in Table 3 reveals timespans, subject areas, baseline levels of belief, and question wording types similar to those beliefs that decreased or remained stable. For example, the largest decrease (31 points) regards beliefs about the 1980 release of the hostages from Iran, which were initially polled in 1991. On the one hand, it could be the case that this conspiracy theory lost popularity due to its age. But an attempt to discount this conspiracy theory from our analysis for this reason would require significant post-hoc theorizing, especially given that some of the largest increases we observe are also among conspiracy theories that address similarly dated topics (JKF, aliens, John Lennon, and George Soros) that were initially polled on many years ago.

**Table 3:** Change in 37 additional conspiracy beliefs over time.

Question wording	Percentage 1 (Time 1)	Percentage 2 (Time 2)	Diff.	<i>p</i> -value for difference
1. Humans have made contact with aliens and this fact has been deliberately hidden from the public.	23 (07/2019)	33 (03/2020)	+10	<0.001
2. Do you think the U.S. government has engaged in the assassination of entertainers who have tried to spread a counterculture message they didn't like, such as John Lennon, Kurt Cobain, Tupac Shakur, and others, or not?*	12 (09/2013)	20 (05/2021)	+8	<0.001
3. 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.	19 (10/2011)	26 (05/2021)	+7	<0.001
4. Do you think one man was responsible for the assassination of President Kennedy, or do you think there were others involved?	50 (12/1966)	56 (05/2021)	+6	<0.001
5. Do you believe that the pharmaceutical industry is in league with the medical industry to "invent" new diseases in order to make money, or not?*	15 (03/2013)	20 (05/2021)	+5	<0.001
6. Thinking about space exploration, do you think the government staged and faked the Apollo moon landings, or don't you feel that way?	6 (07/1995)	10 (05/2021)	+4	<0.001
7. Do you believe media or the government adds secret mind-controlling technology to television broadcast signals, or not?*	15 (03/2013)	17 (05/2021)	+2	0.132
8. Do you believe the government adds fluoride to our water supply, not for dental health reasons, but for other, more sinister reasons, or not?*	9 (03/2013)	11 (05/2021)	+2	0.067
9. Do you think the government is keeping information from the public that shows U.F.O.'s (Unidentified Flying Objects) are real or that aliens have visited the Earth?	49 (06/1996)	50 (05/2021)	+1	0.637
10. Hillary Clinton conspired to provide Russia with access to nuclear materials.	28 (03/2020)	29 (04/2021)	+1	0.481
11. The U.S. government is mandating the switch to compact fluorescent light bulbs because such lights make people more obedient and easier to control.	11 (10/2011)	12 (05/2021)	+1	0.325
12. Health officials know that cell phones cause cancer but are doing nothing to stop it because large corporations won't let them.	20 (09/2013)	20 (05/2021)	0	>0.999
13. 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.	19 (10/2011)	19 (05/2021)	0	>0.999

14. Regardless of who is officially in charge of governments and other organizations, there is a single group of people who secretly control events and rule the world together.	35 (03/2020)	35 (10/2020)	0	>0.999
15. The number of Jews killed by the Nazis during World War II has been exaggerated on purpose.	15 (03/2020)	15 (10/2020)	0	>0.999
16. Climate change is a hoax perpetrated by corrupt scientists and politicians.	19 (07/2019)	19 (10/2020)	0	>0.999
17. Barack Obama faked his citizenship to become president.	20 (03/2020)	19 (05/2021)	-1	0.422
18. Do you completely agree, mostly agree, mostly disagree, or completely disagree that AIDS is a form of systematic destruction of minorities like blacks and Hispanics?	16 (11/1995)	15 (05/2021)	-1	0.416
19. The dangers of vaccines are being hidden by the medical establishment.	30 (03/2020)	29 (05/2021)	-1	0.486
20. The Food and Drug Administration is deliberately preventing the public from getting natural cures for cancer and other diseases because of pressure from drug companies.	37 (09/2013)	35 (05/2021)	-2	0.235
21. The one percent (1%) of the richest people in the U.S. control the government and the economy for their own benefit.	55 (03/2020)	52 (05/2021)	-3	0.056
22. A powerful family, the Rothschilds, through their wealth, controls governments, wars, and many countries' economies.	29 (03/2020)	26 (05/2021)	-3	0.033
23. The AIDS virus was created and spread around the world on purpose by a secret organization.	22 (03/2020)	19 (06/2020)	-3	0.054
24. The dangers of 5G cellphone technology are being covered up.	26 (03/2020)	23 (10/2020)	-3	0.027
25. Do you feel that the Assassination of Senator Robert Kennedy was the act of one individual or part of a larger conspiracy?	48 (03/1981)	43 (05/2021)	-5	0.009
26. The dangers of genetically-modified foods are being hidden from the public.	45 (03/2020)	40 (05/2021)	-5	0.001
27. School shootings, like those at Sandy Hook, CT and Parkland, FL are false flag attacks perpetrated by the government.	17 (03/2020)	12 (10/2020)	-5	<0.001
28. Do you believe that Osama bin Laden is dead, or do you think he is still alive?	11 (06/2011)	5 (05/2021)	-6	<0.001
29. Donald Trump colluded with Russia to rig the 2016 presidential election.	41 (07/2019)	34 (05/2021)	-7	<0.001
30. Some people have argued that President Franklin D. Roosevelt knew about Japanese plans to bomb Pearl Harbor but did nothing about it because he wanted an excuse to involve the U.S. (United States) on the side of the allies in the war.	31 (11/1991)	19 (05/2021)	-12	<0.001

31. Republicans won the presidential elections in 2016, 2004, and 2000 by stealing them.	27 (03/2020)	15 (05/2021)	-12	<0.001
32. Do you believe global warming is a hoax, or not?	37 (03/2013)	19 (05/2021)	-18	<0.001
33. Some people are hiding the truth about the December 14, 2012 school shooting at Sandy Hook Elementary in order to advance a political agenda.*	37 (04/2013)	16 (05/2021)	-21	<0.001
34. Do you think there was a police conspiracy to frame O.J. Simpson or not?	34 (10/1995)	11 (05/2021)	-23	<0.001
35. Do you feel that the Assassination of Martin Luther King was the act of one individual or part of a larger conspiracy?	59 (03/1981)	33 (05/2021)	-26	<0.001
36. Do you think there is, or is not, a national conspiracy to kill police?	44 (11/1970)	16 (05/2021)	-28	<0.001
37. Do you think that the Reagan campaign made a deal with the Iranians to hold the American hostages in Iran until after the 1980 presidential election or not?	43 (07/1991)	12 (05/2021)	-31	<0.001

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Note: *P*-value corresponds to two-tailed difference in proportions test. All polls are of U.S. adults. Where response options are not dichotomous (e.g., yes/no, believe/don't believe), the proportion expressing belief is those who "agree" or "strongly agree" with a sentiment. \*registered voters only



With this said, we took additional empirical steps to investigate whether there is a relationship between the “age” of a conspiracy theory and levels of support. We first computed the correlation between a) the difference in proportion of believers listed in Table 1 (column 4) and b) the time (in years) between  $T_1$  and  $T_2$ . The Pearson’s correlation is  $-0.39$  ( $p=0.016$ ), signifying that the longer a conspiracy theory has been around, the less support it garners. Second, we examined whether there was any relationship between the time a given conspiracy theory belief was first surveyed in our data and the proportion of individuals supporting it at that time—perhaps individual conspiracy theory beliefs are not *increasing* over time, but rather new conspiracy theories are garnering more initial support today than conspiracy theories did in the past. Here, too, we find no support for such a notion; instead, there is a negative Pearson’s correlation ( $r=-0.43$ ,  $p=0.007$ ) between the date each conspiracy theory was first polled and level of support. Thus, it seems that conspiracy theories tend to lose, rather than gain, believers over time and that “newer” conspiracy theories are not attracting more believers than did conspiracy theories in the past; both observations cut against the popular claims upon which  $H_1$  is based. That said, we suspect that individual conspiracy theories respond to different forces over time, attracting more or fewer adherents for idiosyncratic reasons, just like many other topics of public opinion do.

One might additionally wonder if changing survey methodologies and modes (e.g., phone polls versus computerized surveys) are affecting our results. First, we note that our survey samples were constructed to be representative of the U.S. adult population according to the most recent census estimates; this information is presented in the appendix. Second, we suspect that changes in polling methods would work in favor of  $H_1$ , rather than against it, given that surveys guided by a live interviewer—the norm for most polls more than 10 years old—would be more

likely to trigger social desirability bias, thereby depressing stated conspiracy beliefs, than computerized polls where no interviewer is present. However, we observe no patterns suggesting that our findings are systematically impacted by polling method.

Given the frequency of claims about contemporary America entering a “golden age” of conspiracy theories (8, 40, 41), we expected to find near-universal support for H<sub>1</sub>, regardless of the specific conspiracy theories or the timeframes used in our comparisons. However, our analyses failed to produce consistent evidence of increases in conspiracy theory beliefs. Out of 46 total conspiracy theories and pieces of related misinformation examined, we found only seven with significant increases, but 22 with no significant change and 17 with significant decreases. Indeed, the conspiracy theories that tend to attract the most concern due to supposed growth (those regarding COVID-19, QAnon, and vaccines) do not appear to be growing in popularity.

### **Study 2: Beliefs in Specific Conspiracy Theories Across Cultures**

Study 1 found little support for the hypothesis that the proportion of people believing specific conspiracy theories in the U.S. had increased over time. To examine whether the findings outlined in Study 1 are confined to the U.S., we now test our central hypothesis cross-nationally. In partnership with YouGov, we polled beliefs about six conspiracy theories across six European countries in both 2016 and 2018. Our reconfigured hypothesis is as follows:

H<sub>2</sub>: The proportion of people believing specific conspiracy theories in Germany, Great Britain, Italy, Poland, Portugal, and Sweden has increased over time.

These countries were chosen because they vary in characteristics such as gross domestic product, population size, income inequality, political systems, levels of civic engagement, and location within Europe (north/south, east/west), all of which may impact the social status of conspiracy

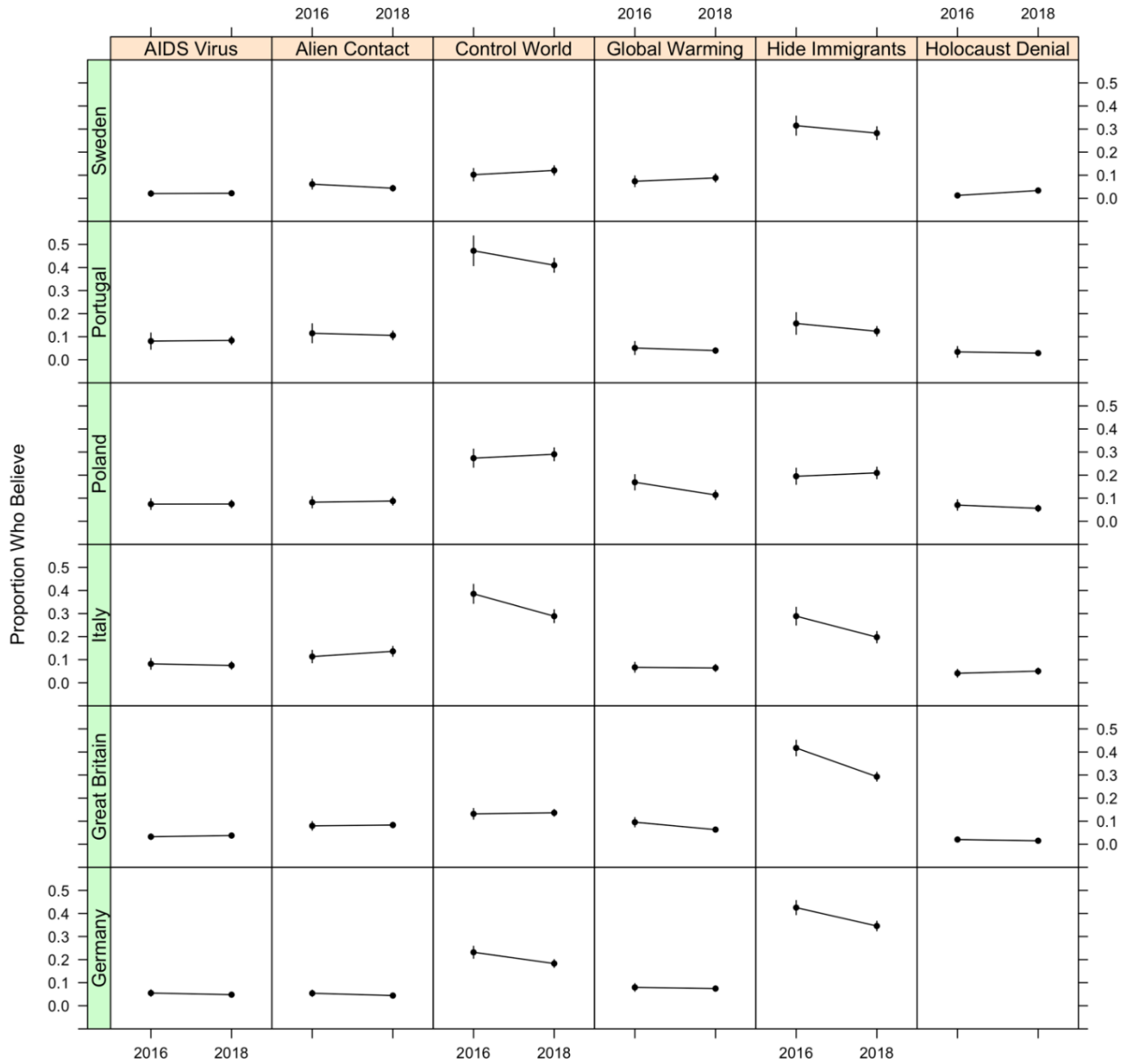
theories. We leverage cross-national variability to provide not only more, but potentially different, tests of the central hypothesis.

The surveys utilized here meet the specifications laid out in Study 1, asking conspiracy theory questions a) the same way to b) national samples c) at least twice (in 2016 and again 2018). These surveys also provide an adequate timeframe for detecting growth (two years), as well as a range of conspiracy theories spanning the five categories identified by Brotherton, French, and Pickering (25). Respondents were asked to select which of the following “statements,” if any, they believe (labels in parentheses):

1. Humans have made contact with aliens and this fact has been deliberately hidden from the public. (*Alien Contact*)
2. The AIDS virus was created and spread around the world on purpose by a secret group or organisation. (*AIDS Virus*)
3. Regardless of who is officially in charge of governments and other organisations, there is a single group of people who secretly control events and rule the world together. (*Control World*)
4. The official account of the Nazi Holocaust is a lie and the number of Jews killed by the Nazis during World War II has been exaggerated on purpose. (*Holocaust Denial*; excluded in German sample)
5. The idea of man-made global warming is a hoax that was invented to deceive people. (*Global Warming*)
6. The Government is deliberately hiding the truth about how many immigrants really live in this country. (*Hide Immigrants*)

Figure 2 shows the proportion of respondents selecting each conspiracy theory, in each country, by year. Out of the 35 comparisons presented, the proportion of believers significantly increased over time in one: Holocaust denial in Sweden increased from 1% to 3% of the population, ( $p=0.016$ ). By contrast, we observe significant over time decreases in seven of the comparisons. This leaves 27 of the 35 total cases with no statistically significant change.

**Figure 2:** Proportion of adults across 6 European countries who express agreement with each conspiratorial sentiment over time.



These findings comport with those of Study 1—most change is not significant and, of the significant changes we observe, decreases outnumber increases. Because we present only a small number of conspiracy theories in six countries, we cannot conclude that all conspiracy theory beliefs are stable or decreasing in these countries. That said, during a time and in contexts where growth was widely expected (11), we fail to produce supportive evidence. We recommend that future studies examine temporal trends in more countries using more conspiracy theories.

### **Study 3: Beliefs about Which Groups Are Conspiring**

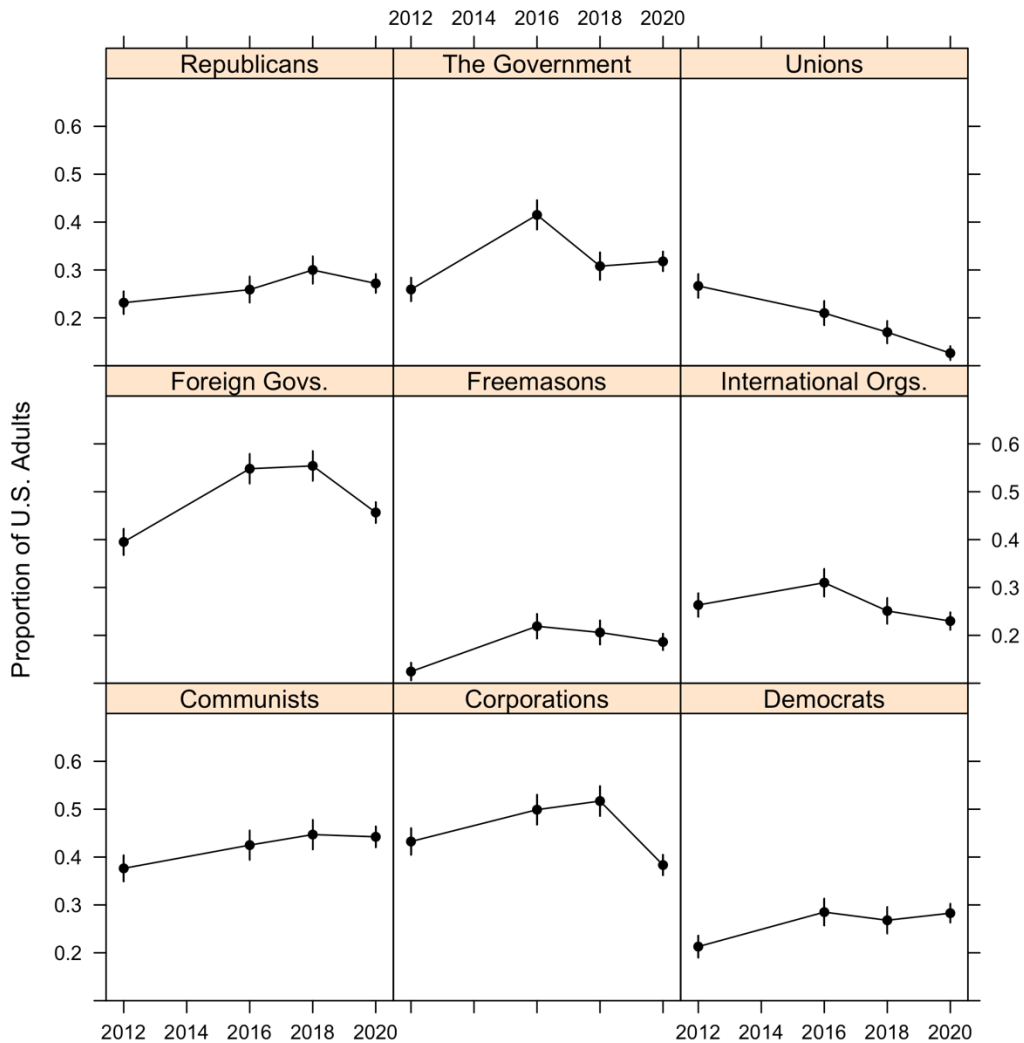
In our third study, we transition from beliefs in specific conspiracy theories to perceptions about which groups are likely to be conspirators. Our third hypothesis is as follows:

H<sub>3</sub>: The number of groups Americans believe are conspiring has increased over time. While we are agnostic as to whether it is normatively worse for people to believe that multiple groups, as opposed to one group, are actively conspiring against them, this constitutes an ancillary test of the general hypothesis: even though the proportion of individuals expressing belief in specific conspiracy theories appears largely stagnant, the number of groups and institutions that people believe are behind those supposed conspiracies could be increasing.

To test this possibility, we asked respondents in four surveys fielded in October 2012, 2016, 2018, and 2020 which of several groups are “likely to work in secret against the rest of us?” Using radio buttons, respondents could choose one or more of nine groups: “corporations and the rich,” “Republicans or other conservative groups,” “Democrats or other liberal groups,” “Communists and Socialists,” “the government,” “foreign countries,” “international organizations (e.g., United Nations, International Monetary Fund, World Bank),” “the Freemasons or some other fraternal group,” and “labor unions.” Respondents could also select

“none of the above,” or choose not to select any of the options, which we also classified as “none of the above.” Figure 3 plots the proportion of respondents selecting each option, by year/survey.

**Figure 3:** Proportion of U.S. adults who believes that each group is “likely to work in secret against the rest of us” over time.



Across the nine years, we observe average decreases for three groups (corporations, international organizations, and unions) and average increases for the six remaining groups, all of which are significant at  $p < 0.05$ . That said, the decreases are larger than the increases: the average change in proportion across all nine groups of conspirators is  $-0.13$ . This is further

reflected in an examination of the average count of conspirators that respondents selected: in 2012 respondents selected 2.56 groups, on average, and 2.70 groups in 2020. This difference is not statistically significant at conventional levels ( $p=0.09$ ). In sum, while fears about particular conspirators ebb and flow over time, we do not observe an average increase in the number of conspirators that people are worried about. Moreover, decreases in the proportion of individuals expressing worry about various conspirators outweigh the observed increases.

#### **Study 4: Conspiracy Thinking**

Finally, to answer perhaps the most important question regarding the role of conspiracy theories in contemporary culture—*have people become more conspiracy-minded, in general, over time?*—we examine temporal trends in the general predisposition to interpret events and circumstances as the product of real conspiracies, *conspiracy thinking* (25). This analysis, like Study 3, is particularly useful because it circumvents the trappings of individual conspiracy theories (e.g., the details, supposed evidence, and salience) that can make generalization difficult. Our fourth hypothesis follows:

H<sub>4</sub>: The average level of conspiracy thinking in the U.S. has increased over time.

We use eight surveys of U.S. adults fielded between October 2012—the earliest known measure of generalized conspiracy thinking on a national survey—and May 2021 to test this hypothesis. Each of our surveys measure conspiracy thinking the same way: the American Conspiracy Thinking Scale (ACTS), first developed by Uscinski and Parent (2014) (42) and based on items from McClosky & Chong (1985) (43). This measure of conspiracy thinking has been previously validated in numerous published studies and is strongly associated with beliefs in a wide range of specific conspiracy theories (44-49). Respondents are asked to react, using

five-point scales ranging from “strongly disagree” (1) to “strongly agree” (5), to each of the following four items:

1. Even though we live in a democracy, a few people will always run things anyway.
2. The people who really “run” the country are not known to the voters.
3. Big events like wars, the recent recession, and the outcomes of elections are controlled by small groups of people who are working in secret against the rest of us.
4. Much of our lives are being controlled by plots hatched in secret places.

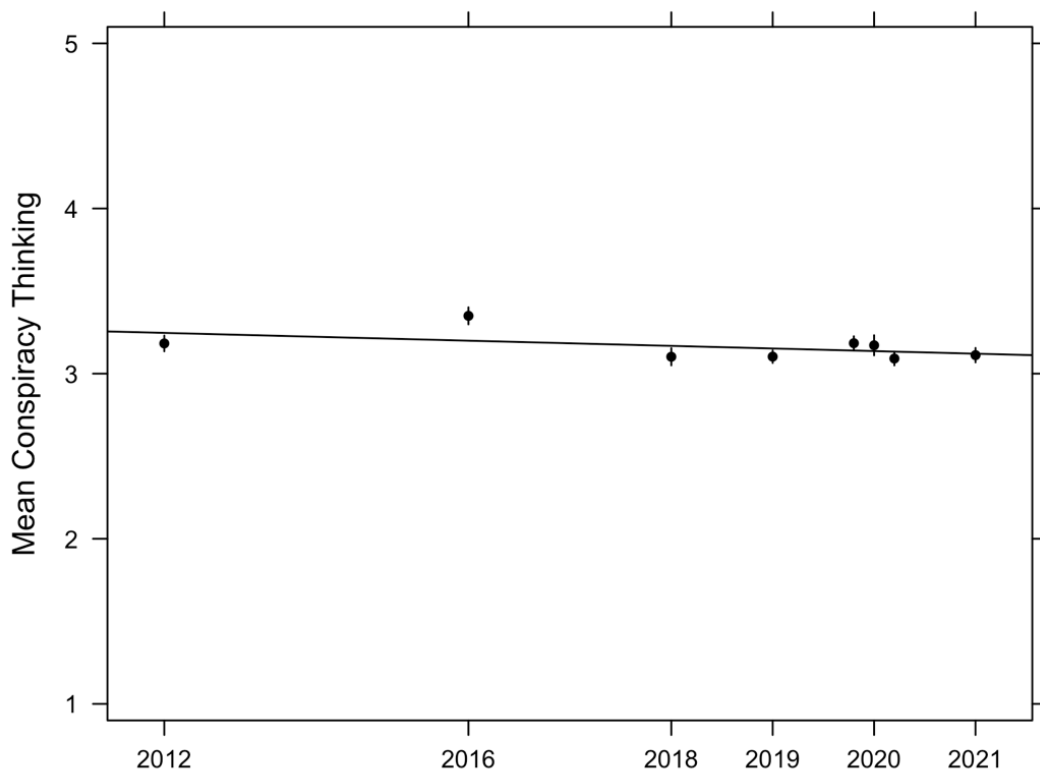
Responses are averaged into a unidimensional and statistically reliable scale; for example, Cronbach’s alpha ranges from 0.76–0.86 across the eight surveys (see the appendix for more details). We examined the predictive validity of this measure using our most recent (May 2021) survey: respondents in the upper third of the ACTS express belief in more than three times as many specific conspiracy theories than those falling in the lower third of the scale (14 conspiracy theories versus four, respectively), even controlling for attitudinal and demographic factors (see the appendix for details). Predictive validity aside, we do not claim that conspiracy thinking, as measured here, is the causal explanation for conspiracy theory beliefs; instead, we merely propose that this measure is a proxy for the general propensity to believe conspiracy theories.

Figure 4 plots the average of the ACTS for each survey, along with 95% confidence intervals and an OLS fit line ( $\beta=-0.45$ ,  $p=0.269$ ) to highlight trends (or the lack thereof). While we observe an increase moving from 2012 to 2016 ( $p<0.001$ ), it is substantively small at only 0.17 units on a five-point scale. All other time points display averages that are statistically indistinguishable from 2012 levels (March 2020,  $p=0.966$ ; June 2020,  $p=0.770$ ) or statistically lower than 2012 levels (2018,  $p=0.026$ ; 2019,  $p=0.011$ ; October 2020,  $p=0.006$ ; May 2021,  $p=0.039$ ). In short, we observe no average increase in conspiracy thinking over time. This lack of an upward trend is disconfirmatory of the central hypothesis that conspiracism has increased



over time. We note, however, that average levels of conspiracy thinking are above the midpoint and potentially concerning, even if they are not increasing. Therefore, researchers should continue to investigate the nature and scope of conspiracy thinking and further develop strategies for addressing average levels of conspiracy thinking.

**Figure 4:** Average level of conspiracy thinking, measured by the ACTS (range 1–5), over time. Vertical lines are 95% confidence intervals, horizontal line is OLS fit.



### Conclusion

Numerous cross-sectional polls show that large numbers of people across political contexts believe conspiracy theories (26, 37) and, perhaps because of this, many scholars, journalists, policymakers, and members of the public are convinced that conspiracy theory beliefs are

increasing over time. Such increases would be of great concern because such beliefs can, in some instances, lead to deleterious actions (2). However, little evidence has been produced to support the contention that beliefs in conspiracy theories have, indeed, increased over time. As one journalist at *Vox* put it in 2020, “there’s no hard evidence that conspiracy theories are circulating more widely today than ever before. But...it has certainly seemed like average Americans have bought into them more and more” (50). The dearth of evidence substantially owes to the fact that conspiracy theories have become the subject of a sustained research program only in the last decade—researchers are only now beginning to collect enough data to systematically track trends. Still, claims about increases in conspiracy theory beliefs must be both testable and falsifiable if they are to be taken seriously. More specifically, hypothesized increases should be detectable using standard methods for measuring beliefs (such as, but not limited to, polling). If such hypotheses cannot be substantiated with supportive evidence, they should be appropriately qualified, refined to match the available evidence, or abandoned altogether.

Across four studies—including four distinct operationalizations of conspiracism, temporal comparisons spanning between seven months and 55 years, and tens of thousands of observations—we find only scant evidence that conspiracism, however operationalized, has increased over time. Although beliefs in 13 out of 52 conspiracy theories significantly increased over time (including those in both Study 1 and Study 2), these increases do not constitute sufficient evidence against the null hypothesis. In fact, we identified more decreases than increases, and the decreases were larger in magnitude than the increases. Indeed, that only a quarter of the conspiracy theories we examined found more support over time—none of which involve the COVID-19 pandemic or QAnon—contradicts common wisdom.

With this said, the baseline levels of conspiracism we observe are disconcerting and social scientists should continue their efforts at understanding and stymying related beliefs (51, 52). That 30% of Americans, for example, believe in COVID-19 conspiracy theories remains an impediment to public health (7). By the same token, our finding that conspiracy theory beliefs are generally not increasing has implications for public discourse, the regulation of social media, and for strategies to combat beliefs in conspiracy theories. Claims that beliefs in conspiracy theories are on the rise suggest that a new factor is to blame, or at least that a meaningful change in an old factor has occurred. In this vein, and perhaps more than any other factor, the internet and social media have taken much of the blame for the supposed increase in conspiracy theory beliefs (17). Scholars have provided rich theories as to how and why conspiracy theory beliefs might increase due to their transmission online (14), and have grown increasingly concerned about online interconnectedness (13).

But, despite concerns that conspiracy theorizing is increasing due to the easy availability of online conspiracy theories, we do not observe supporting evidence that beliefs in conspiracy theories or generalized conspiracy thinking have increased during the internet/social media era. Instead, our findings comport with arguments that the internet may be less hospitable to conspiracy theories than is often assumed (53). Our findings also compliment studies suggesting that claims about ongoing “infodemics” may go beyond the available evidence (54), that echo chambers are not as widespread as sometimes thought (55), and that online conspiracy theories are not as influential as sometimes argued (56). It could be that most users are not being exposed to conspiracy theories online as much as they are to non-conspiratorial forms of content and that users do not share conspiratorial content as much as sometimes assumed (57, 58). Further, the literature on conspiracy theory beliefs suggests that people are unlikely to believe a conspiracy

theory unless they are both a) already disposed to believe conspiracy theories and b) inclined towards the content of that particular conspiracy theory or the source from which they are hearing it (3, 59, 60). In this sense, online conspiracy theories might not *persuade* as much as *reinforce* existing beliefs—our findings are more reflective of the latter process than the former.

Our investigation is not without limitations. We are limited to the conspiracy theories others have polled on in the past, and we cannot make claims about conspiracy theories we did not investigate. Still, we expect that decisions about polling are driven by the perceived salience of particular conspiracy theories—in other words, we should be more likely to observe growth in the types of ideas that scholars and pollsters thought worthwhile to ask the mass public about than those ideas that occupy only the fringes. The “fluorescent lightbulb” conspiracy theory examined in Study 1 (see Table 3) might shed some light on the potential importance of salience. Support for this theory—which was concocted by researchers (7), and, to our knowledge, never spread or became salient among the public—remained stable over the course of a decade ( $p=0.325$ ). Hence, when the salience of, and information about, a conspiracy theory and the topic it addresses are held constant over time (there never was any organic public attention paid to this theory), beliefs are also likely to remain stable over time.

We further acknowledge that no single study can poll in all political contexts. Some conspiracy theories not included in Study 2 could be increasing in the six European countries polled; moreover, conspiracy theory beliefs could be increasing in some countries not accounted for here. We note that most polling of conspiracy theory beliefs has taken place in the U.S. and during the last decade—efforts to comprehensively measure conspiracy theory beliefs with national polls across the globe are only slowly emerging (61). Thus, more work in non-U.S. and non-E.U. countries is needed to test our central hypothesis more comprehensively.

Finally, we implore caution in making sweeping inferences from our findings. For example, our study should not be used to make claims about, or to excuse the behavior of, political elites who engage in conspiratorial rhetoric or weaponize conspiracy theories for political purposes. Trends in the coverage of conspiracy theories by news outlets or in the rhetorical use of conspiracy theories by political elites fall outside the purview of our investigation, as do the use of conspiracy theories by fake news purveyors, though we recommend that future studies continue to consider these topics. Likewise, while conspiracy theories are one form of misinformation, our results should not be generalized to beliefs in misinformation, more broadly.

Questions regarding the growth—or lack thereof—in conspiracy theory beliefs are important, with far-reaching normative and empirical implications for our understanding of political culture, free speech, and internet regulation, as well as political radicalization and extremism. That we observe little supportive evidence for an increase in the popularity of conspiratorial ideas, however operationalized, should give scholars, journalists, and policymakers pause and promote a return to the drawing board. This is not to dismiss the availability of conspiracy theories online, the large numbers of people who believe in some conspiracy theories, or the consequences of those beliefs, nor is it to preclude the possibility of increases in the future or in other socio-political contexts. It may be that conspiracy theories have been a constant, but that scholars, policymakers, and journalists are only recently beginning to pay appropriate attention to them. Thus, our findings offer both good and bad news: good, in that conspiracy theory beliefs are not increasing across the board; bad, in that conspiracy theories may be a more persistent and ubiquitous feature of human society than is desirable. Scholars still have much to discover about the psychology of conspiracy theory beliefs, as well as the roles

that elite communication and the information environment play in promoting those beliefs. In the meantime, we recommend caution in sounding alarms regarding the “golden age” of conspiracy theories and the degeneration of society into a “post-truth” era.

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## **Supplemental Appendix:**

### **“Have Beliefs in Conspiracy Theories Increased Over Time?”**

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## I. Details about author-fielded surveys

**Table A1:** Original U.S. survey data fielded by authors and used across studies.

<b>Polling Organization</b>	<b>Dates Fielded</b>	<b>Sample Size</b>	<b>Sample/Sampling Procedure</b>
1. CCES	October 2012	1,230	Opt-in YouGov panelists; weighted to be representative
2. CCES	October 2016	1,000	Opt-in YouGov panelists; weighted to be representative
3. CCES	October 2018	1,000	Opt-in YouGov panelists; weighted to be representative
4. Qualtrics	July 2019	2,000	Quota sample; stratified to be representative
5. Qualtrics	March 2020	2,023	Quota sample; stratified to be representative
6. Qualtrics	June 2020	1,040	Quota sample; stratified to be representative
7. Qualtrics	October 2020	2,015	Quota sample; stratified to be representative
8. Qualtrics	May 2021	2,021	Quota sample; stratified to be representative

Note: “CCES”=[Cooperative Congressional Election Study](#); all surveys fielded on U.S. adults (18+).

**Table A2:** Sociodemographic information about all original U.S. samples, compared to 2010 U.S. Census estimates.

Characteristic	2010 Census Estimate	Qualtrics May 2021	Qualtrics October 2020	Qualtrics June 2020	Qualtrics March 2020	Qualtrics July 2019	CCES Oct. 2018	CCES Oct. 2016	CCES Oct. 2012
Age	38	48	43	46.5	39	50	48	48	47
High school degree	88	97	97	98	95	99	91	89	89
Some college or more	59	71	76	76	60	60	63	59	59
Female	51	50	51	51	52	52	52	52	52
White	72	62	68	60	65	62	70	73	73
Black	13	14	14	17	15	14	13	12	12
Hispanic	16	16	17	27	18	16	9	6	8
<i>n</i>		2,021	2,015	1,040	2,023	2,000	1,000	1,000	1,230

Note: All entries are percentages except age, which is the median.

**While median age is slightly higher for our surveys than the 2010 Census estimates, recall that we are able to poll on only those age 18 years old and older, whereas the Census provides the median age of all Americans.**

**Table A3:** Descriptive characteristics of European samples, by country.

Variable (range)	GB	DE	SE	PT	IT	PL
Trust in Media (0–3)	0.87 (0.73)	1.24 (0.81)	1.25 (0.92)	1.18 (0.72)	1.03 (0.76)	1.06 (0.73)
Trust Government (0–3)	0.77 (0.74)	0.99 (0.81)	1.13 (0.94)	0.70 (0.65)	0.63 (0.72)	0.56 (0.71)
Trust Family/Friends (0–3)	2.36 (0.54)	2.44 (0.55)	2.72 (0.51)	2.21 (0.54)	2.16 (0.55)	2.22 (0.56)
Ideology (1–5)	2.86 (1.20)	2.86 (0.99)	3.28 (1.31)	2.71 (1.41)	2.75 (1.30)	3.08 (1.27)
Religious Thinking (0–3)	0.73 (0.90)	0.92 (1.01)	0.60 (0.80)	1.12 (1.01)	1.25 (0.98)	1.23 (1.10)
Education (1–5)	2.94 (1.13)	3.02 (1.06)	3.00 (1.14)	3.14 (1.15)	2.88 (1.37)	3.52 (1.34)
Unemployed (prop.)	0.06 (0.24)	0.04 (0.19)	0.04 (0.19)	0.11 (0.32)	0.13 (0.34)	0.06 (0.24)
Age (18–87)	48.91 (16.98)	48.42 (14.85)	48.86 (17.90)	43.67 (13.88)	45.96 (14.86)	44.37 (14.86)
Female (prop.)	0.56 (0.50)	0.50 (0.50)	0.51 (0.50)	0.50 (0.50)	0.52 (0.50)	0.51 (0.50)
<i>n</i>	1,742	2,039	1,007	500	1,001	1,000

Note: Entries are means (unless where otherwise noted) with standard deviations in parentheses. Country codes are as follows: Great Britain (GB), Germany (DE), Sweden (SE), Portugal (PT), Italy (IT), Poland (PT).

## II. Details about surveys not fielded by authors

**Table A4:** Details about surveys from which the first time points in Table 3 were taken. Only includes those surveys not fielded by the authors (which are described above).

Question wording (response options)	Dates Fielded	Polling Organization	Target	Sample Size
1. Do you believe the government adds fluoride to our water supply, not for dental health reasons, but for other, more sinister reasons, or not? (Do/do not)	3/27/2013– 3/30/2013	Public Policy Polling	Registered voters	1,247
2. Do you believe global warming is a hoax, or not? (Do/do not)	3/27/2013– 3/30/2013	Public Policy Polling	Registered voters	1,247
3. Do you think the government is keeping information from the public that shows U.F.O.'s (Unidentified Flying Objects) are real or that aliens have visited the Earth? (Yes/no)	6/27/1996– 6/28/1996	PSRA/Newsweek Poll	Adults	769
4. Do you believe media or the government adds secret mind-controlling technology to television broadcast signals, or not? (Do/do not)	3/27/2013– 3/30/2013	Public Policy Polling	Registered voters	1,247
5. Do you completely agree, mostly agree, mostly disagree, or completely disagree that AIDS is a form of systematic destruction of minorities like blacks and Hispanics?	11/27/1995– 12/17/1995	Kaiser Survey on Americans and AIDS/HIV	Adults	1,511
6. Do you think that the Reagan campaign made a deal with the Iranians to hold the American hostages in Iran until after the 1980 presidential election or not?	7/17/1991– 7/18/1991	Time/CNN/Yankelovich Clancy Shulman Poll	Adults	1,000
7. Do you think one man was responsible for the assassination of President Kennedy, or do you think there were others involved? (Others/one man)	12/8/1966– 12/13/1966	Gallup (AIPO)	Adults	1,469
8. Thinking about space exploration, do you think the government staged and faked the Apollo moon landings, or don't you feel that way? (Yes, staged/no, not staged)	7/19/1995– 7/20/1995	Time/CNN/Yankelovich Partners Poll	Adults	1,000
9. Do you believe that Osama bin Laden is dead, or do you think he is still alive? (Alive/dead)	6/3/2011– 6/7/2011	CNN/Opinion Research Corporation Poll	Adults	1,015

10. Do you believe that the pharmaceutical industry is in league with the medical industry to "invent" new diseases in order to make money, or not? (Do/do not)	3/27/2013– 3/30/2013	Public Policy Polling	Registered voters	1,247
11. Some people have argued that President Franklin D. Roosevelt knew about Japanese plans to bomb Pearl Harbor but did nothing about it because he wanted an excuse to involve the U.S. (United States) on the side of the allies in the war. From what you know or have read, do you agree or disagree with this point of view? (Agree/disagree)	11/21/1991– 11/24/1991	Gallup	Adults	1,005
12. Some people are hiding the truth about the December 14, 2012 school shooting at Sandy Hook Elementary in order to advance a political agenda (Agree/disagree/neither agree nor disagree)	4/27/2013– 4/29/2013	Farleigh Dickinson University's Public Mind Poll	Registered voters	863
15. Do you think the U.S. government has engaged in the assassination of entertainers who have tried to spread a counterculture message they didn't like, such as JohnLennon, Kurt Cobain, Tupac Shakur, and others, or not? (Yes/no)	9/25/2013– 9/26/2013	Public Policy Polling	Registered voters	790
16. Do you feel that the Assassination of Martin Luther King was the act of one individual or part of a larger conspiracy? (One individual/larger conspiracy)	3/30/1981– 3/31/1981	Louis Harris & Associates	Adults	1,001
17. Do you feel that the Assassination of Senator Robert Kennedy was the act of one individual or part of a larger conspiracy? (One individual/larger conspiracy)	3/30/1981– 3/31/1981	Louis Harris & Associates	Adults	1,001
18. Are you a believer in QANON? (Yes/no)	8/24/2019– 8/26/2019	Emerson Polling	Registered voters	1,458
19. The Food and Drug Administration is deliberately preventing the public from getting natural cures for cancer and other diseases because of pressure from drug companies. (SA–SD)	09/2013	YouGov/Eric Oliver	Adults	1,351
20. Health officials know that cell phones cause cancer but are doing nothing to stop it because large corporations won't let them. (SA–SD)	09/2013	YouGov/Eric Oliver	Adults	1,351

21. 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. (SA–SD)	10/2011	CCES/YouGov	Adults	1,935
22. The U.S. government is mandating the switch to compact fluorescent light bulbs because such lights make people more obedient and easier to control. (SA–SD)	10/2011	CCES/YouGov	Adults	1,935
23. 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. (SA–SD)	10/2011	CCES/YouGov	Adults	1,935
24. Do you think there was a police conspiracy to frame O.J. Simpson or not? (Yes/no)	10/4/1995– 10/6/1995	Washington Post	Adults	684
25. Do you think there is, or is not, a national conspiracy to kill policemen? (Is/is not)	10/1970	Gallup/Newsweek	Adults	519

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Note: All polls are of Americans. “SA–SD” corresponds to five-point Likert type response options ranging from strongly agree to strong disagree.



### III. Table with all conspiracy theories in Study 1

**Table A5:** Change in 51 conspiracy beliefs over time.

Question wording	Percentage 1 (Time 1)	Percentage 2 (Time 2)	Diff.	<i>p</i> -value for difference
1. Humans have made contact with aliens and this fact has been deliberately hidden from the public.	23 (07/2019)	33 (03/2020)	+10	<0.001
2. Do you think the U.S. government has engaged in the assassination of entertainers who have tried to spread a counterculture message they didn't like, such as John Lennon, Kurt Cobain, Tupac Shakur, and others, or not?*	12 (09/2013)	20 (05/2021)	+8	<0.001
3. 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.	19 (10/2011)	26 (05/2021)	+7	<0.001
4. The number of deaths related to the coronavirus has been exaggerated.	29 (06/2020)	36 (05/2021)	+7	<0.001
5. Do you think one man was responsible for the assassination of President Kennedy, or do you think there were others involved?	50 (12/1966)	56 (05/2021)	+6	<0.001
6. Do you believe that the pharmaceutical industry is in league with the medical industry to "invent" new diseases in order to make money, or not?*	15 (03/2013)	20 (05/2021)	+5	<0.001
7. Thinking about space exploration, do you think the government staged and faked the Apollo moon landings, or don't you feel that way?	6 (07/1995)	10 (05/2021)	+4	<0.001
8. Do you believe media or the government adds secret mind-controlling technology to television broadcast signals, or not?*	15 (03/2013)	17 (05/2021)	+2	0.132
9. Do you believe the government adds fluoride to our water supply, not for dental health reasons, but for other, more sinister reasons, or not?*	9 (03/2013)	11 (05/2021)	+2	0.067
10. Do you think the government is keeping information from the public that shows U.F.O.'s (Unidentified Flying Objects) are real or that aliens have visited the Earth?	49 (06/1996)	50 (05/2021)	+1	0.637
11. Are you a believer in QANON?*	5 (08/2019)	6 (05/2021)	+1	0.205
12. There is a "deep state" embedded in the government that operates in secret and without oversight.	43 (03/2020)	44 (05/2021)	+1	0.521
13. Hillary Clinton conspired to provide Russia with access to nuclear materials.	28 (03/2020)	29 (04/2021)	+1	0.481
14. The U.S. government is mandating the switch to compact fluorescent light bulbs because such lights make people more obedient and easier to control.	11 (10/2011)	12 (05/2021)	+1	0.325

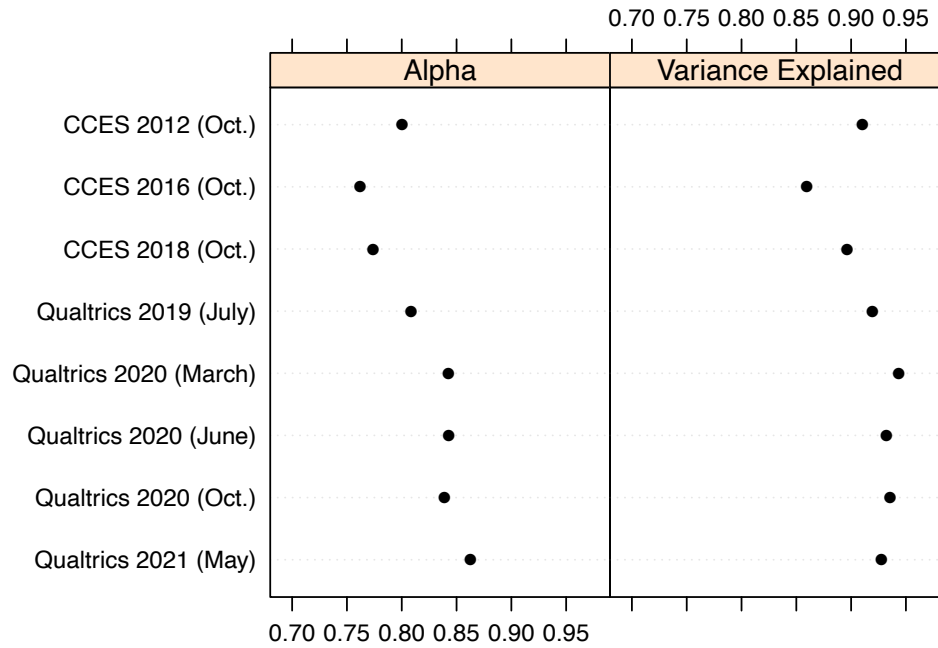
15. The threat of coronavirus has been exaggerated by political groups who want to damage President Trump.	30 (03/2020)	31 (10/2020)	+1	0.490
16. Hydroxychloroquine can prevent or cure COVID-19.	18 (06/2020)	18 (05/2021)	0	>0.999
17. Health officials know that cell phones cause cancer but are doing nothing to stop it because large corporations won't let them.	20 (09/2013)	20 (05/2021)	0	>0.999
18. 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.	19 (10/2011)	19 (05/2021)	0	>0.999
19. Regardless of who is officially in charge of governments and other organizations, there is a single group of people who secretly control events and rule the world together.	35 (03/2020)	35 (10/2020)	0	>0.999
20. The number of Jews killed by the Nazis during World War II has been exaggerated on purpose.	15 (03/2020)	15 (10/2020)	0	>0.999
21. Climate change is a hoax perpetrated by corrupt scientists and politicians.	19 (07/2019)	19 (10/2020)	0	>0.999
22. Barack Obama faked his citizenship to become president.	20 (03/2020)	19 (05/2021)	-1	0.422
23. Do you completely agree, mostly agree, mostly disagree, or completely disagree that AIDS is a form of systematic destruction of minorities like blacks and Hispanics?	16 (11/1995)	15 (05/2021)	-1	0.416
24. The coronavirus is being used to force a dangerous and unnecessary vaccine on Americans.	25 (06/2020)	24 (05/2021)	-1	0.541
25. The dangers of vaccines are being hidden by the medical establishment	30 (03/2020)	29 (05/2021)	-1	0.486
26. Elites, from government and Hollywood, are engaged in a massive child sex trafficking racket.	35 (10/2020)	34 (05/2021)	-1	0.504
27. Coronavirus was purposely created and released by powerful people as part of a conspiracy.	31 (03/2020)	29 (05/2021)	-2	0.165
28. Jeffrey Epstein, the billionaire accused of running an elite sex trafficking ring, was murdered to cover-up the activities of his criminal network.	50 (03/2020)	48 (05/2021)	-2	0.203
29. The Food and Drug Administration is deliberately preventing the public from getting natural cures for cancer and other diseases because of pressure from drug companies.	37 (09/2013)	35 (05/2021)	-2	0.235
30. The one percent (1%) of the richest people in the U.S. control the government and the economy for their own benefit.	55 (03/2020)	52 (05/2021)	-3	0.056
31. A powerful family, the Rothschilds, through their wealth, controls governments, wars, and many countries' economies.	29 (03/2020)	26 (05/2021)	-3	0.033

32. Bill Gates is behind the coronavirus pandemic.	13 (06/2020)	10 (05/2021)	-3	0.012
33. The AIDS virus was created and spread around the world on purpose by a secret organization.	22 (03/2020)	19 (06/2020)	-3	0.054
34. The dangers of 5G cellphone technology are being covered up.	26 (03/2020)	23 (10/2020)	-3	0.027
35. 5G cell phone technology is responsible for the spread of the coronavirus.	11 (06/2020)	7 (05/2021)	-4	<0.001
36. Do you feel that the Assassination of Senator Robert Kennedy was the act of one individual or part of a larger conspiracy?	48 (03/1981)	43 (05/2021)	-5	0.009
37. The dangers of genetically-modified foods are being hidden from the public.	45 (03/2020)	40 (05/2021)	-5	0.001
38. School shootings, like those at Sandy Hook, CT and Parkland, FL are false flag attacks perpetrated by the government.	17 (03/202)	12 (10/2020)	-5	<0.001
39. Do you believe that Osama bin Laden is dead, or do you think he is still alive?	11 (06/2011)	5 (05/2021)	-6	<0.001
40. The coronavirus is being used to install tracking devices inside our bodies.	18 (06/2020)	12 (05/2021)	-6	<0.001
41. Putting disinfectant into your body can prevent or cure COVID-19.	12 (06/2020)	6 (05/2021)	-6	<0.001
42. Donald Trump colluded with Russia to rig the 2016 presidential election.	41 (07/2019)	34 (05/2021)	-7	<0.001
43. Some people have argued that President Franklin D. Roosevelt knew about Japanese plans to bomb Pearl Harbor but did nothing about it because he wanted an excuse to involve the U.S. (United States) on the side of the allies in the war.	31 (11/1991)	19 (05/2021)	-12	<0.001
44. Republicans won the presidential elections in 2016, 2004, and 2000 by stealing them.	27 (03/2020)	15 (05/2021)	-12	<0.001
45. Do you believe global warming is a hoax, or not?	37 (03/2013)	19 (05/2021)	-18	<0.001
46. Some people are hiding the truth about the December 14, 2012 school shooting at Sandy Hook Elementary in order to advance a political agenda.*	37 (04/2013)	16 (05/2021)	-21	<0.001
47. Do you think there was a police conspiracy to frame O.J. Simpson or not?	56 (10/2018)	32 (05/2021)	-24	<0.001
48. Do you feel that the Assassination of Martin Luther King was the act of one individual or part of a larger conspiracy?	59 (03/1981)	33 (05/2021)	-26	<0.001
49. Do you think there is, or is not, a national conspiracy to kill police?	44 (11/1970)	16 (05/2021)	-28	<0.001
50. Do you think that the Reagan campaign made a deal with the Iranians to hold the American hostages in Iran until after the 1980 presidential election or not?	43 (07/1991)	12 (05/2021)	-31	<0.001

Note: *P*-value corresponds to two-tailed difference in proportions test. All polls are of U.S. adults. Where response options are not dichotomous (e.g., yes/no, believe/don't believe), the proportion expressing belief is those who "agree" or "strongly agree" with a sentiment. \*registered voters only.

#### IV. Psychometric properties of the ACTS

**Figure A1:** Cronbach's alpha and proportion of variance accounted for by first factor of an exploratory factor analysis (iterated principal axis factoring) of the ACTS conspiracy thinking items.



## V. Predictive validity of the ACTS

In order to showcase the validity of the ACTS, we examine the predictive power when it comes to beliefs in specific conspiracy theories. Using the May 2021 survey, we generated a variable that captures a count of all conspiracy theories endorsed by each respondent (out of 37 such beliefs on this survey). We then regressed this count on the ACTS, plus controls for partisanship, ideology, religiosity, age, educational attainment, gender, race, and ethnicity. Model results and question wording follow. Figure A2 shows the predicted number of conspiracy theory beliefs held at for people falling in lower, middle, and upper third of the conspiracy thinking scale. Those in the upper third believe more than 3 times the number of conspiracy theories as those in the lower third.

### **Question wording/variable coding:**

Conspiracy thinking. (each item is 1=strongly disagree, 5=strongly agree;  $\alpha=0.84$ ,  $M=3.09$ ,  $SD=0.95$ ):

1. Much of our lives are being controlled by plots hatched in secret places.
2. Even though we live in a democracy, a few people will always run things anyway.
3. The people who really 'run' the country, are not known to the voters.
4. Big events like wars, the current recession, and the outcomes of elections are controlled by small groups of people who are working in secret against the rest of us.

Ideology. (self-placement; 1=extremely liberal, 7=extremely conservative)

Partisanship. (self-placement; 1=strong Democrat, 7=strong Republican)

Religiosity. “On average, I attend religious services or a place of worship: (please do not include weddings or funerals)”

1. Never
2. A few times a year
3. Once or twice a month
4. Once a week
5. Every day

Sociodemographics:

1. Educational attainment (6-point scale, 1=No high school degree, 5=post-grad degree)
2. Age (age in years, 18–96)
3. Gender (0=male, 1=female)
4. Race (Black: 0=not Black, 1=Black; White: 0=not White, 1=White)
5. Ethnicity (Hispanic: 0=not Hispanic, 1=Hispanic)

**Table A6:** OLS regression of count of conspiracy theory beliefs on ACTS plus controls. May 2021 survey.

Conspiracy Thinking (ACTS)	5.007***
	(0.164)
Partisanship	-0.047
	(0.072)
Ideology	0.005
	(0.086)
Religiosity	0.464***
	(0.096)
Age	-0.052***
	(0.007)
Education	0.055
	(0.084)
Female	-0.661**
	(0.241)
White	0.196
	(0.405)
Black	0.683
	(0.488)
Hispanic	0.629
	(0.458)
Constant	0.630
	(0.717)
	$R^2$
	0.381
	n
	2019

Note: OLS coefficients with standard errors in parentheses.  
 \*\*\*p<0.001, \*\*p<0.01, \*p<0.05

**Figure A2:** Predicted number of conspiracy theory beliefs held by level of conspiracy thinking, holding control variables at their mean.

