Individual, intergroup and nation-level influences on belief in conspiracy theories

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Abstract

Conspiracy theories are part of mainstream public life, with the potential to undermine governments, promote racism, ignite extremism and threaten public health efforts. Psychological research on conspiracy theories is booming, with more than half of the academic articles on the topic published since 2019. In this Review, we synthesize the literature with an eye to understanding the psychological factors that shape willingness to believe conspiracy theories. We begin at the individual level, examining the cognitive, clinical, motivational, personality and developmental factors that predispose people to believe conspiracy theories. Drawing on insights from social and evolutionary psychology, we then review research examining conspiracy theories as an intergroup phenomenon that reflects and reinforces societal fault lines. Finally, we examine how conspiracy theories are shaped by the economic, political, cultural and socio-historical contexts at the national level. This multilevel approach offers a deep and broad insight into conspiracist thinking that increases understanding of the problem and offers potential solutions.
**Review article**

**Introduction**

In laying out a case for revolution, the authors of the US Declaration of Independence relied heavily on a conspiracy theory: policies such as taxes on tea were not, as Parliament claimed, merely a way of having colonies pay their fair share for the costs of keeping them in the British Empire. Rather, they were part of a hidden agenda to exert an oppressive dictatorship over what later became the United States of America. The Declaration of Independence example illustrates that conspiracy theories do not just reside in the mind or heart of individuals. Frequently, they are positioned within intergroup contests, and are shaped also by sociopolitical, economic and cultural factors. Examples like this are also a reminder that conspiracy theories are not new phenomena. Although it is common wisdom that society is increasingly prone to conspiracy theories — or that society is entering a golden age of conspiracy theories — historical analyses find no support for this notion. Rather, there has been a steady drumbeat of conspiracy theories for centuries, and some have argued that the propensity to engage with them has an evolutionary basis.

Although belief in conspiracy theories is not a new phenomenon, what is relatively new is to treat conspiracy theories as an issue worthy of psychological inquiry. More than half of academic publications on conspiracy theories in psychology have been published since 2019. The growth in research interest is partly grounded in the position that conspiracy theories can have serious, negative effects that need to be managed. For example, conspiracy beliefs are implicated in a number of anti-science attitudes, which slow society’s ability to respond to challenges associated with climate change and public health crises. Conspiracy theories also trigger political aggression: they are used as tools to derogate political opponents, encourage political violence, promote prejudice and recruit terrorists. More generally, conspiracy beliefs help to accelerate and consolidate mistrust of — and anxiety about — established institutions, including government. Although a degree of healthy skepticism about official accounts of events should be encouraged, chronic skepticism becomes a problem as people ignore established facts and resist solutions to societal problems. As such, the ‘conspiracy theorist’ has become emblematic of what some have called the anti-enlightenment movement, and others have called the post-truth society.

In this Review, we provide a narrative synthesis of the literature on belief in conspiracy theories organized by level of analysis (Fig. 1). First, we describe the individual-level factors that might predispose individuals to believe conspiracy theories (micro level of analysis). Next, we review research examining conspiracy theories as an intergroup phenomenon (meso level of analysis), which recognizes that conspiracy theories are reinforced and negotiated among collectives, reflecting and creating societal fault lines. We then examine how belief in conspiracy theories is shaped by economic, political, cultural and socio-historical contexts (macro level of analysis). We conclude by considering how insights at these different levels can be integrated, and offer suggestions for future research.

Before beginning, some definitional housekeeping is required. There is debate in both the psychological and philosophical literature about what beliefs warrant the label ‘conspiracy theory’. Here we rely on the definitions typically used in the psychological literature, according to which a conspiracy theory is an explanation for important events and circumstances that involve secret plots by groups with malevolent agendas. For the sake of conciseness, we use the term ‘conspiracy belief’ to refer to both belief in specific conspiracy theories and the more general worldview that conspiracies are common. We also note that conspiracy theories are conceptually distinct from the broader term ‘misinformation’. For example, the belief that 5G causes COVID-19 is not a conspiracy theory. But the belief that telecommunication companies know that 5G causes COVID-19 and have suppressed the evidence, or that the installation of 5G technology is part of a broader plot to depopulate the Earth, are conspiracy theories.

Finally, in line with most academic accounts, we use the term ‘conspiracy theory’ in a way that is agnostic about whether the theory is true. The notion of what constitutes evidence for a theory is subjective, so it would be unsustainable as a definitional practice to draw clear lines separating plausible from implausible conspiracy theories. However, such distinctions are frequently invoked in the literature; indeed, researchers often wish to investigate conspiracy theories precisely because they can be fanciful and so discrepant from consensual accounts of reality that they cause problems. We therefore write this Review sympathetic to the notion that the motives of powerful elites should be interrogated, and fully aware that conspiracy theories might one day be proved to be true, but also guided by the principle that not all subjective truths are equally valid proxies for reality.

**Individual-level factors**

The vast majority of psychological literature on conspiracy belief has focused on factors that predispose individuals to endorse conspiracy theories. There are five broad subdomains of investigation: cognitive, clinical, motivational, personality and developmental. Figure 2 presents a summary of meta-analytic evidence for relationships between conspiracy belief and individual-level variables from each of these domains, where available. Owing to the sheer quantity of studies on individual-level factors, it is not possible to provide an exhaustive review of all relevant variables. We have attempted to cast the nomological net wide, but we were particularly likely to include variables if the field as a whole deemed it to be important (as evidenced by a large number of studies using that variable) and/or we judged that the variable is illuminating or generative in terms of understanding the psychology of conspiracy theories. We note that we do not cover research on demographic differences in conspiracy belief because many of these differences are potentially better explained by the psychological variables that underpin them (for example, the effects of education might be explained by other variables such as powerlessness).

**The cognitive approach**

The cognitive perspective focuses on the logical fallacies displayed by those who believe conspiracy theories. Examples of logical fallacies include confirmation biases (focusing only on evidence that confirms the theory and disregarding inconsistent evidence), identification of illusory patterns in random events, flawed heuristics such as ‘nothing happens by accident’ or ‘big events must have big causes’, and willingness to hold conspiracy beliefs that appear to be mutually incompatible (for example, simultaneously believing that Princess Diana is still alive and that she was murdered). This body of research implies that conspiracy beliefs are based on faulty logic rooted in styles of thinking.

One well-established pattern is that conspiracy belief is associated with relatively low levels of analytical thinking and high levels of intuitive thinking. In other words, people who self-report as preferring slow, deliberative, emotionally neutral thinking are less likely to believe conspiracy theories. People who prefer fast, heuristic thinking — grounded in gut feeling and emotion — are more likely to believe conspiracy theories. This relationship has been reported consistently across
that those who believe in conspiracy theories have a tendency to base cases with 5G infrastructure (the conjunction fallacy). This suggests causal links between them, such as the co-occurrence of COVID-19 likelihood of co-occurring or spatially adjacent events, and drawing between conspiracy beliefs and a bias towards overestimating the studies have found correlational and experimental relationships the randomness of binary strings of Os and Xs. On the other hand, conspiracy belief is unrelated to people's ability to judge the nature of randomness. Data on this issue are mixed. On one hand, conspiracy belief is unrelated to people's ability to judge the nature of randomness. Data on this issue are mixed. On the other hand, studies have found correlational and experimental relationships between conspiracy beliefs and a bias towards overestimating the likelihood of co-occurring or spatially adjacent events, and drawing causal links between them, such as the co-occurrence of COVID-19 cases with 5G infrastructure (the conjunction fallacy). This suggests that those who believe in conspiracy theories have a tendency to base judgements on subjective perceptions of coincidences rather than objective assessment of probabilities.

Finally, a small body of research has examined the tendency to reach conclusions impulsively and based on limited information. This jumping-to-conclusions bias is typically measured through variants of the bead task: participants are shown two containers holding two types of bead in reversed ratios (for example, one contains 60% orange beads; the other 40% blue beads). Beads are then ‘drawn out’ one by one and participants declare which container they come from once they feel ready to decide. People who are more likely to believe conspiracy theories tend to make their decision earlier. This bias is also a reliable measure of psychosis-proneness, consistent with links between psychosis and conspiracy belief, as discussed in the next section.

The clinical approach
The cognitive approach focuses on how everyday thinking styles and biases predispose people to believe conspiracy theories. Scholars taking a clinical approach have taken this notion a step further, documenting how conspiracy beliefs can reflect more pervasive disorders of thought. For example, there are links between conspiracy beliefs and almost all personality disorders (which are characterized by disruptive patterns of thinking). Furthermore, paranoid delusions — associated with schizophrenia, bipolar disorder and some forms of dementia — frequently incorporate conspiracy beliefs.

Schizotypy (a continuum of characteristics ranging from ‘normal’ levels of unusual thinking to psychosis) is the most frequently examined clinical construct, probably because it can be meaningfully measured in both clinical and subclinical populations. Several studies have found that people who are higher in conspiracy beliefs also score higher on self-report measures of schizotypy. A meta-analytic synthesis of this research found a medium-sized correlation overall (Fig. 2). Some researchers have suggested that paranoid ideation (thinking that is dominated by suspicious or persecutory content, and a symptom of several clinical disorders) might link clinical issues to conspiracy beliefs. Indeed, at least twenty studies have documented a relationship between paranoid ideation and conspiracy beliefs and meta-analyses demonstrate a medium-sized relationship (Fig. 2). However, there are important empirical and conceptual differences
between conspiracy beliefs and paranoid ideation. Whereas paranoia implicates a broad range of sinister actors, conspiracy beliefs tend to specifically implicate powerful elites. Furthermore, people experiencing paranoid ideation tend to see the self as a target of persecution, whereas those who believe conspiracy theories tend to see society more generally as the target. Overall, the research indicates that there might be a pathological underpinning to some conspiracy beliefs, but there is no evidence that conspiracy beliefs are reducible to paranoia.

A second stream of clinical literature examined relationships between conspiracy beliefs and affective states. People who are predisposed to believe conspiracy theories tend to feel high levels of self-related threat and are more prone than the rest of the population to report emotional distress such as anxiety and depression. However, the causal relationship between conspiracy beliefs and emotional distress is unclear. One possibility is that belief in conspiracy theories is a consequence of distress. For example, a conspiracy theory could be a palliative response to rejection, a consequence of avoidance coping, or a projection of feelings of threat onto an outgroup. Another possibility is that conspiracy theories are a cause of distress; that the notion of elites conducting malevolent hoaxes on the public is inherently depressing and anxiety-provoking. Of course, both causal directions could be true. Indeed, longitudinal research suggests that negative feelings and conspiracy beliefs mutually reinforce each other, creating negative feedback loops of anxiety and mistrust.

The motivational approach

A broader line of reasoning (mostly in the social psychology literature) proposes that conspiracy theories are motivated beliefs endorsed in an attempt to satisfy unmet psychological needs and desires. For example, in one study participants that were asked to recall a threatening experience in which they did not have control endorsed conspiracy theories more than those asked to recall a threatening experience in which they did have control. This result was interpreted to reflect a broader phenomenon, whereby thwarted control motivates people to see illusory patterns in random events as a way of introducing order and predictability to life. Subsequent correlational research confirmed the relationship between control and conspiracy beliefs.

However, not all literature is sympathetic to the control argument. Some studies highlight a paradox: although people display stronger conspiracy belief when denied control, exposure to conspiracy theories typically reduces people’s sense of control and autonomy. In addition, there has been mixed success in replicating the experimental effects of control; some studies have shown similar effects to those reported above, but others have reported null effects and one even reported the reverse effect. Overall, a meta-analysis revealed a non-significant relationship between control and conspiracy beliefs (Fig. 2). The mixed experimental evidence calls into question the notion that lack of control has a causal effect on conspiracy beliefs.

Others have found effects of the parallel construct of power: correlational research shows that conspiracy beliefs are associated with perceived powerlessness and, powerlessness might explain why conspiracy belief is somewhat higher among those with less education. However, there is no experimental evidence that causally links power to conspiracy beliefs.

Like the need for control and power, the need for belonging is a well-established human drive. It might seem paradoxical that a need for belonging could be implicated in people’s willingness to believe conspiracy theories given that ‘conspiracy theorists’ are frequently targets for stigma and ridicule. However, the internet has realigned traditional notions of inclusion and exclusion. In the face of stigma, people turn to supportive sub-communities to provide emotional and social ballast, and these sub-communities are easy to find on social media. People might choose to engage with reinforcing online communities rather than the traditional notions of inclusion and exclusion. In the face of stigma, people might choose to engage with reinforcing online communities rather than the traditional notions of inclusion and exclusion.

Related to the need for belonging is the need for self-esteem. Despite the risk of stigma, subscribing to conspiracy theories might help people feel clever or special. At the heart of many conspiracy theories are several presumptions that are potentially self-enhancing:
that those who believe these theories have access to secret knowledge that the mainstream is not sophisticated enough to access (the ‘do your research’ argument); that those who believe conspiracy theories are flexible free-thinkers, compared to the blinkered or sheep-like minority (the ‘wake up’ argument); and that those who believe conspiracy theories are on a critical mission and represent a brave minority (the ‘do good’ argument)91. Although there is no empirical evidence for these self-enhancing benefits, research has shown that conspiracy beliefs increase when one’s personal image is threatened102 and are somewhat higher among those who have a strong need for uniqueness93,94.

Finally, there is emerging evidence that conspiracy beliefs satisfy a desire for entertainment. Certainly, there is a large viewership for online conspiracy channels – many of which seem explicitly geared towards fun and entertainment – and many thrillers and dramas use conspiracies as a plot device owing to the sense of mystery and puzzle-solving that they evoke. Indeed, there is empirical evidence that conspiracy theories satisfy a desire for entertainment: conspiracist narratives were rated as more entertaining than non-conspiracist texts, and people were more likely to believe conspiracy theories that they found entertaining95.

The personality approach
Consistent with the entertainment argument, conspiracy beliefs are positively associated with a trait-like disposition towards sensation-seeking95. This finding reinforces the notion that personality might play a part in understanding who believes in conspiracy theories (and why). Indeed, theoretical arguments have been advanced for how the Big Five personality variables could be used to create a profile of those who believe conspiracy theories. These arguments include that openness to experience should have a role in conspiracy belief via the tendency to seek novel and unusual ideas96, that those low in agreeableness will experience should have a role in conspiracy belief via the tendency to seek novel and unusual ideas96, that those low in agreeableness will

Summary of individual-level factors
Hundreds of studies have investigated conspiracy theories at the individual level, many of which have been published in the past 3 years. Perhaps unsurprisingly, there is still a tendency for these research streams to be siloed within disciplinary boundaries. In the early days of understanding a phenomenon this is not always a problem: after all, diverse disciplinary norms bring diverse perspectives, methodologies and theoretical approaches. Having said that, it is time for greater cross-disciplinary interaction in the study of conspiracy beliefs, and signs are positive in this regard: references from the 2020s suggest an increase in interdisciplinary collaborations, particularly between cognitive and social perspectives.

Inspection of Fig. 2 suggests some dead ends: there has been disproportionate interest in Big Five personality explanations, which have amounted to little in terms of explaining conspiracy beliefs. Furthermore, the field has suffered from methodological narrowness: there has been a heavy reliance on cross-sectional correlational studies, and where experiments have been conducted they often relied on laboratory-based paradigms with questionable generalizability and reproducibility.

The developmental approach
Finally, although there has been progress in creating measures of conspiracy belief suitable for children and adolescents95,96, there has been little research on how conspiracy beliefs develop across the lifespan. Some have suggested that developmental experiences can affect willingness to believe conspiracy theories owing to their role in shaping attachment styles. For example, one study found that conspiracy beliefs were associated with anxious but not avoidant attachment96. However, another study found the opposite pattern103. Although these associations with anxious and/or avoidant attachment styles suggest that the propensity to believe conspiracy theories might be rooted in early childhood experiences, the conflicting results highlight the need for further study of the relationship between attachment and conspiracy belief. More generally, it is clear that research on the developmental aspects of conspiracy beliefs is in its infancy and should be a priority for research going forward.

Inspection of Fig. 2 suggests some dead ends: there has been disproportionate interest in Big Five personality explanations, which have amounted to little in terms of explaining conspiracy beliefs. Furthermore, the field has suffered from methodological narrowness: there has been a heavy reliance on cross-sectional correlational studies, and where experiments have been conducted they often relied on laboratory-based paradigms with questionable generalizability and reproducibility. There is currently little in the way of secondary analyses of big data, research that tracks conspiracy beliefs over time, or developmental approaches. In the past 3 years these methodological choices have been partly dictated by the need for quick answers to the pressing problems associated with the COVID-19 public health crisis. But as this urgency fades, and as individual researchers coalesce into global research consortia, there will be more capacity for ambitious, large-scale longitudinal research.

Intergroup dynamics
An implication of the individual-level approach is that there are some people who are prone to believing conspiracy theories, and others who are not. By contrast, an intergroup approach highlights the extent to which everybody is prone to conspiracy theories depending on the sociohistorical context. Indeed, according to the adaptive conspiracism hypothesis5, the predisposition to believe conspiracy theories evolved as an adaptive tendency to be alert to — and to protect against — hostile coalitions or outgroups. Although these evolutionary underpinnings are difficult to prove (or falsify) the adaptive conspiracism hypothesis reinforces an uncontroversial point: by definition, conspiracy theories involve beliefs about the actions and agendas of coalitions of individuals, and they frequently have an intergroup element that crosses ideological, national, ethnic, religious or political fault lines. Conspiracy theories alert group members to potential threats, and can be used to rationalize ingroup aggression towards others104. This feedback loop, whereby feelings of victimhood simultaneously reinforce and are used to weaponize conspiracy theories, can be extremely dangerous (Box 1).

According to social identity theory, intergroup context shapes appraisals of information105. Salient intergroup contexts lead to a perceived enhancement of ingroup similarities and outgroup differences,
towards wanting to think the best of groups to which one belongs117,118. Also believe that conspiracy theory 116. Furthermore, social identity belief is partly influenced by the extent to which other group members which biases perceptions of whether a message is truthful and well evidence showed that endorsement of antisemitic conspiracy theories increased when people were reminded of their own nation's history of anti-Jewish atrocities158. These findings reinforce the notion that Jewish people have become specific scapegoats for abstract feelings of powerlessness, victimhood and suffering. Conspiracy theories can also serve to rationalize historical acts of violence: experimental research at the intergroup level is more likely to be situated within temporal reach: compared with research on individual-level factors, but the empirical base for the intergroup level of analysis is still emer-}

First, endorsement of antisemitic conspiracy theories is particularly high among those who report low political control157, strong collective victimhood102 and frequent rumination about historical trauma101. These findings reinforce the notion that Jewish people have become specific scapegoats for abstract feelings of powerlessness, victimhood and suffering. Conspiracy theories can also serve to rationalize historical acts of violence: experimental evidence showed that endorsement of antisemitic conspiracy theories increased when people were reminded of their own nation's history of anti-Jewish atrocities158. Researchers have also demonstrated experimentally: when participants in Indonesia read an article designed to increase intergroup threat, their endorsement of antisemitic conspiracy theories evolved to help manage outgroup threats. Evidence that some conspiracy theories are targeted at the intergroup level.

Second, antisemitic conspiracy theories are a proximal precursor for violence. Historically, stories of secret Jewish plots have been central features of propaganda campaigns that have precipitated ethnic cleansing. The conspiracy theory that Jewish people are plotting to displace Christian European populations has become a central feature of white supremacist ideology in the West, and appears in the manifestos of numerous domestic terrorists159. Research in Poland shows that, of all the varieties of antisemitic belief, conspiracy theories were the strongest predictors of antisemitic behavioural intentions106.

Third, antisemitic conspiracy beliefs are not spontaneously formed by individual actors: they are constructed and disseminated by provocateurs as elements of organized campaigns designed to prepare people for violence (such as the Protocols of the Elders of Zion pamphlet)158. This underscores that conspiracy theories are not just factoids discovered by vulnerable minds. They can also be features of infrastructures of misinformation that are authored, cultivated and designed with specific (and malicious) intent.

Examples of this phenomenon abound. In the 2000s, numerous polls revealed massive international differences in subscription to 9/11 conspiracy theories: whereas 22% of Canadians endorsed the notion that 9/11 was an inside job orchestrated by the government of the USA, 78% of individuals in seven Muslim countries supported this view103 (see also ref.104). Similarly, Chinese participants were much more likely to endorse the statement ‘The American government is secretly conspiring to harm China’ than ‘The Chinese government is secretly conspiring to harm America’, but the reverse is true for American participants121. Finally, followers of New Age spiritual practices are more likely than Christian people to believe the conspiracy that the Catholic Church kept secret Jesus’ marriage to Mary Magdalene, and that there is a secret organization protecting the ‘holy lineage’ that flowed from that union122. Clearly, group loyalties powerfully affect which conspiracy theories people are willing to believe123–125. Evidence that some conspiracy theories can signal group loyalties126. Furthermore, there is evidence that people's choices of which coalitions to accuse of secret, malicious activity are motivated by system justification: people might blame negative events on outgroups or malevolent actors within the group127,128 to preserve the notion that their own social system is fair and legitimate.

The adaptive conspiracism hypothesis suggests that conspiracy theories evolved to help manage outgroup threats. Evidence that some conspiracy theories are targeted at the intergroup level.

In sum, there is a growing awareness that conspiracy theories cannot be examined exclusively as an individual-level phenomenon, but the empirical base for the intergroup level of analysis is still emergent. One strength of the research reviewed above is its global and temporal reach: compared with research on individual-level factors, research at the intergroup level is more likely to be situated within countries outside Western, industrialized contexts, and more likely to grapple with collective history and collective memory. However, like individual-level research, the field is overly reliant on cross-sectional, correlational research. A relative scarcity of experimental evidence limits claims of causality, and thereby the potential for interventions that target the intergroup level.
**International differences**

Over the past 5 years there has been growth in understanding of how conspiracy beliefs are shaped by macro-factors embedded in a nation, such as culture, economic variables and trust-sensitive political realities. Early attempts to identify international differences in conspiracy beliefs took a conceptual or anecdotal approach rather than a truly comparative approach. For example, one paper[@ref1] drew on observations of child-rearing practices, sexual mores and norms of secrecy to make the case that the “Arab–Iranian–Muslim Middle East” created a culture of conspiracist thinking that could be understood through a psychoanalytic frame. Also influenced by psychoanalytic theory was the case that politics in the USA (and particularly conservative politics) is geared towards suspicious discontent and conspiracy theorizing (a culturally embedded ‘paranoid style’)[@ref2].

It is only in the past 5 years that scholars have begun collecting and interpreting data across multiple nations, with the aim of drawing empirically grounded conclusions about which countries are most prone to conspiracy beliefs (and why). In two cross-national datasets, participants rated their agreement with globally recognized conspiracy theories (for example, that the Moon landing was faked or that 9/11 was an inside job)[@ref3]. Three other datasets[@ref4–@ref6] used measures that assess an overall conspiracist mindset or worldview but do not make reference to any single conspiracy theory (for example “events which assess an overall conspiracist mindset or worldview but do not make mention of a conspiracy belief”).

In trying to answer these questions, we recommend lowering expectations that Fig. 1 can be turned into a neat and tidy conceptual model, or that relationships between the levels can be captured empirically. Hygienic models where constructs relate in predictable and elegant ways might do a disservice to the complexity of the phenomenon at hand, particularly given that the psychology of conspiracy beliefs could change dramatically depending on the content of the conspiracy theory[@ref7]. For example, it might not be reasonable to expect that the same model applies to conspiracies about a New World Order, Jeffrey Epstein and vaccines. Rather than envisaging unidirectional arrows
between levels, conspiracy theories might be better understood in terms of a systems model where micro, meso and macro levels mutually reinforce each other in complex and recursive patterns that shift depending on the conspiracy domain.

That said, theory and prior research suggest certain testable propositions about how different levels might relate to each other, which we lay out below. All these pathways involve top-down processes, where more abstract, higher levels contextualize, shape or moderate lower-level factors. This does not rule out bottom-up processes; micro factors could cause meso or macro processes, analogous to a series of dots forming a gestalt whole in a pointillist painting. However, the theories we draw on are more consistent with top-down processes, and the flow from macro to micro processes is consistent with the logic of multilevel analyses in other literatures.

First, although we are not familiar with any research that has explicitly addressed ways in which macro processes (such as economic conditions and culture) might shape intergroup processes with regard to conspiracy theories, there is theoretical precedent to make the case.

**Box 2**

**Populism and conspiracy theories**

Early research on political identity and conspiracy theories focused on traditional liberal–conservative dimensions. This research found that those who endorse conspiracy theories occupy both ends of the political spectrum, but conspiracy beliefs are particularly common among people who operate on the ideological extremes. By contrast, populism describes a political worldview defined by distrust that cuts across these traditional left–right distinctions. According to populist politicians, the world is dichotomized into ‘elites’, who are corrupt, malicious and uncaring, and ‘ordinary people’, characterized by virtue and common sense. Populist politicians frame themselves as representatives of ordinary people who will work within the secretive and corrupt political system to revolutionize it, effectively destroying conspiracies. It is therefore not surprising that populist attitudes and support for populist politicians are reliably associated with conspiracy beliefs. For example, people who support former populist President Donald Trump are significantly more vaccine-hesitant than other Americans because they are more prone to conspiracy beliefs. The success of populist politicians internationally in the past decade has prompted commentary that the world is entering an era of politics where the usual trust algorithm is inverted: instead of representing the political system, politicians receive support by affirming suspicions that the political system is untrustworthy and secretive. This phenomenon is a reminder that conspiracy beliefs do not always emerge spontaneously at the individual level; they can also be manufactured at the macro level by political operatives and the media that support them. The interplay between community members and populist politicians is mutually reinforcing: populist politicians train individual actors to view issues through a conspiracist lens, and individual actors enable and reward those efforts with political loyalty.

According to the adaptive conspiracism hypothesis, socio-ecological factors such as economic crises can cue evolved readiness to attribute events to the deliberate actions of enemy groups. From this perspective, macro-level factors might trigger latent predispositions for intergroup conspiracy theories. Other literature can be drawn on to make a similar case that macro factors can shape whether (and in what way) conspiracy theories manifest at the intergroup level. For example, a key insight in the cross-cultural literature is that collectivist cultures are more prone to self-organizing by group identity than individualist cultures. By extension, it could be that culture shapes whether conspiracy theories coalesce into communities and intergroup contests (as opposed to conspiracy theories that are nurtured by individuals as ‘loners’). It is similarly possible that economic inequality and/or populist governments might nudge people towards seeing conspiracy theories through an intergroup lens (such as elites versus the rest, or the powerful versus the dispossessed).

Second, it is possible to construct theoretically driven predictions about how intergroup context might moderate the relationship between individual-level factors and conspiracy beliefs. A fundamental premise of social identity theory is that, when an intergroup context is salient, strongly invested group members will converge around a fuzzy prototype of attitudes, behaviours and emotions defined by the group identity. In other words, strong intergroup contexts trump individual-level variables in terms of shaping attitudes and behaviour. A simple, testable prediction is that the role of individual-level factors in explaining conspiracy beliefs will be weaker when intergroup factors are more intense, for example, in conditions where there is intergroup threat, strong ingroup identification, and/or collective cognitions around historical victimization.

Extrapolating this logic to the macro level, it could also be argued that individual-level factors will be less diagnostic when there are strong nation-level contexts (for example, in nations with high levels of corruption or economic dysfunction). However, the opposite prediction also seems sustainable: nation-level conditions might provide a backdrop of mistrust or dissatisfaction, which crystallize into conspiracy theories among those who have individual psychologies that predispose them to doing so. From this perspective, both nation-level and individual-level factors might be mutually reinforcing. In other words, micro factors might be the seeds of conspiracist thinking, whereas macro factors provide the fertile ground from which they grow.

Finally, it is plausible to devise a cascade or trickle-down model where conditions established at the macro level (such as cultural, economic or governance factors) help to shape factors at the meso level, which in turn influence factors at the micro level. For example, it could be that certain groups will feel marginalized within the specific power structure of their society, which then cascades down to create unmet psychological needs (such as deficits in feelings of control, power or epistemic certainty).

Although the above propositions are informed by theory, they are still speculative and lack an empirical basis. This should not be surprising: operating at more than one level of analysis simultaneously is not easy, often requiring extensive funding and always requiring methodological and theoretical virtuosity. Because it is too early to run sense-checks on the plausibility of the ideas raised above, we are at the somewhat unsatisfactory stage of presenting multiple pathways (some of which are contradictory). However, this also presents an opportunity by opening new questions and fields of enquiry for future researchers in this space.
climate scepticism is an expression of a conspiracist worldview, and has the USA139. Theoretically, this finding adds nuance to assumptions that scepticism — once considered universal — is especially pronounced in the world is important both theoretically and practically. The few drawn from exclusively Western samples replicate in other parts of existing literature. Testing the extent to which established correlates ability of individual-level predictors that have been established in the least to break the link between conspiracy beliefs and behaviours that research should look for ways to reduce conspiracy theorizing, or at this space should examine interventions more directly. That is, future pathologies, thinking styles or personalities — then this limits the extent lies in factors that are relatively hard to influence — such as people's researched factors lead to an intellectual cul-de-sac: if the problem diffuses, thinking38; a study designed to manipulate analytical thinking in a way that reduced demand effects produced inconsistent results39. It should not be surprising that cognitive interventions have only modest success: after all, conspiracy theories are notoriously difficult to falsify, and conspiracy beliefs are shaped in part by non-rational processes39. But alternative approaches designed to indulge the psychological needs that predispose people to conspiracy theories have also had mixed success. For example, early suggestions that self-affirmations77 or control inductions77 could be used to reduce conspiracy beliefs subsequently waned owing to mixed evidence for causal effects on conspiracy beliefs81,79. However, in one of the few studies that took an intergroup approach, inducing empathy towards Chinese people reduced endorsement of the Wuhan laboratory COVID-19 conspiracy85. Other studies have focused instead on the power of social norms to disrupt the relationship between conspiracy beliefs and problematic behaviours. For example, believing that important people in your life are pro-vaccination eliminates the well-documented relationship between a conspiracy worldview and vaccine hesitancy17. There is also evidence that people overestimate the social prevalence of conspiracy beliefs25, suggesting that there might be benefits to interventions that challenge these misperceived norms.

In the face of these underwhelming outcomes from interventions, many argue it is easier to prevent conspiracy theories from developing rather than to stop them once formed136,180. It is perhaps unrealistic to expect psychological studies to examine the macro factors outlined in this Review, but there is general agreement on the need to play the long game: fortifying the integrity of governments and other institutions to remove the fertile ground in which conspiracy theories grow141.

Box 3

Interventions

Few studies have tested interventions to reduce negative effects of conspiracy beliefs, which either indicates low-hanging fruit for future research or a file drawer problem. Rebutting a specific conspiracy theory with corrective information reduces support for that specific theory158,159, but these are typically blunt manipulations in pretest–post-test designs that are vulnerable to demand characteristics. Furthermore, there is no evidence that debunking a specific conspiracy theory reduces the broader conspiracy worldview107 or that it is effective for people who have already strongly aligned themselves with the conspiracy theory. Interestingly, there is evidence that counterarguments are relatively ineffective when they are presented after conspiracist arguments, suggesting that ‘prebunking’ might be more effective than debunking117.

A related approach is to ‘inoculate’ people against conspiracy theories by warning them about manipulative persuasive techniques to which they will be exposed. These strategies have proved to be somewhat effective174,175, but the effects are again possibly inflated by demand characteristics. Similar critiques apply to studies that report positive effects of priming resistance to persuasion111 or analytical thinking36; a study designed to manipulate analytical thinking in a way that reduced demand effects produced inconsistent results39.

It should not be surprising that cognitive interventions have only modest success: after all, conspiracy theories are notoriously difficult to falsify, and conspiracy beliefs are shaped in part by non-rational processes39. But alternative approaches designed to indulge the psychological needs that predispose people to conspiracy theories have also had mixed success. For example, early suggestions that self-affirmations77 or control inductions77 could be used to reduce conspiracy beliefs subsequently waned owing to mixed evidence for causal effects on conspiracy beliefs81,79. However, in one of the few studies that took an intergroup approach, inducing empathy towards Chinese people reduced endorsement of the Wuhan laboratory COVID-19 conspiracy85. Other studies have focused instead on the power of social norms to disrupt the relationship between conspiracy beliefs and problematic behaviours. For example, believing that important people in your life are pro-vaccination eliminates the well-documented relationship between a conspiracy worldview and vaccine hesitancy17. There is also evidence that people overestimate the social prevalence of conspiracy beliefs25, suggesting that there might be benefits to interventions that challenge these misperceived norms.

In the face of these underwhelming outcomes from interventions, many argue it is easier to prevent conspiracy theories from developing rather than to stop them once formed136,180. It is perhaps unrealistic to expect psychological studies to examine the macro factors outlined in this Review, but there is general agreement on the need to play the long game: fortifying the integrity of governments and other institutions to remove the fertile ground in which conspiracy theories grow141.

Summary and future directions

In this Review, we have synthesized the literature on the interpersonal, intergroup and nation-level factors that drive conspiracy beliefs. To date, there is far more research documenting the causes of conspiracy beliefs than research that seeks to reduce conspiracy beliefs and their negative effects (Box 3). This is partly because some of the most-researched factors lead to an intellectual cul-de-sac: if the problem lies in factors that are relatively hard to influence — such as people’s pathologies, thinking styles or personalities — then this limits the extent to which the problem can be overcome. In addition to providing a more complete understanding of conspiracy beliefs, a multilevel approach suggests possible solutions, and the next generation of research in this space should examine interventions more directly. That is, future research should look for ways to reduce conspiracy theorizing, or at least to break the link between conspiracy beliefs and behaviours that are destructive for individuals and societies.

Future research should also test the cross-national generalizability of individual-level predictors that have been established in the existing literature. Testing the extent to which established correlates drawn from exclusively Western samples replicate in other parts of the world is important both theoretically and practically. The few attempts to test such generalizability have been revealing. For example, there is evidence that the link between conspiracy belief and climate scepticism — once considered universal — is especially pronounced in the USA139. Theoretically, this finding adds nuance to assumptions that climate scepticism is an expression of a conspiracist worldview, and has implications for understanding the interplay between individual-level and nation-level factors in shaping climate scepticism. The practical benefit of cross-national research is that it allows practitioners, communicators and policy-makers to understand the psychological correlates of conspiracy theorizing in their own regions so that they are better equipped to devise and implement interventions.

Finally, a truly multilevel approach to understanding conspiracy theories requires cosmopolitanism not only in theories, methods and approaches, but also in terms of how academics situate themselves, tonally. Migrating between micro-, meso- and macro-level factors requires an empathic shift as much as an epistemic shift. When scholars have focused on the individual level, the tone has drifted towards a deficit model defined by what those who believe conspiracy theories lack: they have ‘dark’ personalities, are prone to clinical disorders, demonstrate illogical ways of thinking, and have unmet psychological needs and selfish orientations. At the meso level, there is an emphasis on the destructive nature of conspiracies as a tool of prejudice and conflict. But analysis at the macro level suggests a more compassionate orientation: communities sometimes learn to mistrust elites because those elites cannot be trusted, and people are doing their best in difficult circumstances to make sense of ambiguous events.

This emphasizes the importance of being reflective about our academic stance: rather than seeing ourselves as calm and dispassionate arbiters of reasonableness, we must remember that the inherent apparent reasonableness of official accounts of events might shift depending on the sociopolitical culture within which one is situated. This creates a kaleidoscopic moral universe: conspiracy theories are both illogical and logical; truth is both sacred and relative; conspiracy beliefs do
This article articulates a framework for the motivational underpinnings of conspiracy beliefs. It addresses the role of heuristics in reasoning about conspiracy theories. The study finds strikingly strong relationships between conspiracy worldview and anti-vaccination attitudes in a multi-national sample. The authors argue that this relationship is driven by the belief in conspiracy theories, which are often seen as a way to question established authority and challenge dominant narratives. The article also highlights the importance of cognitive styles and educational attainment in understanding the acceptance of conspiracy theories. Overall, the study provides new insights into the psychological mechanisms underlying conspiracy belief formation.
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