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## Review

# Processes of persuasion and social influence in conspiracy beliefs

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**Abstract**

If conspiracy beliefs were an individual process, no conspiracy theory would be alike. Instead, these beliefs are promoted by individuals or social groups through the media or informal channels of communication, leading to identical beliefs being espoused by different people and social groups. This paper reviews the role of the social influence as a basis for conspiracy beliefs and describes the role of legacy media, discussions with others, and social media, as well as the underlying informational and normative mechanisms. The role of trust is also considered, including how trust in science can increase vulnerability to conspiracy theories by opening audiences up to the influence of pseudo-scientists. Mitigating the impact of these influences will require research attention to processes that go beyond correction, elucidating the interpersonal consequences of corrections within contemporary information wars.

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**Information wars**

A vast portion of the literature on conspiracy theories has been dedicated to personality, that is traits that predispose certain individuals to adhering to these beliefs (D. Albarracín, J [2,17]). The elephant in the room, however, is social influence: If conspiracy beliefs are due to individual differences in how we perceive reality, how come so many people share these beliefs? If conspiracy beliefs were driven by personality traits, one should observe idiosyncratic ideas akin to paranoid ideation,

which, by definition, involves beliefs that deviate from group norms and involve characters important only in the lives of the individual believer.

A review of the recent literature on conspiracy beliefs was conducted to understand persuasion and social influences in this domain. To begin, a study of Chinese adults introduced an article promoting a conspiracy claim about the Human Papilloma Virus (HPV) vaccine [9]. Participants read an article claiming that cervical cancer should not be considered a prominent threat and that scientists have exaggerated its prevalence and severity. In addition, the article stated that the severe side effects of the vaccine have been covered up by the pharmaceutical industry and that the Chinese government harms citizens to profit from the vaccine. As one might expect, participants exposed to this message had less positive attitudes, norms, and vaccination intentions than did participants exposed to a control message about a university policy.

Pinpointing the effects of persuasion and social influence, however, requires a comprehensive assessment of these determinants. In the United States, this assessment was done in research that measured exposure to conservative, liberal, or mainstream media as well as interpersonal sources of influence, along with personality factors (i.e., the need to belong to a social group, need for closure, and need for cognition) and social and economic factors (e.g., political ideology; job loss, and people's sources of social influence; [2]), thus disentangling personality from social influence. Three large surveys conducted in the United States focused on four conspiracy beliefs: (a) that undocumented voters swayed the popular vote in the 2016 American election, (b) that Obama faked his birth certificate to become president, (c) that the HIV virus was created by the Central Intelligence Agency (CIA), and (d) that the (Mumps, Measles, Rubella) MMR vaccine caused autism. Each of these beliefs concerned a cover-up and enabled the researchers to establish reproducibility. In each study, participants also completed measures of state anxiety (how worried they were about any issue on the day of the survey). They also reported the degree of exposure to a variety of media, which were classified into liberal, mainstream, and conservative in leaning. One of the studies also measured other sources of social influence including discussions with friends and family,

discussions with acquaintances, and discussions with people with whom one interacts only online. Across the different theories, exposure to conservative media predicted conspiracy beliefs. In addition, for political beliefs, discussions with acquaintances also correlated with endorsement, and for health beliefs, discussions with people with whom one interacts only online were also associated with endorsement. These results clearly state that the role of social influence is critical to understanding conspiracy theories.

Another study reported by [2] looked at belief in the deep state and how this belief evolved in relation to media exposure, an undeniably key source of social influence. The “deep state” belief is the judgment that, in the United States, a secret group of government and intelligence officials illegally undermined the presidency and candidacy of Donald Trump, ultimately succeeding in the alleged stealing of his reelection in 2020. This belief was prominent during Trump impeachment trials and created an opportunity to study the factors at stake. The study showed that when all correlates were analyzed simultaneously, exposure to conservative media (and conservative ideology) carried the day. Reading news on social media and levels of anxiety did not matter and exposure to liberal media had a small corrective effect. The study also investigated the trajectory of influence during the impeachment process. Exposure to conservative media had a strong effect across the board, but the effect was stronger at the beginning (e.g., November 2019), implying that this influence was more pronounced when the conservative media increased the frequency of discussions of the deep state conspiracy to a public that might have not heard of it. Over time, state anxiety became more important, such that people with higher levels of generalized worry during the last week also had a greater tendency to endorse the belief introduced by the media.

A key finding from the deep state belief study reported by [2] concerned directionality. Although path analytic models in the prior studies of the book found more support for an influence from media exposure to beliefs than an influence from beliefs to media exposure, longitudinal data are more appropriate to answer directional questions. Thus, they fit a cross-lagged model that modelled stability for both media use and conspiracy beliefs as well as the influence of each variable on the other over time. These analyses showed that conspiracy beliefs influenced subsequent conservative media use, supporting the possibility that people gravitate toward outlets that support their beliefs [18]. However, the analysis also showed that conservative media use influenced subsequent conspiracy beliefs even more strongly than beliefs influenced media exposure. This analysis thus supported the interpretation of an influence from legacy media on conspiracy beliefs.

One aspect that the literature is yet to fully establish is the degree to which exposure to social media has strengthened conspiracy beliefs. On the one hand, understanding the dissemination of online information is important. An analysis of the diffusion of the video “Plandemic” —the notion that COVID-19 was part of a conspiracy to control and harm the world’s population— showed that the campaign spread through a decentralized information sharing network on Twitter [22]. As part of this campaign, Twitter users were coached to spread the video, which greatly amplified the popularity of the claims and other tweets with negative sentiments about vaccines [22].

Importantly, however, the impact of social media on beliefs or actual outcomes has been either nonexistent or inconclusive. For example, an online survey of Chinese participants measured both international and Chinese media use, with the rationale that many Chinese are skeptical when it comes to government-controlled media [28]. When conspiracy theory endorsement was correlated with each measure of media use, use of international social media was a positive predictor and use of Chinese social media was a negative predictor. However, when demographic factors and media skepticism were added to the model, both influences became nonsignificant. A better controlled international study [29] measured social media exposure before the COVID-19 pandemic and subsequent conspiracy theories about COVID-19. Results indicated that Twitter correlated negatively with conspiracy beliefs whereas other platforms like Facebook correlated positively with them. However, there was considerable variability across countries and the study could not determine how change in social media exposure correlated with change in beliefs. It also did not control for exposure to legacy media.

Other research suggests internet use and social media use generally do not explain conspiracy beliefs. A large survey of Americans’ news sources and demographics [27] measured use of blogs, use of internet, and use of websites, and the surveys in [2] measured use of social media as a source of news. Stempel et al.’s findings, which concerned 9/11 conspiracy theories, showed that blogs predicted only one of the three theories being studied, and internet use predicted none. Likewise, in the data collected by [2]; the use of social media for news was unrelated to any of the conspiracy theories they studied. However, a study of the time Americans spend on social media showed small positive associations with conspiracy beliefs [21] although this study did not control for the influence of conservative legacy media, which have been shown to carry the day in the United States [2]. Another study showing an association between social media use and conspiracy beliefs failed to control for even demographics in establishing this association [30]. Given these weak findings, it is puzzling

to see theories about the processes by which social media influences belief when the only references concerning that link are described as “contentions” and do not entail empirical evidence [11].

What the extant empirical evidence does suggest is that people who believe in conspiracies gravitate toward social media groups that espouse their ideas. For example, in a study of European university students [5], reports of social-media-group discussions of some conspiracy theories (Chemtrails and cancer conspiracies) but not others (9/11 and vaccine conspiracies) were associated with conspiracy belief endorsement [5]. However, these studies did not measure other types of social influence, which may overlap with the discussions that are happening online, or the degree to which social media users sought groups that discussed congenial issues. Moreover, social media use frequency appears to correlate with conspiracy beliefs only among individuals who generally believe in conspiracies [14]. One interpretation of this finding, which did not replicate for the use for social media for news, is that people who are predisposed to interpreting reality in a paranoid fashion are more likely to interpret what they read on social media as suggestive of a conspiracy. Another is that people who believe in conspiracies seek congenial information online through the mechanism of selective exposure [1,18].

### Mechanisms of social influence

Another important question is: Are the mechanisms of persuasion and social influence informational or normative? That is, when people are presented with persuasive messages or the positions of other people, do they change because they internalize the claims or because they superficially conform to them (for informational and normative influence, see [10])? Some answers to these questions have been provided in the recent literature. As theorized and shown by [2]; people who hear about conspiracy beliefs find them plausible based on (a) historic plausibility, (b) psychological plausibility, and/or (c) normative plausibility. Of these types of plausibility, the first two entail informational processes and the last normative ones. Historic plausibility connects the current conspiracy narrative to a historic event. For example, the wrongdoings of the tobacco industry can act as a source of historic plausibility for the wrongdoings of the pharmaceutical industry. Psychological plausibility is the degree to which a recipient of the current story can imagine why the actors might want to fabricate the results of elections or harm children with a vaccine the industry knows to be detrimental. Normative plausibility is simply whether people feel others like them think that these events can happen. Reports of the subjective plausibility of each theory showed that across political and health beliefs, historic and normative plausibility were the most important

correlates, thus suggesting both informational and normative influences on conspiracy beliefs [2].

### Protection from conspiracy theories

The present review also provides insights on what might curb conspiracy beliefs. To begin, exposure to counterclaims is an effective antidote. In the United States, even though exposure to liberal and mainstream media could not fully offset the risk posed by conservative media, it does ameliorate health-relevant conspiracy beliefs and the deep state belief [2]. Another protective factor is the social influence from close others. For example, in a study of vaccination over the 2018–2019 influenza season, a national sample of Americans was followed longitudinally and linked to their county of residency [7]. Participants living in counties where more misconceptions about vaccines were tweeted were less likely to vaccinate as time went by. However, these associations were only present among participants who did not discuss vaccines with friends and family. Those who had these discussions seemed unaffected by the misinformation in their counties.

One of the most protective factors against conspiracy beliefs is people’s tendencies to think carefully about issues, which entails both the motivation and the ability to do so [2,26]. However, factors that are generally believed to be protective can counterintuitively increase our vulnerability. For example, trust in science has been linked to lower levels of conspiracy beliefs [6,16,23] but may open the door to conspiracy beliefs advocated by sources who associate themselves with the trappings of science. This conclusion was verified by O’Brien, Palmer, and Albarracín (2021) who measured and manipulated trust in science and exposed participants to conspiracy theories that were proposed in retracted or alleged science, as opposed to by lay activists. Although trust in science coincided with lower belief in these theories overall, when participants had higher trust in science, they were more likely to believe the pseudo-scientific conspiracy messages than the lay ones. However, methodological literacy did protect them from all conspiracy beliefs and a critical evaluation mindset did as well.

Inducing resistance through the use of inoculation has been shown to curb misinformation [4,19,25]. First introduced by [20] as a means of reducing the success of persuasion among prisoners of war, inoculation induces resistance to attacks by exposing the audience to the message in advance and encouraging the audience to counterargue the attack ahead of time. In the seminal research, participants received a message attacking a truism after having defended the truism from a mild attack (a message) or following no prior attacks. Participants exposed to the attack after being immunized showed more resistance than those not previously immunized.

In more recent work, “prebunking” has been used as an umbrella term to denote a treatment to confer resistance by warning, inoculating, or training an audience ahead of time [25]. [3] investigated various prebunking techniques to deal with conspiracy theories. One of the immunizations alerted participants to the possibility of manipulation and was successful even without more information, suggesting that simply increasing distrust in the source of communications can be sufficient to protect audiences against conspiracy theories.

### Social mechanisms of countering conspiracy beliefs

Although trust in the source of a debunking has been shown to be influential [12,24], research on the social ways of countering conspiracy beliefs is surprisingly absent. For example, researchers continue to argue for correction, but social influences are way outside the scope of one individual. When we only consider the individual level, denying the conspiracy belief that the COVID-19 vaccine injects a chip to monitor the immunized [2] proves reasonably effective at changing the mind of the recipient [8] and does not backfire [13]. Individual-level psychological research has also shown that merely introducing an accuracy goal makes social media users less gullible [15]. But contemporary information wars play out at a more macro level as well. At this higher level, human beings can make attributions about the intent of the corrections and, as a result, reject these corrections as biased. Also, groups and mass media can introduce new misinformation and respond to the denials, collectively exacerbating the spread of false information both online and offline.

Understanding how to best contain misinformation requires consideration of both the psychology of individual recipients and the dynamics of collective processes. Consider the strategies of (a) ignoring the misinformation, (b) censoring the misinformation, (c) denying the misinformation, and (d) shifting attention to other information. Ignoring is a passive strategy but it can pragmatically convey that the misinformation is trivial. Censoring is a radical measure but it can inadvertently communicate that the information has been removed because it threatens the interests of a powerful group. Denying involves correcting the misinformation via statements that explain its inaccuracy. Finally, shifting attention introduces new information that can move the audience away from the misinformation. When individuals receive a denial, its semantic implications mitigate the misinformation. However, like in the case of censorship, audiences that are sensitive to the social-pragmatic implications of the denial may conclude that conspirators are behind it. Beyond the individual, social groups and mass media also may respond to the corrections by delivering misinformation at a greater magnitude. In a nutshell, at the individual level, denials

may be most effective. In contrast, at the system level, ignoring and shifting attention may be most promising because they may avoid the impression that a social group (e.g., the government, a political party, and the social media industry) is manipulating the information. In this context, a rigorous comparison of individual and collective processes is necessary and should inspire new and more adaptive ways of fighting misinformation for a particular individual and for society at large. Future research should address these issues.

### Conflict of interest

The author declares no conflict of interest.

### Data availability

No data was used for the research described in the article.

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### References

Papers of particular interest, published within the period of review, have been highlighted as:

- \* of special interest
- \*\* of outstanding interest

1. Albarracín D: *Action and inaction in a social world: predicting and changing attitudes and behaviors*. Cambridge University Press; 2021.
  2. Albarracín D, Albarracín J, Chan MS, Jamieson KH: *Creating conspiracy beliefs: how are thoughts are shaped*. Cambridge University Press; 2022.
- This monograph presents a theory of influences on conspiracy beliefs and five studies analyzing these influences. It covers personal and situational factors associated with the motivation to hold accurate beliefs, the motivation to defend beliefs, and the motivation to be socially integrated.
3. Banas JA, Miller G: **Inducing resistance to conspiracy theory propaganda: testing inoculation and metainoculation strategies**. *Hum Commun Res* 2013, **39**:184–207, <https://doi.org/10.1111/hcre.12000>.
- This paper tests forms of inoculation for conspiracy theories. Increasing distrust in the sources of conspiracy theories can be sufficient to inoculate an audience.
4. Banas JA, Richards AS: **Apprehension or motivation to defend attitudes? Exploring the underlying threat mechanism in inoculation-induced resistance to persuasion**. *Commun Monogr* 2017, **84**:164–178, <https://doi.org/10.1080/03637751.2017.1307999>.
  5. Bantimaroudis P, Sideri M, Ballas D, Panagiotidis T, Ziogas T: **Conspiracism on social media: an agenda melding of group-mediated deceptions**. *Int J Media Cult Polit* 2020, **16**:115–138, [https://doi.org/10.1386/macp\\_00020\\_1](https://doi.org/10.1386/macp_00020_1).
  6. Bogart LM, Wagner GJ, Green Jr HD, Mutchler MG, Klein DJ, McDevitt B, Lawrence SJ, Hilliard CL: **Medical mistrust among social network members may contribute to antiretroviral treatment nonadherence in African Americans living with HIV**. *Soc Sci Med* 2016, **164**:133–140, <https://doi.org/10.1016/j.socscimed.2016.03.028>.
  7. Chan MS, Jamieson KH, Albarracín D: **Prospective associations of regional social media messages with attitudes and actual vaccination: a big data and survey study of the influenza vaccine in the United States**. *Vaccine* 2020, **40**:6236–6247, <https://doi.org/10.1016/j.vaccine.2020.07.054>.



This paper models the impact of regional social media misconceptions about vaccination on attitudes and actual vaccination in the US population. It shows small prospective influences by which possible exposure to misconception makes attitudes more negatives and vaccination less frequent. However, this effect only happens when participants do not discuss vaccines with friends and family.

8. Chan MS, Jones CR, Jamieson KH, Albarracín D: **Debunking: a meta-analysis of the psychological efficacy of messages countering misinformation.** *Psychol Sci* 2017, **28**:1531–1546, <https://doi.org/10.1177/0956797617714579>.

This meta-analysis estimates a large impact of misinformation and misinformation correction. It also analyzes the moderators of the effect, such as an audience that is active in counterarguing achieves better correction of misinformation.

9. Chen L, Zhang YF, Young R, Wu XW, Zhu G: **Effects of vaccine-related conspiracy theories on Chinese young adults' perceptions of the HPV vaccine: an experimental study.** *Health Commun* 2021, **36**:1343–1353, <https://doi.org/10.1080/10410236.2020.1751384>.

This experiment shows that introducing a conspiratorial article about the HPV vaccine affected attitudes, norms, and vaccination intentions.

10. Deutsch M, Gerard HB: **A study of normative and informational social influences upon individual judgment.** *J Abnorm Soc Psychol* 1955, **51**:629.

11. Dow BJ, Johnson AL, Wang CS, Whitson J, Menon T: **The COVID-19 pandemic and the search for structure: social media and conspiracy theories.** *Social and Personality Psychology Compass* 2021, **15**, <https://doi.org/10.1111/spc3.12636>.

12. Ecker UKH, Antonio LM: **Can you believe it? An investigation into the impact of retraction source credibility on the continued influence effect.** *Mem Cognit* 2021, **49**:631–644. <http://10.0.14.174/s13421-020-01129-y>.

Two experiments were conducted to examine the impact of source trustworthiness and expertise on the effectiveness of retracting a prior claim. Only trustworthiness had an effect.

13. Ecker UKH, Lewandowsky S, Chadwick M: **Can corrections spread misinformation to new audiences? Testing for the elusive familiarity backfire effect.** *Cognitive Research: Principles and Implications* 2020, **5**:41, <https://doi.org/10.1186/s41235-020-00241-6>.

Corrections that exposed participants to novel misinformation do not lead to stronger misconceptions compared to lack of exposure to the false claims or corrections.

14. Enders AM, Uscinski JE, Klofstad C, Stoler J: **The different forms of COVID-19 misinformation and their consequences.** *The Harvard Kennedy School (HKS) Misinformation Review* 2020, <https://doi.org/10.37016/mr-2020-48>.

This research involves surveys measuring media use and conspiracy thinking and shows that media are correlated with beliefs only among people with higher conspiracy thinking.

15. Epstein Z, Berinsky AJ, Cole R, Gully A, Pennycook G, Rand DG: **Developing an accuracy-prompt toolkit to reduce COVID-19 misinformation online.** *Harvard Kennedy School (HKS) Misinformation Review* 2021, **2**:3, <https://doi.org/10.37016/mr-2020-71>.

This paper presents an intervention to reduce the impact of misinformation online. Accuracy prompts reduce the impact of misinformation.

16. Garrett RK, Weeks BE: **Epistemic beliefs' role in promoting misperceptions and conspiracist ideation.** *PLoS One* 2017, **12**:17, <https://doi.org/10.1371/journal.pone.0184733>. e0184733.

17. Goreis A, Voracek MA: **Systematic review and meta-analysis of psychological research on conspiracy beliefs: field characteristics, measurement instruments, and associations with personality traits.** *Front Psychol* 2019, **10**:205, <https://doi.org/10.3389/fpsyg.2019.00205>.

18. Hart W, Albarracín D, Eagly AH, Brechan I, Lindberg MJ, Merrill L: **Feeling validated versus being correct: a meta-analysis of selective exposure to information.** *Psychol Bull* 2009, <https://doi.org/10.1037/a0015701>.

19. Jarcho H: *Prebunking the conspiracy theorists.* 2020. <https://jarcho.com/2020/05/prebunking-the-conspiracy-theorists/>.

20. McGuire WJ, Papageorgis D: **The relative efficacy of various types of prior belief-defense in producing immunity against persuasion.** *J Abnorm Soc Psychol* 1961, <https://doi.org/10.1037/h0042026>.

21. Min SJ: **Who believes in conspiracy theories? Network diversity, political discussion, and conservative conspiracy theories on social media.** *Am Polit Res* 2021, **49**:415–427, <https://doi.org/10.1177/1532673X211013526>.

A large survey of social media users investigated associations between conspiracy beliefs and social media use time as well as use of social media for news.

22. Nazar S, Pieters T: **Plandemic revisited: a product of planned disinformation amplifying the COVID-19 "infodemic."** *Front Public Health* 2021, **9**, <https://doi.org/10.3389/fpubh.2021.649930>.

23. O'Brien TC, Palmer RP, Albarracín D: **Misplaced trust: when trust in science fosters belief in pseudoscience and the benefits of critical evaluation.** *Journal of Social Experimental Psychology* 2021, **96**, 104184, <https://doi.org/10.1016/j.jesp.2021.104184>.

This paper shows how instilling trust in science can make an audience vulnerable to conspiracy theories based on pseudoscience. By contrast, a critical evaluation mindset reduces adherence to conspiracy theories.

24. Pennycook G, Rand DG: **Fighting misinformation on social media using crowdsourced judgments of news source quality.** *PNAS Proceedings of the National Academy of Sciences of the United States of America* 2019, **116**:2521–2526, <https://doi.org/10.1073/pnas.1806781116>.

Lay people are good at distinguishing true and false information online. Therefore, crowdsourcing may be a useful tool to improve use of trustworthy sources

25. Roozenbeek J, van der Linden S, Nygren T: **Prebunking interventions based on "inoculation" theory can reduce susceptibility to misinformation across cultures.** *The Harvard Kennedy School (HKS) Misinformation Review* 2020, <https://doi.org/10.37016/mr-2020-008>.

Social games can be used to prebunk misconceptions among audiences from different cultures. This conclusion was established on the basis of four studies.

26. Ståhl T, van Prooijen JW: **Epistemic rationality: skepticism toward unfounded beliefs requires sufficient cognitive ability and motivation to be rational.** *Pers Individ Differ* 2018, **122**: 155–163, <https://doi.org/10.1016/j.paid.2017.10.026>. November 2017.

27. Stempel C, Hargrove T, Stempel G: **Media use, social structure, and belief in 9/11 conspiracy theories.** *Journal Mass Commun Q* 2007, **84**:353–372.

28. Su Y, Lee DKL, Xiao XZ, Li W, Shu WX: **Who endorses conspiracy theories? A moderated mediation model of Chinese and international social media use, media skepticism, need for cognition, and COVID-19 conspiracy theory endorsement in China.** *Comput Hum Behav* 2021, **120**, <https://doi.org/10.1016/j.chb.2021.106760>.

This survey conducted with Chinese adults reveals no association between international or Chinese social media use once other factors are controlled for.

29. Theocharis Y, et al.: **Does the platform matter? Social media and COVID-19 conspiracy theory beliefs in 17 countries.** *New Media & Society*; 2019.

This paper measured social media use in 17 countries and correlated use of different platforms with COVID-19 conspiracy theories. Results showed that Twitter correlated negatively with beliefs, whereas other platforms correlated positively with them.

30. Xiao XZ, Borah P, Su Y: **The dangers of blind trust: examining the interplay among social media news use, misinformation identification, and news trust on conspiracy beliefs.** *Publ Understand Sci* 2021, **30**:977–992, <https://doi.org/10.1177/0963662521998025>.