ANNUAL REVIEWS

Annual Review of Psychology

What Are Conspiracy Theories? A Definitional Approach to Their Correlates, Consequences, and Communication

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Annu. Rev. Psychol. 2023. 74:271–98

First published as a Review in Advance on September 28, 2022

The *Annual Review of Psychology* is online at psych.annualreviews.org

https://doi.org/10.1146/annurev-psych-032420-031329

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Keywords

conspiracy theories, conspiracy beliefs, predictors, consequences, communication, theory

Abstract

Conspiracy theories are abundant in social and political discourse, with serious consequences for individuals, groups, and societies. However, psychological scientists have started paying close attention to them only in the past 20 years. We review the spectacular progress that has since been made and some of the limitations of research so far, and we consider the prospects for further progress. To this end, we take a step back to analyze the defining features that make conspiracy theories different in kind from other beliefs and different in degree from each other. We consider how these features determine the adoption, consequences, and transmission of belief in conspiracy theories, even though their role as causal or moderating variables has seldom been examined. We therefore advocate for a research agenda in the study of conspiracy theories that starts—as is routine in fields such as virology and toxicology—with a robust descriptive analysis of the ontology of the entity at its center.

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INTRODUCTION

Throughout the COVID-19 pandemic, social media were rife with conspiracy theories about the origins, spread, and treatment of the virus. One conspiracy theory alleged that the virus was deliberately manufactured in a Chinese laboratory to wage war on the West. Another put forward the notion that it was all a hoax. In early 2022, a conspiracy theory alleged that there were US chemical weapons laboratories in Ukraine, and another conspiracy theory advanced the argument that the war in Ukraine was started deliberately by billionaires while they prepared a new virus to let loose on the world. Conspiracy theories like these—allegations that two or more actors have coordinated in secret to achieve an outcome, and that their actions are of public interest but not widely known by the public—abound in social and political discourse. However, even though they are more visible due to advances in communication technology, they are not a new phenomenon. For instance, in earlier decades conspiracy theories have alleged that Diana, Princess of Wales, was assassinated by the British secret service; that the 9/11 attacks were an inside job; and that the Apollo moon landings were a hoax. Conspiracy theories have therefore always been with us. When we hear news about important social and political events and circumstances, we also hear conspiracy theories about them.

Despite the prominence of conspiracy theories, psychological scientists have only begun to study them in earnest in the past 20 years. The development of this research agenda is important for many reasons. To give just one example, belief in COVID-19 conspiracy theories has been linked with reluctance to take the behavioral precautions and vaccines required to protect public health. Throughout their history, conspiracy theories have been associated with violence, war,

terrorism, prejudice, poor health choices, and denial of climate change. In many important ways, therefore, conspiracy theories matter.

Progress in the study of this important topic has been spectacular. We have prepared this article to review this progress, highlighting what we know, and what we are yet to learn, about the psychology of conspiracy theories. Moving beyond the boundaries of a descriptive review, we argue that significantly more progress will be achieved if we pay more careful attention to determining exactly what we are studying. We argue therefore for analyzing the essential features of conspiracy theories and their implications for the causes, consequences, and transmission of conspiracy beliefs.

We begin by reviewing the empirical literature on conspiracy theories, highlighting both the abundance and the disorganization of empirical discoveries in this literature. We then take a step back to propose a reasoned definition of conspiracy theories. From this, we derive an inventory of some of their most important inherent characteristics. We then articulate a metatheoretical framework in which hypotheses about the acceptance, sharing, and impacts of conspiracy theories can be inferred from these defining characteristics. We argue that this framework synthesizes hitherto disconnected insights into the antecedents, transmission, and consequences of conspiracy belief, and it promises to promote and direct innovation in further research.

Metatheoretical framework: a framework that can generate and organize theoretical and methodological innovation

Epistemic motives: a set of motives including those to achieve knowledge and certainty

Existential motives: a set of motives including those to feel safe, autonomous, and in control

WHY DO PEOPLE BELIEVE IN CONSPIRACY THEORIES?

The question of why people believe in conspiracy theories started to attract empirical attention in the 1990s (Abalakina-Paap et al. 1999, Butler et al. 1995, Goertzel 1994, McHoskey 1995). Belief in conspiracy theories—like many other psychological constructs—was and is typically measured using self-report scales. In such scales, participants are asked to rate their disagreement/agreement on a Likert-type scale with each of several specific (e.g., "The attack on the Twin Towers was not a terrorist action but a governmental conspiracy"; see Douglas et al. 2016) or general (e.g., "The power held by heads of state is second to that of small unknown groups who really control world politics"; see Brotherton et al. 2013) statements. Typically, these scales are internally consistent. This indicates that conspiracy beliefs tend to correlate with each other. It also allows researchers to take the mean score as an index of participants' tendency to believe in conspiracy statements and to observe correlations with predictors such as paranoia, magical thinking, mistrust, and feelings of powerlessness (Abalakina-Paap et al. 1999, Butler et al. 1995, Goertzel 1994, McHoskey 1995).

The increasing interest in the psychology of conspiracy theories has yielded such a volume of research that in recent years, researchers have been able to meta-analyze studies (e.g., Biddlestone et al. 2022) and synthesize their findings. In one such synthesis, Douglas et al. (2017) proposed that people believe in conspiracy theories when three important types of psychological motives are not being met. The first of these are epistemic motives to achieve knowledge and certainty. Factors such as a tendency to look for agency, patterns, and meaning where none exist (Douglas et al. 2016, van der Wal et al. 2018, van Prooijen et al. 2018); paranormal beliefs (Darwin et al. 2011); chronic feelings of uncertainty (van Prooijen & Jostmann 2013); lower analytic thinking (Swami et al. 2014); the conjunction fallacy (Brotherton & French 2014); teleological bias (Wagner-Egger et al. 2018); illusory correlation perceptions (van der Wal et al. 2018); and higher need for cognitive closure (Marchlewska et al. 2018) all appear to be associated with greater belief in conspiracy theories. These findings suggest that in an effort to make sense of important political and social events, people turn to conspiracy theories when their epistemic motives are challenged by information that feels too much, too little, incomplete, contradictory, or ambiguous.

The second set of motives proposed by Douglas et al. (2017) are existential motives, including the motives to feel safe and in control. When these motives are not met, conspiracy theories may seem appealing as a way to compensate. Consistent with this reasoning, conspiracy beliefs

Social motives: a set of motives involving people's desire to maintain a positive image of the self or group

Existential threat: a threat to the very existence of a person or group

are associated with anxious attachment style (Green & Douglas 2018) and feelings of anxiety (Grzesiak-Feldman 2013), powerlessness (Jolley & Douglas 2014a), and lack of control, both generally (van Prooijen & Acker 2015) and in the political domain (Bruder et al. 2013, Kofta et al. 2020). Some studies suggest that strengthening people's sense of control can reduce their tendency to believe in conspiracy theories (van Prooijen & Acker 2015). Conspiracy theories also seem to arise in times of crisis and social unrest, when epistemic concerns are heightened (van Prooijen & Douglas 2017) and when people are looking for ways to cope with challenging circumstances (Marchlewska et al. 2022).

The third set of motives analyzed by Douglas et al. (2017) are social motives, referring to people's desire to maintain a positive image of the self or group. There is growing evidence that individuals' motivation to maintain positive esteem (e.g., narcissism; Cichocka et al. 2016) and distinctiveness from others (e.g., need for uniqueness; Lantian et al. 2017) predict conspiracy beliefs. Moreover, people's motive to maintain positivity toward their social groups predicts beliefs that they are being conspired against. Specifically, collective narcissism—an inflated sense of positivity toward one's group accompanied by the feeling that the group is undervalued or under threat—is associated with higher belief in conspiracy theories (Golec de Zavala & Cichocka 2012). Conspiracy theories also seem to be more prevalent among members of low-status groups (Crocker et al. 1999) and are motivated by feelings of intergroup threat (Bilewicz et al. 2013, Uscinski & Parent 2014). Therefore, conspiracy explanations related to intergroup events seem to derive from a motive to validate the group image in contrast to outgroups portrayed as malevolent (see also Biddlestone et al. 2021).

In addition to psychological characteristics, a range of demographic factors are associated with conspiracy beliefs. One example is lower levels of education (Douglas et al. 2016); another is low levels of income (Uscinski & Parent 2014). Other demographic factors associated with conspiracy beliefs are being male, unmarried, or unemployed; having weaker social networks (Freeman & Bentall 2017); and having lower media literacy (Craft et al. 2017). These demographic factors can also speak to the psychological needs that we covered in the paragraphs above. For instance, a lack of education can undermine the epistemic need for knowledge, and lower levels of income are associated with existential threats to security.

Conspiracy theories also appeal to people for political reasons. Specifically, people are more likely to endorse conspiracy theories that accuse their political rivals, rather than their own side, of plotting (Claassen & Ensley 2016, McClosky & Chong 1985). In the US context, Democrats tend to believe that Republicans are committing electoral fraud, and Republicans accuse Democrats of the same wrongdoing (Edelson et al. 2017). This tendency may reflect motivated reasoning (Kunda 1990) whereby people interpret information differently depending on their political ideologies and predispositions. However, this tendency is especially pronounced when people feel that their political group is particularly threatened (Smallpage et al. 2017). Indeed, some research also suggests that people tend to believe in conspiracy theories more when they are the losers in their political contexts, such as when their party is out of power and therefore has little political influence or when they identify as independents or with third parties that have little political agency (Uscinski & Parent 2014).

Beliefs in conspiracies against one's political party seem to exemplify the group-serving social motives identified by Douglas et al. (2017) rather than any particular ideological motivation. However, research suggests that conspiracy beliefs are more common in the United States on the extreme right of the political spectrum (van der Linden et al. 2021). A recent investigation across 26 countries found conspiracy beliefs to be highest at both the extreme left and extreme right (Imhoff et al. 2022b). These findings may be explained in terms of social motivations—for example, by arguing that they appeal more to people who feel as though they are outsiders who

have little agency in political circumstances. However, there may also be an ideological affinity between conspiracy theories and extreme political viewpoints—for example, in their distrust of state institutions (Sutton & Douglas 2020). Further work is required to disentangle these processes and determine their relative importance (Imhoff et al. 2022b).

WHAT IS THE IMPACT OF CONSPIRACY THEORIES?

By far the bulk of research on the psychology of conspiracy beliefs has focused on their antecedents. However, heated political contests, international conflicts, a growing antivaccine movement, the climate crisis, and the COVID-19 pandemic have in recent years generated significant research interest in the impacts of conspiracy theories (Douglas 2021). The research that has emerged generally suggests that these impacts are largely negative, whether socially or psychologically. Thus, conspiracy theories may worsen rather than relieve the psychological frustrations that drive people toward them (Douglas et al. 2017).

One of the major effects of conspiracy theories seems to be to discourage engagement in mainstream political processes. In one of the earlier studies on the impact of conspiracy theories, Butler et al. (1995) found that after watching the film *JFK*, which presents a conspiracy narrative about the assassination of President John F. Kennedy, people were less likely to want to engage in politics—e.g., in terms of intention to vote or to make political contributions—compared to those who had not seen the film. Conceptually similar findings were obtained by Jolley & Douglas (2014a), who asked an experimental group of participants to read conspiracy theories about the sinister actions of governments and found that, compared to a control group who read refutations of these conspiracy theories, they subsequently felt powerless and disenchanted and, in turn, were less inclined to vote in an upcoming election. Similarly, other studies have shown that people who read about conspiracy allegations reported lower trust in politics compared to a control condition (Einstein & Glick 2015) and were less motivated to engage in political action (Uscinski & Parent 2014). Other research has demonstrated that people who chronically believe in conspiracy theories tend to think that the political system is unresponsive to citizens' demands and therefore tend to engage less in traditional forms of political participation (Ardèvol-Abreu et al. 2020). Conspiracy theories can affect how, as well as whether, people vote. For example, conspiracy beliefs unique to the United Kingdom's 2016 Brexit referendum predicted British people's support for leaving the European Union and their actual vote to leave the European Union (Jolley et al. 2022).

Whereas beliefs in conspiracy theories seem to decrease engagement in normative political activities, they are associated with radicalized and extremist methods (Sternisko et al. 2020), violent political intentions (Rottweiler & Gill 2022), endorsement of violence as a means to express disagreement with the government (Uscinski & Parent 2014), protests (Imhoff & Bruder 2014), occupation of buildings (Mari et al. 2017), and vandalism of 5G phone masts that allegedly helped spread COVID-19 (Jolley & Paterson 2020). Belief in conspiracy theories has also been linked with proclivity to engage in minor criminal and fraudulent activities, such as paying for goods with cash to avoid taxation (Jolley et al. 2019). The belief that others engage in unscrupulous behavior is associated with people's own tendency toward the same behavior. Specifically, people are willing to entertain conspiracy theories to the degree that they think they would conspire themselves, given the same motives and opportunity (Douglas & Sutton 2011).

Conspiracy theories are also associated with prejudice and outgroup derogation. For example, belief in anti-Semitic conspiracy theories predicts more general anti-Semitic attitudes and also discrimination against Jews (Bilewicz et al. 2013, Golec de Zavala & Cichocka 2012, Kofta et al. 2020). Other research suggests that belief in anti-Semitic conspiracy theories predicts anti-Israeli attitudes and also racism toward other groups (e.g., Chinese people in Malaysia) who are not seen

as part of the conspiracy (Swami 2012). Indeed, there is evidence that exposure to anti-Semitic conspiracy theories predicts prejudice and discrimination not only against Jews but also against other groups who are not implicated by the conspiracy theory (e.g., Americans and Arabs; Jolley et al. 2020). Some research suggests that a tendency toward conspiracy theorizing is associated with prejudice against groups who are perceived to be powerful, such as Jews and Americans (Imhoff & Bruder 2014), although other research suggests that conspiracy theories can also assign power and agency to those who do not typically have it (e.g., immigrants and feminists; Nera et al. 2021). On the whole, conspiracy theories seem to play a part in reinforcing divisions and tensions between groups.

Conspiracy theories also have significant consequences for the acceptance of scientific findings—including not only belief in the accuracy of findings but also the willingness to act accordingly. For example, climate science has endured a long history of being targeted by conspiracy theories, causing disengagement with the climate crisis (Douglas & Sutton 2015). Experimental studies have shown that exposure to conspiracy theories suggesting that climate change is a hoax reduces participants' intentions to become more energy efficient (Jolley & Douglas 2014b) and to sign a petition to mitigate climate change (van der Linden 2015). Belief in climate change conspiracy theories also seems to correlate with conspiracy theories about science in general, including about genetically modified food, the origins of the AIDS virus, and forensic evidence regarding the collapse of the Twin Towers following the 9/11 attacks (e.g., Lewandowsky et al. 2013, Uscinski et al. 2017; see also Rutjens et al. 2018).

Some of the most serious impacts of these anti-science conspiracy theories relate to human health. Anti-science conspiracy theories have been linked to risky health choices such as refusing vaccines (Craciun & Baban 2012, Jolley & Douglas 2014b), favoring alternative medicines (Lamberty & Imhoff 2018, Oliver & Wood 2014), refusing contraception (Grebe & Nattrass 2012, Thorburn & Bogart 2005), refusing to seek psychological help for mental health issues (Natoli & Marques 2021), and refusing to comply with COVID-19 safety guidelines (Biddlestone et al. 2020, Pummerer et al. 2022, Romer & Jamieson 2020), including refusing COVID-19 vaccination in favor of a life-threatening alternative treatment (Bertin et al. 2020).

Research also points to a more general tendency toward risky decision making. Conspiracy believers tend to have optimistically biased perceptions about risk (Chayinska et al. 2022), and conspiracy theories also appear to be more attractive to present-oriented people who prefer quick answers (Zajenkowski et al. 2022). Risky thinking and risky behavior, therefore, seem characteristic of conspiracy believers. Thus, even when conspiracy believers recognize risks, they may simply be more accepting of them.

Despite their negative consequences, there is evidence that conspiracy theories may also have some positive consequences. Research suggests they may help people with marginalized or stigmatized views experience a sense of community (Franks et al. 2017). They may increase accountability among those in power (Basham 2003, Dentith 2016) and encourage them to be transparent (Swami & Coles 2010). They may inspire collective action against unjust elites (Imhoff & Bruder 2014, Mari et al. 2017). In sum, a growing body of research makes it clear that conspiracy theories have a variety of important consequences.

WHY ARE CONSPIRACY THEORIES SOCIALLY TRANSMITTED?

In general, people can only believe in a conspiracy theory if they have been exposed to it. The communication of conspiracy theories is therefore important. However, less research attention has been paid to the transmission of conspiracy theories than to their antecedents and consequences (Douglas et al. 2019). The research that has been conducted suggests that the motivations to share conspiracy theories are different from the motivations to believe them.

One important reason to share conspiracy theories appears to be to pursue a political agenda. For example, Nefes (2017) found that people's preexisting political views predicted whether or not they would be willing to share conspiracy material about the Gezi Park protests in Istanbul in 2013. Similarly, Wood & Finlay (2008) found that members of the British National Party (a far-right UK political party) explained the events surrounding the London 7/7 bombings as conspiracy theories regarding the intentions of Muslim immigrants in the United Kingdom, spreading an anti-Muslim political agenda and creating the conditions for extremism and political violence (see also Lee 2017).

WEIRD: Western, educated, industrialized, rich, and democratic

In a similar vein, research suggests that conspiracy theories are not shared indiscriminately and do not bounce around on social media at random (DeWitt et al. 2018). Instead, they are shared within, and typically stay within, the groups and communities who already agree with them (Metaxas & Finn 2017, Sunstein & Vermeule 2009). As these online communities become more distinct, their sentiments can become more extreme. For example, Zollo et al. (2015; see also Bessi et al. 2015, Del Vicario et al. 2016) found that users' comments and posts became more negative in tone as the users became more actively involved in communication between polarized communities.

People also seem to share conspiracy theories to subvert dominant political and ideological assumptions (Enders & Smallpage 2018). For example, Sapountzis & Condor (2013) found that politically engaged Greek citizens used conspiracy theories to challenge Greece's political legitimacy when discussing conflicts with other groups. In a similar vein, research suggests that fictitious politicians who use conspiracy theories are viewed as rogue political outsiders who might be able to effect change (Green et al. 2023). Therefore, sharing conspiracy theories may be a way to signal the intention to challenge and change the status quo.

However, evidence is also building that people who share or express support for conspiracy theories risk being stigmatized. For example, Lantian et al. (2018) asked French Internet users to write text that either supported or criticized conspiracy theories about the Charlie Hebdo shooting in Paris in 2015. People who were asked to write statements supporting the conspiracy theories were more fearful of social exclusion than people who were asked to criticize the conspiracy theories. This effect was mediated by a fear of being evaluated negatively. Furthermore, conspiracy believers are often viewed as gullible (Klein et al. 2015), and people often reject the label "conspiracy theory" when referring to their own views, instead using terms like "conspiracy facts." Further evidence suggests that people reserve the terms "conspiracy theory" and "conspiracy theorist" for ideas that they reject (Douglas et al. 2022).

People might therefore be aware of the skepticism associated with these labels and use or avoid using them according to their own (dis)belief in conspiracy-related statements (Nera et al. 2020). People might indeed use these terms in an attempt to deliberately discredit another person's views and dismiss them as implausible (deHaven-Smith 2013, Harambam & Aupers 2017) and to try to remove them from the realm of legitimate debate (Coady 2018). It is also worth noting, however, that there is little evidence that applying the label "conspiracy theory" to an alternative narrative does anything to reduce its credibility with an audience (Douglas et al. 2022, Wood 2016).

LIMITATIONS OF RESEARCH

Research over the past 20 years has revealed much about the causes, consequences, and transmission of belief in conspiracy theories; but this remains a relatively new field, and one that is already revealing some important limitations. Some of these reproduce the common pitfalls of psychological research, such as an overreliance on samples from Western, educated, industrialized, rich, and democratic (WEIRD) countries (Douglas et al. 2019; but see cross-national investigations such as Adam-Troian et al. 2021, Imhoff et al. 2022b). Even the most developed aspect of this

literature—research into the causes of conspiracy belief—is marred by some problems. One of these is inconsistent findings, such as those emerging from tests of the hypothesis that lacking personal control affects belief in conspiracy theories. While some research supports this claim (e.g., Whitson & Galinsky 2008), other research does not, finding no causal effect at all (e.g., Hart & Graether 2018). Using a general measure of conspiracy belief that does not refer to specific events, Stojanov et al. (2020) found no evidence that a lack of control causes people to believe more in conspiracy theories. This is not the only inconsistency to have emerged. There are also inconsistent findings, for example, concerning the relationship between right-wing authoritarianism and conspiracy beliefs (e.g., Dyrendal et al. 2021, Wilson & Rose 2014; see Biddlestone et al. 2022 for a meta-analysis of the predictors of conspiracy beliefs).

These inconsistencies are an important obstacle to answering some of the most important questions about conspiracy beliefs. We want to understand, for example, why conspiracy theories seem to have an increasing appeal to people; we want to know what societal and psychological effects they are having; and we want to understand the relevance of conspiracy theories to applied fields such as clinical, forensic/criminological, and political psychology. A complete understanding of these questions requires us to be able to profile people who are prone to believing in conspiracy theories—a task that ought to be possible by now, given the hundreds of studies into psychological, demographic, and political risk factors (e.g., Freeman & Bentall 2017). However, inconsistent results make it very difficult to build such a profile.

Understanding the causes and consequences of conspiracy belief has also been hampered by methodological problems—especially, the dominance of cross-sectional research. This means that the consequences of particular conspiracy theories are often inferred, and reverse causal directions cannot be ruled out (e.g., do conspiracy theories about vaccines reduce vaccine intentions, or do people's vaccine intentions inform their conspiracy beliefs?). Experimental studies of the effects of exposure to conspiracy theories remain relatively rare, and reverse causal directions are typically not tested. Longitudinal research on the effects of conspiracy theories is also sparse (for recent exceptions, see Bierwiaczonek et al. 2022, Liekefett et al. 2021).

Problems such as inconsistent and difficult-to-interpret findings have been made worse by a lack of attention to the conceptualization and measurement of belief in conspiracy theories. Stojanov et al. (2020) argued that inconsistent results related to the effects of control on conspiracy theorizing may be due to the way conspiracy belief was measured in the different studies. Indeed, as we mentioned earlier, some researchers measure belief in conspiracy theories as a combination of agreement with several common conspiracy theories (e.g., Douglas et al. 2016, Swami et al. 2014), while others tap into more general notions of conspiracy, such as the idea that governments generally conspire, rather than referring to any specific government or event (e.g., Brotherton et al. 2013). The choice of measure often seems arbitrary (Imhoff et al. 2022a), and sometimes care has not been taken to ensure that the chosen items truly are measures of belief in conspiracy theory, according to an explicit and principled definition. Seemingly little attention has been paid to capturing the features of the alleged conspiracies (e.g., their agency, malevolence), and in some cases the alleged conspiring group is not identified. For example, there is no conspiring group identified in the statement "The virus is a scaremongering tactic to prevent Brexit" (see Freeman et al. 2022). When scales are developed without reference to a stable, reasoned, and explicit definition of conspiracy theories, there will always be the risk of inconsistent measurement, and therefore inconsistent results, between studies.

Arguably, a still more serious downside of this lack of careful conceptual articulation is that strictly speaking, we know surprisingly little about the causes, consequences, and transmission of belief in conspiracy theories per se. Conspiracy theories overlap partially with many other categories of belief or representation. For example, many if not all conspiracy theories overlap with

misinformation (Pierre 2020), bullshit (van Prooijen et al. 2018), distrust of scientists and authority (Rutjens et al. 2018), extremism (Imhoff et al. 2022b), and paranormal belief (Darwin et al. 2011), and all these types of belief have been linked to, or even studied interchangeably with, conspiracy belief. What, therefore, makes conspiracy theories special in this crowded field of strange and unhelpful beliefs? Are the effects we have observed specific to conspiracy theories, or even true of conspiracy theories, if we control for their overlap with related kinds of belief? In order to answer these questions, we need a theory of what exactly conspiracy theories are—what makes them ontologically different from other beliefs. We also need a theory of what they do—what makes them functionally different from other beliefs, and why. We need these theories to be underpinned by research in which scales of conspiracy belief are designed and validated against theoretically informed measurement models, and in which the study of conspiracy belief compares, contrasts, and adjusts for related varieties of belief that lack some of the defining features of conspiracy theories. None of these are offered by the literature so far.

These contributions will be necessary, but not sufficient, to fulfill what may be the central mission of research on conspiracy theories—to understand and address their role in contemporary societal developments, from declining faith in democracy to political polarization to widespread vaccine refusal (Douglas et al. 2019). If conspiracy theories are contributing to these problems, it must be that they are disseminated, adopted, and affect attitudes and behavior en masse. Thus, a comprehensive theory of the societal impact of conspiracy beliefs must account for their antecedents, their consequences, and their transmission. At present, psychological scientists have focused on one of these facets at a time, or occasionally two (Douglas et al. 2017, Liekefett et al. 2021).

An obstacle to integrating these lines of research and theory into the causes, consequences, and transmission of conspiracy beliefs is not just that they have developed separately from each other. As is often remarked (e.g., Lyons et al. 2019, Swami et al. 2016), each line of research has also tended to be rather piecemeal. A number of low-level theoretical models have been developed, and studies have examined a limited number of variables each time. The newer lines of research on the consequences and transmission of conspiracy theories share the limitation that, on the whole, theories that connect existing research findings are lacking. As a result, many relevant antecedent, consequent, and contextual variables have been uncovered at different levels of analysis without much integration. A conceptual scheme is needed to organize variables within, as well as across, these different lines of research.

A related issue has hampered progress in conspiracy theory research. This is the difficulty of recruiting research participants who are strong believers in conspiracy theories. These are the people the public may have in mind when they think about conspiracy theorists and whom researchers may have had in mind when they describe populations who have a closed, obsessive mindset and who do not participate in mainstream civic, political, or health systems (Goertzel 1994, Sunstein & Vermeule 2009). These participants are difficult to access in part because they are perhaps less numerous than suggested by the rhetoric and media buzz that often surrounds academic papers (Sutton & Douglas 2022). Further, these people can be distrustful of conspiracy theory research and therefore reluctant to take part in it. Recent evidence suggests that belief in conspiracy theories is not distributed normally and that strong believers in conspiracy theories comprise a cluster of people who might be different from the rest of the population (Imhoff et al. 2022a). This can lead to mismatches in the evidence base and the aspirations of theoretical ideas about conspiracy belief—they want to explain social ills arising from extreme or entrenched beliefs but are tested on participants whose attitudes to conspiracy theories range from dismissive to moderate sympathy (Franks et al. 2017, Sutton & Douglas 2014). Recently, more survey and interview studies are succeeding in recruiting participants who are more prone to strong forms of conspiracy belief (e.g., Franks et al. 2017, Harambam & Aupers 2017). Observational studies are also increasingly

gathering data on conspiracy adherents, especially in online spaces (e.g., Del Vicario et al. 2016). However, we still struggle as a research community to theorize about how these people might be similar to or different from most of our participants.

The COVID-19 pandemic illustrates how research on the psychology of conspiracy theories has been limited in some of these ways. Over 100 studies have been published on the consequences of COVID-19 conspiracy beliefs (see Biddlestone et al. 2020, Pummerer et al. 2022, Romer & Jamieson 2020 for just three examples of this explosion of research; for meta-analyses, see Bierwiaczonek et al. 2022, van Mulukom et al. 2022). These studies have provided useful information at an important time when scientists were endeavoring to help with a world crisis. It is also worth pointing out that most of this research leads to the same conclusion—that conspiracy beliefs are associated with lower intentions to engage in activities to stop the spread of the virus, such as taking a vaccine and engaging in social distancing. However, no overall theoretical framework has guided this research, so the findings have again been rather piecemeal and disconnected. The bulk of the research has been cross-sectional and has been conducted on general populations rather than strong believers. Furthermore, because no established measurement scales existed, researchers designed their own scales to measure COVID-19 conspiracy beliefs, and in some cases these may have led to an overestimation of the prevalence of these beliefs in the population due to the way they were anchored (see Sutton & Douglas 2022). It is likely that these issues arose because researchers were responding rapidly to a crisis and were not working with other researchers to combine resources and share theoretical perspectives. However, a crucial problem is that this research, like much of the research on the psychology of conspiracy theories generally, has not paid enough attention to the content and features of the conspiracy theories themselves.

In the next section, we advocate taking a step back to reexamine closely what conspiracy theories are—their core features and what makes them different from other types of belief. We argue that this is crucial for theoretical progress in the coming years. A clear definition will guide the operationalization of conspiracy belief, therefore sharpening the testing of theory. It will help identify features of conspiracy theories that affect their causes, consequences, and communication. In so doing, it will help integrate these three lines of research, which after all are all about the same thing.

THE DEFINING PROPERTIES OF CONSPIRACY THEORIES AS CAUSAL PROPERTIES

In this analysis we are inspired by the influential philosophical analysis of causality put forward by Shoemaker (1980). In this analysis, causality is understood in terms of the underlying properties of the objects involved in events. Much can be gleaned about the likely causal functions of an object of inquiry by paying close attention to, and building theory from, its essential properties.

Shoemaker (1980, p. 109) gives the following example:

> When one event causes another, this will be in part because of the properties possessed by their constituent objects. Suppose, for example, that a man takes a pill and, as a result, breaks out into a rash. Here the cause and effect are, respectively, the taking of the pill and the breaking out into a rash. Why did the first event cause the second? Well, the pill was penicillin, and the man was allergic to penicillin. No doubt one could want to know more—for example, about the biochemistry of allergies in general and this one in particular. But there is a good sense in which what has been said already explains why the one event caused the other.

By analogy, we argue that the effects of exposure to conspiracy theories depend on key features of the conspiracy theories as well as of the people who are exposed to them.

This perspective on causality is unusual in psychology. We seldom build theory about the causes and consequences of a variable by paying attention to its properties. However, it is routine in other sciences. For example, in the COVID-19 pandemic, one of the very first things that was done was to sequence the SARS-CoV-2 virus (Wang et al. 2020) and to image the virus to determine key phenotypes such as its characteristic spikes and the distinctive chemistry of its membranes (Hsieh et al. 2020). This information is of crucial value in determining how the virus infects human cells, the course of the resulting disease, its transmission from person to person, and even the proposal of simple remedies such as wearing masks and handwashing with soap. The progression from understanding the genotypic and phenotypic characteristics of the virus to understanding its transmission, effects, and treatment can be aided by deriving hypotheses from these core features of the virus together with auxiliary assumptions that have been established in health and medical sciences. At the very least, knowledge about the genetic and physical properties of the virus can help us select promising theoretical ideas and rule out others that are likely to lead nowhere (Steel 2007). Similarly, a clear and reasoned description of the ontology of conspiracy theories can help us build, select, test, and integrate theories of their causes, consequences, and social transmission.

Conspiracy: a coordinated and concealed effort by two or more actors to bring about an outcome

In an effort to illustrate the potential of this approach, we offer a new descriptive analysis of the defining features of conspiracy theories. This analysis is unusual in that the defining features are derived logically from a very small set of axioms defining conspiracies and by specifying which types of conspiracy are the subject matter of conspiracy theories. As we develop this definition, we highlight how it can help understand some of the best-known and most important findings in the literature on conspiracy theories so far. To complement this essentially retrodictive exercise of sketching out an integration of existing findings and theoretical ideas, we then explain how the definition we have offered can organize and motivate further theoretical and empirical insights into conspiracy theories, including the generation of new and testable research hypotheses.

REDEFINING CONSPIRACY THEORIES

A good place to start when we more closely consider what conspiracy theories are is the first term, conspiracy. A conspiracy is a coordinated and concealed effort by two or more actors to bring about an outcome. This definition can be lifted straight out of dictionaries. Coordinated, often secretive behavior fitting this definition is a central feature of human life (van Prooijen & van Vugt 2018). Conspiracies do not have to be malicious nor have historical, social, or political significance. For example, to plan a joyous surprise birthday party with friends is to participate in a conspiracy. This kind of conspiracy holds little interest for scholars who are interested in conspiracy theories that have the power to subvert, divide, and galvanize communities. Thus, following most researchers in the field, we restrict the definition of conspiracy theories to those about certain kinds of conspiracy (e.g., Brotherton et al. 2013, Imhoff & Bruder 2014, Uscinski 2018, Wagner-Egger & Bangerter 2007). This choice is essentially arbitrary, but it is important that it is reasoned and explicit. Researchers have seldom provided an integrated rationale for the definitional criteria they have chosen (cf. Nera & Schöpfer 2022). Their choices often reflect their particular theoretical preferences. For example, researchers who prefer to study or emphasize irrational features of conspiracy theories tend to define them in these terms (e.g., "such beliefs are usually unsubstantiated and implausible"; Brotherton et al. 2013), whereas researchers who study their political motivations may not include rationality or epistemic criteria in their definitions (e.g., as "an explanation of historical, ongoing, or future events that cites as a main causal factor a group of powerful persons, the conspirators, acting in secret for their own benefit against the common good"; Uscinski 2018, p. 235).

Publicness: a feature of conspiracy theories that concern events and phenomena, real or imagined, of public interest that the public do not know about

Oppositional: a feature of conspiracy theories that propose explanations contrary to official narratives

Malevolent or forbidden acts: conspiracy theories typically involve harmful acts that, if known about, would be obstructed

Agentic: a feature of conspiracy theories that ascribes agency to individuals and groups

Epistemically risky: a feature of conspiracy theories that, compared to other kinds of beliefs, are less plausible and less likely to be true

Social construct: a construct communicated among individuals and collectives that can provide the basis of shared identities, realities, goals, and actions

Here, we make a case for considering beliefs to be conspiracy theories only when the alleged conspiracy is of public interest. This entails that publicness (Arendt 1998, Georgiou & Titley 2022) is a crucial defining dimension. Conspiracy theories are represented as belonging to the public. The events they are about are large and general enough to concern the public, who should know about the conspiracy because their interests have been—or could be—affected. Making the conspiracy public knowledge helps to protect public interests by preventing the conspiracy from progressing further, sanctioning the conspirators, and/or correcting the public record (see Tetlock 2002 for an analysis of the social functions of cognition). The claim made implicitly by every conspiracy theory, therefore, is that the wider public should (but do not) know about a conspiracy. Each serious conspiracy theory is in fact bidding to become incorporated in public knowledge.

The public interests at stake in conspiracy theories have been acknowledged in different forms in previous scholarly definitions. For example, some define the events as being socially significant [e.g., a conspiracy theory is "a lay theory about socially significant and negative events (i.e., assassinations, terrorist attacks, etc.), which often implies the intervention of one or more groups acting in secret" (Wagner-Egger & Bangerter 2007, p. 31)]. Others define conspiracy theories as being about complex events involving many people [e.g., they "explain complex world events with reference to secret plots hatched by powerful groups" (Imhoff & Bruder 2014, p. 25)]. We prefer the more general criterion that conspiracy theories are of public interest because it captures various reasons for conspiracy theories to be of public concern. This abstract criterion, as we shall see, also permits the logical derivation of several characteristic features from our core definition of a conspiracy theory as a belief that two or more actors have coordinated in secret to achieve an outcome and that their actions are of public interest but not widely known by the public.

One of the advantages of definitional and descriptive work is, of course, to help us decide which beliefs or statements are the proper subject of conspiracy theory research, and thus to set the limits of our research topic. Beyond this advantage, however, we will argue that the correlates, consequences, and communication of conspiracy theories should depend on features that set them apart from other kinds of beliefs and which vary by degree even within conspiracy theories. In the following pages we therefore expand this definition, illustrate how it can incorporate insights from the conspiracy literature, and then discuss how it can help generate and organize further theoretical progress. We argue that from the core definition of conspiracy theories, we can also deduce that they are oppositional, concern malevolent or forbidden acts, are agentic (i.e., ascribe historical agency to individuals and small groups), are epistemically risky, and are widely shared and potentially generative social constructs (see the sidebar titled Conspiracy Theory).

CONSPIRACY THEORY

A conspiracy theory is a belief that two or more actors have coordinated in secret to achieve an outcome and that their conspiracy is of public interest but not public knowledge. Conspiracy theories (*a*) are oppositional, which means they oppose publicly accepted understandings of events; (*b*) describe malevolent or forbidden acts; (*c*) ascribe agency to individuals and groups rather than to impersonal or systemic forces; (*d*) are epistemically risky, meaning that though they are not necessarily false or implausible, taken collectively they are more prone to falsity than other types of belief; and (*e*) are social constructs that are not merely adopted by individuals but are shared with social objectives in mind, and they have the potential not only to represent and interpret reality but also to fashion new social realities.

Conspiracy Theories Are Oppositional

From the core definition of conspiracy theory as the belief that a conspiracy that the public should know about has been concealed from them, we can logically deduce a key defining characteristic. Conspiracy theories are set up, explicitly or implicitly, in opposition to a publicly accepted version of reality. They imply that a false version of reality has been promoted or protected by the conspirators and their unwitting stooges. Some definitions include a reference to the oppositional nature of conspiracy theories, but they tend to portray them as being opposed to official accounts in particular (e.g., "as authentic alternatives to official explanations"; Denovan et al. 2020, p. 1395). Unfortunately, however, conspiracy theories are all-too-often promulgated by elected leaders and officials, as we saw in the aftermath of the 2020 US presidential election. Indeed, there appear to be several cases of government leaders supporting conspiracy theories (e.g., Hugo Chavez in Venezuela; van der Wal et al. 2018). Thus, we should not disqualify a narrative like the alleged steal of the 2020 US presidential election from being defined as a conspiracy theory because it has been advocated by officials. Though many conspiracy theories will oppose official narratives, we propose that by definition, all conspiracy theories propose competing alternatives to publicly accepted versions of reality—whether officially endorsed or not.

The contention between conspiracy theories and accepted narratives is also moralized. Since the public should know and accept these conspiracy narratives about events and circumstances of public importance, it is morally wrong that they do not. Blame goes of course to the conspirators who conceal their behavior. It may also extend to the media for their complicity and incompetence and to the public who are culpable for their gullibility—their sinful inability and unwillingness to see through the lies that they are being told (Popper 1963). Far from simply valorizing "the people" in some populist fashion, conspiracy theories represent them as sinfully easy to manipulate. This may help explain why belief in conspiracy theories has generally been found to be associated with Machiavellian beliefs that the public are easily fooled (Douglas & Sutton 2011). This moralization of truth, together with conspiracy theories' opposition to accepted versions of reality, entails that conspiracy theories are part of a political battle to decide what people believe and determine the publicly accepted version of truth. This presumably explains why conspiracy adherents frequently identify as "truthers" and proselytize in physical and online channels for their version of reality (Harambam & Aupers 2017, Wood & Douglas 2013).

Conspiracy Theories Describe Malevolent or Forbidden Acts

Another important defining feature of conspiracy theories can be deduced from their publicness. The conspiracies they allege are almost always malevolent—that is, against the public interest. The essential reason for this is that secrecy is necessary to execute the alleged plot and to maintain the deception that may have motivated it. If the plot was discovered and taken seriously by authorities, it would be interrupted. There is some room in this formulation for benign conspiracies. For example, in the QAnon system of conspiracy theories, the agent Q and former US President Donald Trump are part of a plot to neutralize a Satanic cabal of pedophilic Democrats (Enders et al. 2022). Their conspiracy is therefore represented as ultimately benign but it is nonetheless forbidden—as it acts outside of normal legal constraints and against the interests of a so-called Deep State that, if it could, would shut the conspiracy down. In sum, conspiracies that are of public interest need secrecy to succeed, and thus they must in general entail outcomes that are malign, or at least forbidden. This essential feature may help explain why conspiracy beliefs generally seem to be reinforced—and in turn can strengthen—misanthropic views of human nature, pessimism, and anxiety (e.g., Douglas & Sutton 2011; Liekefett et al. 2021).

Conspiracy Theories Ascribe Agency to Individuals and Groups

Conspiracy theories entail that a small group of conspirators has been able to achieve outcomes that are so big and important that the public need to know about them. Thus, believing in conspiracy theories means believing that individuals and small groups have this level of capability. For Popper (1963), this belief that societal events are shaped by a few coordinated actors rather than impersonal and systematic factors is the key to all conspiracy theories. For our purposes, this feature follows logically from our working definition of conspiracy and conspiracy theory.

The ascription of agency has at least two important social-psychological consequences. First, conspiracy theories can exaggerate the capabilities of individuals and groups. Researchers often assume that the power ascribed by conspiracy theories is objectively warranted—as they concern alleged plots by powerful actors (e.g., Bruder et al. 2013, Imhoff & Bruder 2014, Uscinski 2018). This power, however, though it is necessarily ascribed to the actors who are accused by conspiracy theories, is not necessarily held by them in reality. In fact, many conspiracy theories target powerless groups or individuals, such as displaced people from Syria, Afghanistan, and other Muslim-majority countries (Nera et al. 2021). Others assign implausible levels of geo-political and even metaphysical control to numerically small minority groups such as the Jewish people (Kofta et al. 2020) and ascribe fantastical powers to gender and women's rights activists (Marchlewska et al. 2019). This highlights the creative power of conspiracy theories to not just interpret social realities but also envisage alternative realities. Further, since prejudice, discrimination, and intergroup violence are motivated by perceived threats from social outgroups, the ability of conspiracy theories to ascribe power suggests a mechanism by which belief in, or even exposure to, these theories can worsen intergroup relations (Bilewicz et al. 2013, Jolley et al. 2020).

A second consequence of conspiracy theories' ascription of agency to individuals and groups is that they may divert attention away from the inherent design flaws or systemic problems of a society. In turn, this implies that believing in conspiracy theories may not conflict with being satisfied with current social arrangements. For example, there is evidence that conspiracy beliefs and satisfaction with the social status quo increase together in response to threats (Jutzi et al. 2020) and that conspiracy theories may actually bolster satisfaction with social systems whose legitimacy is called into question—principally by blaming their problems on a few bad apples who ruin things with their plots and schemes (Jolley et al. 2018, Mao et al. 2021).

The agency ascribed by conspiracy theories is of a particular kind. Since the actors have to coordinate in secret toward a shared goal, it follows that their actions are intentional and purposive (e.g., Basham 2003). This implies that conspiracies do not happen by accident, and this definitional criterion assumes that conspiracies are not simply the result of impersonal or unconscious processes. This helps us to understand why the intentionality bias—the tendency to perceive agency and intentionality where it is unlikely to exist—predicts the extent to which people endorse conspiracy theories (e.g., Douglas et al. 2016) and how conspiracy belief is associated with teleological thinking—the attribution of purpose and a final cause to natural events and entities (Wagner-Egger et al. 2018).

Conspiracy Theories Are Epistemically Risky

The core features of conspiracy theories make them epistemically risky—that is, inherently prone to being false, compared to beliefs that lack these features. Recall that the alleged plot at the core of any conspiracy theory occurs in secret, protected from public scrutiny. Thus, by definition, there is normally less of an evidential trace of this coordinated action than there would be for (say) the minuted decisions of a public committee meeting. Grimes (2016) has shown that this normative disadvantage of conspiracy theories gets more pronounced as the number of alleged conspirators,

and the time elapsed since the alleged conspiracy, increases. This is a simple consequence of the assumption that in a given period of time, any one of the conspirators could let their secret slip, either by blowing the whistle or by committing some blunder. In addition, conspiracy theories concern plots that are believed to be so important that the public should—but do not—know about them. By definition therefore, they make claims that tend to contradict common wisdom as embodied in public opinion and institutional knowledge. The epistemic risk is aggravated by some of the other corollaries of conspiracy theories' essential features. For example, they make auxiliary assumptions about the gullibility of the public; the extraordinary, unchecked dastardliness and competence of conspirators; and the relative unimportance of impersonal and systemic causes. These normative disadvantages of conspiracy theories are well documented (e.g., Clarke 2006, Sunstein & Vermeule 2009) and baked in.

None of this means that conspiracy theories are necessarily false, or even implausible. Because people do conspire, and we seldom witness the full causal chain leading to events of public interest, some conspiracy theories could in principle turn out to be true. Psychologists and other social scientists do not necessarily have privileged access to relevant evidence, so they are not necessarily in a better position than anyone else to judge the truth or plausibility of conspiracy theories. This makes truth or even plausibility more or less unworkable as a definitional criterion against which any single belief could be evaluated. For similar reasons, researchers working on related topics such as paranoia have abandoned truth or rationality as strict definitional criteria (e.g., Raihani & Bell 2019). We therefore disagree that conspiracy theories must, by definition, be untrue or implausible (e.g., Brotherton et al. 2013, Cassam 2019, Keeley 1999). Our claim instead is that conspiracy theories have features that tend to make them, as a class of beliefs, more prone to falsity. This epistemic riskiness can explain why other risky types of belief, including paranormal beliefs, and cognitive styles that emphasize intuitive appeal over rational analysis are among the strongest predictors of conspiracy belief (Biddlestone et al. 2022, Douglas et al. 2019).

Some further clarifying notes about our definition of conspiracy theories may be useful. Though we do not stipulate that conspiracy theories have to be untrue, we do require the conspiracies they describe to be of public interest but not public knowledge—i.e., that in general the public do not believe that the conspiracy has occurred. This means, for example, that the belief that 9/11 was orchestrated in secret by Al-Qaeda is not a conspiracy theory, because this theory is generally acknowledged by the public. It also means that the belief that the same event was orchestrated by Mossad is indeed a conspiracy theory. Very often, the truth and public knowledge correspond. So the untruth/implausibility criterion leads to much the same decisions on specific conspiracy theories as our public knowledge criterion. Further, we acknowledge that there are downsides to our public knowledge criterion. One of these downsides is that this criterion is fuzzy: How many people, which members of the public, which public institutions, and what degree of conviction are enough to disqualify a belief as a conspiracy theory? However, similar ambiguities surround truth and implausibility. For example, what type of evidence, what strength of evidence, and what criteria for implausibility are sufficient for a belief to be categorized or not as a conspiracy theory? Finally, since so much sensitivity surrounds conspiracy beliefs (e.g., Douglas et al. 2022, Lantian et al. 2018), we believe it is preferable for social scientists to avoid positioning themselves, inadvertently or not, as having a stake in the truth or falsity of conspiracy theories, even less being the arbiters of their truth or falsity. In our experience, many people—whether they reject or embrace conspiracy theories—view conspiracy theory researchers such as ourselves as having a stake in our object of study. This perception, of course, is not necessarily warranted. Researchers can study the causes, consequences, and communication of conspiracy theories, political ideologies, religious beliefs, or almost any attitude regardless of their own position. Since our methods and expertise do not allow us to determine whether conspiracy theories are true or plausible, and since these are

not in any case the questions motivating our research nor even psychological questions, we prefer not to insert truth or plausibility as definitional criteria.

Conspiracy Theories Are Social Constructs

As we have seen, each conspiracy theory is at its heart a moral, even political, claim about what the public should believe as opposed to the falsity they have been hoodwinked into accepting. Conspiracy theories are therefore inherently social not only in their content but also in their purpose: They are beliefs that people share in the hope of achieving social goals. These goals may include righting epistemic wrongs, but as we have seen they may be less altruistic. For example, they may serve a communicator's desire to mobilize hatred of a social group or to portray themselves as a renegade change agent. These motives, not to mention sheer economic profit, are characteristic of "conspiracy entrepreneurs" who generate and spread conspiracy theories for reward (Sunstein & Vermeule 2009). One example is radio show host Alex Jones, who promotes conspiracy theories on his *InfoWars* website on which he also sells products such as food supplements, toothpaste, and bulletproof vests. Conspiracy theories are inherently social in their origin and distribution: Individuals believe in conspiracy theories because they have been exposed to them in interpersonal or mass communication. Most conspiracy theories are endorsed and discussed by hundreds, thousands, or millions of people, making them shared rather than merely private representations. These theories can be endemic within organized conspiracy communities, taking on the quality of collective representations [Durkheim 2001 (1912)].

All in all, therefore, it is deeply misleading to characterize conspiracy theories merely as beliefs that individuals hold. Any psychological account of conspiracy theories must consider their collective nature. Though this seems a contemporary phenomenon associated with the Internet and social media, there is evidence that conspiracy theories have been prominent in public discourse long before the advent of these new technologies (Uscinski & Parent 2014). Until recently, the communicative aspects of conspiracy theories have been largely ignored in psychological research. As a result, etiological theories of conspiracy belief may overemphasize individual-level factors over communicative and socio-structural determinants (Johnson et al. 2020). Seen in this light, theories that give strong emphasis to the mentalistic or dispositional antecedents of belief in conspiracy theories—a case in point being the conspiracy mentality (e.g., Imhoff & Bruder 2014)—are, despite their other strengths, overly individualistic. Individuals' belief in conspiracy theories depends on whether and how they and others in their community have been exposed to these ideas, and what alternative narratives and epistemological resources are available to them and their communities (Goertzel 1994, Sunstein & Vermeule 2009).

Overly individualistic theories of conspiracy belief are also misleading in that they encourage us to characterize the societal impact of conspiracy theories as an aggregate of their impacts on individuals—for example, as a function of the number of people who are persuaded to refuse vaccines, decline to vote, or ignore environmental recommendations. In contrast, conspiracy theories have the potential to directly shape societies. True or not, they concern matters of interest to almost everyone and are immensely communicable. They propose alternative, risky, rather innovative understandings of reality. In so doing they identify—or rather construct—communities of interest. These communities include the perpetrators and the victims of conspiracies as well as distinct epistemic communities, such as those who embrace the conspiracy theory and those who are in the thrall of the falsehood that it opposes. Thus, conspiracy theories contain the seeds of important social categories, which in turn can provide the basis of shared identities, realities, goals, and actions. They do not refer only to individuals but also to communities and can motivate and direct, as we shall see, collective sensemaking and collective action. Thus they do not merely represent social realities but have the potential to create them.

Defining Conspiracy Theories: Summary

Summarizing the above, a comprehensive definition describes a conspiracy theory as

> a belief that two or more actors have coordinated in secret to achieve an outcome, and that their conspiracy is of public interest, but not public knowledge. From these defining features of conspiracy theory, other characteristic features follow logically. Thus, conspiracy theories: (*a*) are oppositional, which means they oppose publicly accepted understandings of events; (*b*) describe malevolent or forbidden acts; (*c*) ascribe agency to individuals and groups rather than impersonal or systemic forces; (*d*) are epistemically risky, meaning that though individual conspiracy theories are not necessarily false or implausible, conspiracy theories taken collectively are more prone to falsity than other types of belief; and (*e*) are social constructs that are not merely adopted by individuals but shared with social objectives in mind, and that have the potential not only to represent and interpret reality but also to fashion new social realities.

Paranoid: a person's thinking that is dominated by suspicious, persecutory, or grandiose thoughts such as being spied on, followed, secretly tested, or plotted against

We have seen how some important ontological and causal properties of conspiracy theories can be inferred from their key properties. We have provided some examples of how some of the most well-known and important findings in the conspiracy theory literature could be explained with recourse to the essential ontological features of these beliefs. However, though promising, this is essentially retrodictive. In the final sections, we turn to the more generative and predictive potential of this approach, outlining how it can contribute to theoretical progress over the coming years.

THE GENERATIVE POTENTIAL OF A DEFINITIONAL, CAUSAL PROPERTIES APPROACH TO CONSPIRACY THEORIES

Differentiating Conspiracy Beliefs from Other Beliefs

The first advantage of the definition of conspiracy beliefs given above is that it can generate new and important hypotheses about what makes conspiracy theories functionally different from other types of belief. This can then motivate research in which conspiracy beliefs are systematically compared and contrasted to other types of belief that lack the same essential characteristics (e.g., in experimental research) or are examined as predictors or dependent measures when those other beliefs are controlled for (e.g., in correlational research). Thus, the defining characteristics of conspiracy theories can be treated as categorical independent variables, allowing conspiracy theories to be differentiated empirically from similar kinds of belief that lack those defining characteristics. For example, conspiracy theories can be compared to similar beliefs in which agents did not bring about events secretly and intentionally but rather openly and negligently. Further, conspiracy theories can be compared to similar beliefs that allege a conspiracy took place but where the conspiracy does not pass a threshold of public interest.

The malevolence of alleged conspiracies is one essential feature that can be identified and manipulated (or measured) as a causal factor. Thus, as has been suggested by previous research, we might expect conspiracy theories to be attractive to paranoid (Darwin et al. 2011) and misanthropic (Abalakina-Paap et al. 1999, Douglas & Sutton 2011) individuals who are inclined to believe in human malevolence. We can expect this appeal to be attenuated when the alleged conspiracies are benign. Thus, we can build testable theories from explicating the essential properties of conspiracy theories and characterizing them as causal properties. Regarding the consequences of conspiracy theories (versus other types of belief), we can predict that beliefs that do not accuse outgroups of malevolent plots are less likely than conspiracy theories to foment intergroup hostility (Jolley et al. 2019, Kofta et al. 2020). Turning to the social communication of conspiracy theories, we can predict that the malevolence of the plots they allege will affect the motivation to share them. Stories about nonconspiracies, or benign conspiracies, will not have the same appeal to communicators who want to justify or profit from intergroup hostility.

In general, studies of conspiracy belief have not sought to differentiate conspiracy theories from other beliefs in this systematic or controlled way. In correlational research, for example, it is rare that correlations between predictor variables and conspiracy beliefs adjust for other (e.g., mainstream or official) beliefs. To our knowledge, not one study has systematically manipulated the presence versus absence of essential features of conspiracy theories. Nor have studies sought to identify which of the key features of conspiracy theories are the active ingredients, or mediators, of their functional differences from other beliefs—for example, whether the malevolence ascribed by conspiracy theories explains why they are more likely than other explanations for social phenomena to foment intergroup hostility. This kind of work is crucial in identifying the unique social-psychological functions of conspiracy theories, and it needs to be informed by an explicit account of their essential causal properties.

Intuitive thinking: reaching decisions quickly based on automatic cognitive processes

Bullshit receptivity: the tendency to perceive meaning in important-sounding nonsense statements

Audience tuning: when communicators adjust the content of their communication according to the characteristics (e.g., personality, attitudes) of their audience

Characterizing Variations Within Conspiracy Theories

A definitional approach can capitalize on many of the essential features of conspiracy theories—for example, their malevolence and epistemic riskiness—being conceivable as continuous but also as binary variables. That is, conspiracy theories can vary from each other by degree according to how strong each of these features is. By measuring or manipulating these variations, we can therefore assess the role of the essential ontological features of conspiracy theories in determining how these beliefs come to be adopted and shared and affect people's attitudes and behavior. In this sense, we can say that the definitional approach contains a general theory that the causal properties of conspiracy theories depend on their basic ontological properties, and from this general theory more specific theories can be generated and tested.

To illustrate, malevolence can vary by degree—for example, in the scale of the harm it is intended to cause. The more malevolent this plot is, the more the acceptance of the conspiracy theory is likely to be dependent on individual differences associated with paranoia and misanthropy, and the more the theory is likely to be shared by speakers who want to create a heightened sense of threat from an outgroup—for example, to normalize prejudice, exploit xenophobia for personal political gain, or galvanize support for intergroup violence (e.g., Kofta et al. 2020). Further, the more malevolent the plot is, the more likely it is to increase perceptions of threat, leading to prejudice, discrimination, and intergroup hostility (e.g., Bilewicz et al. 2013, Jolley et al. 2019). The malevolence of the alleged plot can be manipulated easily, for example, by varying the intensity of the harm being sought by the plotters (e.g., from subtle mind control or moderate disease to infertility and death) and the scale of that harm (e.g., affecting a small community or an entire national or ethnic population).

Another illustrative example of this advantage is in examining the epistemic riskiness of conspiracy theories. The riskier a conspiracy theory is, the more its acceptance should be associated with variables connected to the endorsement of empirically risky ideas in general. These variables include intuitive thinking, lower cognitive ability, and bullshit receptivity (e.g., van Prooijen et al. 2018). Regarding the sharing of conspiracy theories, human communication dynamics such as audience tuning (e.g., Echterhoff et al. 2008, Higgins & Rholes 1978) suggest that people are more likely to share riskier conspiracy theories when communicating with audiences whom they perceive to be less willing or able to use rational, critical thought to interpret the message (Petrocelli 2018). Further, sharing epistemically riskier conspiracy theories is more likely to be stigmatized (Lantian et al. 2018). A hypothetical consequence of the acceptance of empirically riskier conspiracy theories is that, when endorsed, they are likely to contribute to more radical distrust of officials and rejection of their narratives (Einstein & Glick 2015, Jolley & Douglas 2014a).

The degree of epistemic risk can also be experimentally manipulated. All else being equal, for example, conspiracy theories become more epistemically risky as the number of alleged

conspirators and the time elapsed since the conspiracy started increase (Grimes 2016). Similarly, alleged conspiracies become more malevolent as the degree and scale of harm increase. These constituent parameters can thus be manipulated in an objective, quantitative way. In correlational designs, or even in experiments when less control is possible or desired, we can rely on consensual subjective impressions. For example, participants can be asked to indicate how likely the conspiracy theory is to be false (epistemic risk). The same is true, by the way, of other defining features such as malevolence; for example, participants can be asked to evaluate how harmful (or beneficial) the conspirators' intended outcome is.

Organizing and Integrating Insights via Theory Development

Another advantage of the definitional approach, as we have seen, is that it can help integrate and organize theoretical insights across research domains. The antecedents, consequences, and communication of conspiracy theories are typically studied separately, and theories in psychology seldom pay systematic attention to how they may be related (Pierre 2020). Grounding theories in the essential properties of conspiracy theories helps articulate parallels and synergies between these different facets. For example, more epistemically risky conspiracy beliefs will be more strongly associated with nonrational thinking, will be more stigmatizing to share (Lantian et al. 2018), will be shared relatively more often with epistemically vulnerable audiences (e.g., Sunstein & Vermeule 2009), and will cause adherents to be more open to other epistemically risky ideas (van Prooijen et al. 2018). In this way, conceptualizing the essential properties of conspiracy theories as causal properties provides a high-level theoretical framework that can generate predictions about specific effects and about the correlations between those effects.

The definitional approach can help synthesize insights about the antecedents, consequences, and communication of conspiracy theories by providing a unifying guiding reference for research methodology. The definition can provide conceptual criteria by which to evaluate the operationalization of conspiracy beliefs. For example, scales of conspiracy belief can be developed and tested according to explicit definitional criteria, as can manipulations of conspiracy belief, and coding schemes for verbal data can be obtained from interviews or observational studies. In this way, a degree of conceptual as well as methodological coherence is achieved across research on the causes, consequences, and social transmission of conspiracy theories.

Likewise, a definitional approach helps researchers to thematically organize variables that affect their causes, consequences, and social transmission. Specifically, they can be grouped into categories of variables that hypothetically affect these processes by virtue of their functional relation to one of the defining criteria. For example, factors such as low agreeableness (Swami et al. 2011) may relate to the adoption, sharing, and consequences of conspiracy theories because these beliefs are oppositional. Since conspiracy theories concern malevolent and forbidden acts, they may activate psychological factors including pessimism, anxiety, misanthropy, threat, and intergroup hostility (e.g., Liekefett et al. 2021, Kofta et al. 2020). The agentic nature of conspiracy theories is causally relevant to factors such as intentionality bias (Douglas et al. 2016) and control deprivation (van Prooijen & Acker 2015). Since conspiracy theories are epistemically risky, they bring variables such as nonanalytic thinking (Swami et al. 2014) and bullshit receptivity (van Prooijen et al. 2018) into play. That conspiracy theories are social constructs is a little different insofar as it is an emergent property, and we now return to this specific feature in more detail.

Understanding the Power of Conspiracy Theories to Construct Social Reality

Paying greater attention to the defining features of conspiracy theories can help us understand their potential to construct social realities. The publicness of conspiracy theories is a crucial

characteristic that is not explicitly recognized by many psychological accounts of the subject. In the psychological literature, conspiracy theories are typically defined as being merely about events or circumstances that are of public interest in some way. However, they are of public interest in at least two important respects. First, their power to affect people's well-being, rationality, and social and political behaviors makes them of public interest in and of themselves, as the literature we have reviewed shows (e.g., Douglas & Sutton 2018). Second, conspiracy theories propose new truths and imply that the public should know and accept them. This suggests, in keeping with scholarship in other disciplines, that conspiracy theories can inform public knowledge and shape culture—like, for example, they may have shaped the American culture of individualism and distrust of government (Knight 2003). In the remainder of this section we focus on the capacity of conspiracy theories to construct new social realities.

Underneath the particular claims of each conspiracy theory, there lie important and general constructions. Each conspiracy theory, by definition, suggests a group or community of perpetrators, the directly involved conspirators and those whose interests they serve, versus a community of victims—those who are harmed by the alleged conspiracy. This is not the only moralized distinction constructed by conspiracy theories. They also construct a community of believers in the conspiracy versus the populace who are not aware of it (Popper 1963; see also Nera & Schöpfer 2022). In this way, conspiracy theories construct not only a version of events but also social groups, comprising those of the perpetrators versus their victims and the enlightened versus the ignorant.

An extensive research tradition shows that social identities like these are the basis of shared realities, goals, and actions (Hogg & Rinella 2018). An obvious manifestation of this is the rise of vociferous anti-vaccine, flat-earth, and truther communities, bound together by a strongly epistemic identity and motivated to proselytize (e.g., Wood & Douglas 2013). The agency that conspiracy theories ascribe is crucial here. The harms these theories allege are planned by agents who are assigned a degree of sociopolitical power that they may not possess. Thus, a malevolent, often exaggerated, power is conferred on religious and ethnic minorities and migrant communities, constructing them as a larger-than-life threats and justifying distrust, hostility, exclusion, and even violence (Marchlewska et al. 2019, Nera et al. 2021).

This social construction of reality does not require that sharers of conspiracy theories privately endorse the claims they are making. As we have seen, politicians, activists, and vested industry figures can promote conspiracy theories to protect their own interests, sow doubt, or cultivate a following (Oreskes & Conway 2010; see also the conspiracy entrepreneurs we discussed earlier). In general, the social communication of information does not depend on the faithful copying of concepts in so-called M-L-M-L communication chains (where M stands for the content of communicators' memory and L for the language they use to transmit the information). Motivated communicators can create new information through a range of strategies ranging from subtle tuning to audience expectations to outright deception (Holtgraves & Kashima 2008). Conspiracy theories have a particularly creative power because they are both public and epistemically risky—by their nature, they deviate from accepted understandings of reality. This makes them appear highly informative, engaging, or even entertaining, and if accepted, they can shift perceptions of reality further than more moderate propositions.

Psychologists have only recently begun to study the communication of conspiracy theories and their power to construct information. Deriving predictions from the defining features of conspiracy theories can help generate and organize research on this new frontier. For example, the agency and malevolence that conspiracy theories ascribe to perpetrator groups suggest that exposure to conspiracy theories causes those groups to be evaluated as more powerful and threatening (see Marchlewska et al. 2019, Nera et al. 2021). In turn, the level of intergroup hostility inspired by conspiracy theories should depend on the magnitude and deliberate malevolence of the alleged

conspiracy. Exposure to conspiracy theories that allege harm to an ingroup should increase identification, and especially insecure forms of identification, with that group (see Cichocka et al. 2016).

CONCLUDING REMARKS

In recent years, conspiracy theories have become an important topic of research in psychological science. Research has yielded important advances in our understanding of the correlates, consequences, and communication of conspiracy belief. In this article, we reviewed this literature and argued that further theoretical and empirical advances are made possible by focusing more attention on the essential features of conspiracy theories and on their causal and explanatory power. We have proposed an inventory of those features grounded in an explicit and reasoned definition of conspiracy theories. Some aspects of our characterization are certainly disputable and differ from other definitions (e.g., Imhoff & Bruder 2014, Nera & Schöpfer 2022, Wagner-Egger & Bangerter 2007). Nevertheless, having a reasoned and explicit definition of the essential properties of conspiracy theories can move research and theory forward. We have illustrated how a new framework about the generation and organization of research insights grounded in this definition can move the literature forward. Specifically, it can facilitate research progress by guiding research methodology. It can help generate new and important hypotheses about what makes conspiracy theories different from other phenomena. It allows us to examine the role of essential features of conspiracy theories in determining why people adopt them, why they share them, and how they influence people's attitudes and behaviors.

Our analysis also calls attention to the inherently social and creative nature of conspiracy theories. It may help explain why, for example, political figures use conspiracy theories about religious, ethnic, political, or national outgroups to try to stoke fears and galvanize ingroup support, why these conspiracy theories heighten prejudice and threat perceptions, and why they resonate with people who already feel chronically threatened and powerless.

These are crucial questions in the turbulent times of the twenty-first century, because conspiracy theories not only reflect but also shape our times. In our previous work (Douglas et al. 2017) we have argued that conspiracy theories may promise to address the troubles and frustrations in the lives of individuals but ultimately fail to do so. The analysis of conspiracy theories we have advanced in this article suggests that something analogous may be said about the collective. Conspiracy theories have a creative, world-making potential, and if anything may make the world in their own image—a world in which trust and benevolence are in short supply, evidence cannot be trusted, social groups have few interests in common, and power is concentrated in the hands of a few. Left unchecked and unchallenged, conspiracy theories threaten to become self-fulfilling prophecies.

SUMMARY POINTS

1. We review the empirical psychological literature on the antecedents, consequences, and communication of conspiracy theories, highlighting the abundance of research but also its disorganization.
2. We propose a definition of conspiracy theories based on some of their inherent characteristics.
3. In our definition, we focus on the key defining feature of publicness, in that conspiracy theories concern events and phenomena that the public do not (but should) know about.

4. Conspiracy theories also have in common that they are agentic, involve malevolent or forbidden acts, are epistemically risky, are oppositional, and are social constructs.
5. We propose a metatheoretical framework that allows us to generate hypotheses about the antecedents, consequences, and communication of conspiracy theories based on these defining characteristics.
6. We argue that this new framework can move forward the literature on the psychology of conspiracy theories.

DISCLOSURE STATEMENT

The authors are not aware of any affiliations, memberships, funding, or financial holdings that might be perceived as affecting the objectivity of this review.

ACKNOWLEDGMENTS

K.M.D. acknowledges the support of the European Research Council Advanced Grant "Consequences of conspiracy theories—CONSPIRACY_FX" (number 101018262) in the preparation of this article. The authors thank Daniel Toribio-Flórez for his help with referencing.

LITERATURE CITED

Abalakina-Paap M, Stephan WG, Craig T, Gregory WL. 1999. Beliefs in conspiracies. *Political Psychol.* 20(3):637–47

Adam-Troian J, Wagner-Egger P, Motyl M, Arciszewski T, Imhoff R, et al. 2021. Investigating the links between cultural values and belief in conspiracy theories: the key roles of collectivism and masculinity. *Political Psychol.* 42(4):597–618

Ardèvol-Abreu A, Gil de Zúñiga H, Gámez E. 2020. The influence of conspiracy beliefs on conventional and unconventional forms of political participation: the mediating role of political efficacy. *Br. J. Soc. Psychol.* 59(2):549–69

Arendt H. 1998. *The Human Condition*. Chicago: Univ. Chicago Press. 2nd ed.

Basham L. 2003. Malevolent global conspiracy. *J. Soc. Philos.* 34(1):91–103

Bertin P, Nera K, Delouvée S. 2020. Conspiracy beliefs, rejection of vaccination, and support for hydroxychloroquine: a conceptual replication-extension in the COVID-19 pandemic context. *Front. Psychol.* 11:565128

Bessi A, Coletto M, Davidescu GA, Scala A, Caldarelli G, Quattrociocchi W. 2015. Science versus conspiracy: collective narratives in the age of misinformation. *PLOS ONE* 10(2):e0118093

Biddlestone M, Green R, Cichocka A, Douglas KM, Sutton RM. 2022. A systematic review and meta-analytic synthesis of the motives associated with conspiracy beliefs. PsyArXiv, April 8. **https://doi.org/10.31234/osf.io/rxjqc**

Biddlestone M, Green R, Cichocka A, Sutton RM, Douglas KM. 2021. Conspiracy beliefs and the individual, relational, and collective selves. *Soc. Pers. Psychol. Compass* 15(10):e12639

Biddlestone M, Green R, Douglas KM. 2020. Cultural orientation, power, belief in conspiracy theories, and intentions to reduce the spread of COVID-19. *Br. J. Soc. Psychol.* 59(3):663–73

Bierwiaczonek K, Gundersen AB, Kunst JR. 2022. The role of conspiracy beliefs for COVID-19 health responses: a meta-analysis. *Curr. Opin. Psychol.* 46:101346

Bilewicz M, Winiewski M, Kofta M, Wójcik A. 2013. Harmful ideas, the structure and consequences of anti-Semitic beliefs in Poland. *Political Psychol.* 34(6):821–39

Brotherton R, French CC. 2014. Belief in conspiracy theories and susceptibility to the conjunction fallacy. *Appl. Cogn. Psychol.* 28(2):238–48

Brotherton R, French CC, Pickering AD. 2013. Measuring belief in conspiracy theories: the generic conspiracist beliefs scale. *Front. Psychol.* 4. **https://doi.org/10.3389/fpsyg.2013.00279**

Bruder M, Haffke P, Neave N, Nouripanah N, Imhoff R. 2013. Measuring individual differences in generic beliefs in conspiracy theories across cultures: conspiracy mentality questionnaire. *Front. Psychol.* 4. **https://doi.org/10.3389/fpsyg.2013.00225**

Butler LD, Koopman C, Zimbardo PG. 1995. The psychological impact of viewing the film "JFK": emotions, beliefs, and political behavioral intentions. *Political Psychol.* 16(2):237–57

Cassam Q. 2019. *Conspiracy Theories*. Cambridge, UK: Polity

Chayinska M, Ulug OM, Ayanian AH, Gratzel JC, Brik T, et al. 2022. Coronavirus conspiracy beliefs and distrust of science predict risky public health behaviors through optimistically biased risk perceptions in Ukraine, Turkey, and Germany. *Group Process. Intergroup Relat.* 25(6):1616–34

Cichocka A, Marchlewska M, Golec de Zavala A, Olechowski M. 2016. "They will not control us": ingroup positivity and belief in intergroup conspiracies. *Br. J. Psychol.* 107(3):556–76

Claassen RL, Ensley MJ. 2016. Motivated reasoning and yard-sign-stealing partisans: Mine is a likable rogue, yours is a degenerate criminal. *Political Behav.* 38(2):317–35

Clarke S. 2006. *Conspiracy Theories and Conspiracy Theorizing*. London: Routledge

Coady D. 2018. *Conspiracy Theories: The Philosophical Debate*. London: Routledge

Craciun C, Baban A. 2012. "Who will take the blame?": understanding the reasons why Romanian mothers decline HPV vaccination for their daughters. *Vaccine* 30(48):6789–93

Craft S, Ashley S, Maksl A. 2017. News media literacy and conspiracy theory endorsement. *Commun. Public* 2(4):388–401

Crocker J, Luhtanen R, Broadnax S, Blaine BE. 1999. Belief in U.S. government conspiracies against blacks among black and white college students: powerlessness or system blame? *Pers. Soc. Psychol. Bull.* 25(8):941–53

Darwin H, Neave N, Holmes J. 2011. Belief in conspiracy theories. the role of paranormal belief, paranoid ideation and schizotypy. *Pers. Individ. Differ.* 50(8):1289–93

deHaven-Smith L, ed. 2013. *Conspiracy Theory in America*. Austin: Univ. Texas Press

Del Vicario M, Bessi A, Zollo F, Petroni F, Scala A, et al. 2016. The spreading of misinformation online. *PNAS* 113(3):554–59

Denovan A, Dagnall N, Drinkwater K, Parker A, Neave N. 2020. Conspiracist beliefs, intuitive thinking, and schizotypal facets: a further evaluation. *Appl. Cogn. Psychol.* 34(6):1394–405

Dentith MRX. 2016. When inferring to a conspiracy might be the best explanation. *Soc. Epistem.* 30(5–6):572–91

DeWitt D, Atkinson M, Wegner D. 2018. How conspiracy theories spread. In *Conspiracy Theories and the People Who Believe Them*, ed. JE Uscinski, pp. 319–34. Oxford, UK: Oxford Univ. Press

Douglas KM. 2021. Are conspiracy theories harmless? *Span. J. Psychol.* 24:e13

Douglas KM, Sutton RM. 2011. Does it take one to know one? Endorsement of conspiracy theories is influenced by personal willingness to conspire. *Br. J. Soc. Psychol.* 50(3):544–52

Douglas KM, Sutton RM. 2015. Climate change: why the conspiracy theories are dangerous. *Bull. Atomic Sci.* 71(2):98–106

Douglas KM, Sutton RM. 2018. Why conspiracy theories matter: a social psychological analysis. *Eur. Rev. Soc. Psychol.* 29(1):256–98

Douglas KM, Sutton RM, Callan MJ, Dawtry RJ, Harvey AJ. 2016. Someone is pulling the strings: hypersensitive agency detection and belief in conspiracy theories. *Think. Reason.* 22(1):57–77

Douglas KM, Sutton RM, Cichocka A. 2017. The psychology of conspiracy theories. *Curr. Dir. Psychol. Sci.* 26(6):538–42

Douglas KM, Uscinski JE, Sutton RM, Cichocka A, Nefes T, et al. 2019. Understanding conspiracy theories. *Political Psychol.* 40(S1):3–35

Douglas KM, van Prooijen JW, Sutton RM. 2022. Is the label "conspiracy theory" a cause or a consequence of disbelief in alternative narratives? *Br. J. Psychol.* 113(3):575–90

Durkheim E. 2001 (1912). *The Elementary Forms of Religious Life*. Oxford, UK: Oxford Univ. Press

Dyrendal A, Kennair LEO, Bendixen M. 2021. Predictors of belief in conspiracy theory: the role of individual differences in schizotypal traits, paranormal beliefs, social dominance orientation, right wing authoritarianism and conspiracy mentality. *Pers. Individ. Differ.* 173:110645

Echterhoff G, Higgins ET, Kopietz R, Groll S. 2008. How communication goals determine when audience tuning biases memory. *J. Exp. Psychol. Gen.* 137(1):3–21

Edelson J, Alduncin A, Krewson C, Sieja JA, Uscinski JE. 2017. The effect of conspiratorial thinking and motivated reasoning on belief in election fraud. *Political Res. Q.* 70(4):9330946

Einstein KL, Glick DM. 2015. Do I think BLS data are BS? The consequences of conspiracy theories. *Political Behav.* 37(3):679–701

Enders AM, Smallpage SM. 2018. Polls, plots, and party politics: conspiracy theories in contemporary America. In *Conspiracy Theories and the People Who Believe Them*, ed. JE Uscinski, pp. 298–318. Oxford, UK: Oxford Univ. Press

Enders AM, Uscinski JE, Klofstad CA, Wuchty S, Seelig MI, et al. 2022. Who supports QAnon? A case study in political extremism. *J. Politics* 84(3):1844–49

Franks B, Bangerter A, Bauer MW, Hall M, Noort MC. 2017. Beyond "monologicality"? Exploring conspiracist worldviews. *Front. Psychol.* 8:861

Freeman D, Bentall RP. 2017. The concomitants of conspiracy concerns. *Soc. Psychiatry Psychiatr. Epidemiol.* 52(5):595–604

Freeman D, Waite F, Rosebrock L, Petit A, Causier C, et al. 2022. Coronavirus conspiracy beliefs, mistrust, and compliance with government guidelines in England. *Psychol. Med.* 52(2):251–63

Georgiou M, Titley G. 2022. Publicness and commoning: pandemic intersections and collective visions at times of crisis. *Int. J. Cult. Stud.* 25(3–4):331–48

Goertzel T. 1994. Belief in conspiracy theories. *Political Psychol.* 15(4):731–42

Golec de Zavala A, Cichocka A. 2012. Collective narcissism and anti-Semitism in Poland. *Group Process. Intergroup Relat.* 15(2):213–29

Grebe E, Nattrass N. 2012. AIDS conspiracy beliefs and unsafe sex in Cape Town. *AIDS Behav.* 16(3):761–73

Green R, Douglas KM. 2018. Anxious attachment and belief in conspiracy theories. *Pers. Individ. Differ.* 125:30–37

Green R, Toribio-Flórez D, Douglas KM, Brunkow J, Sutton RM. 2023. Making an impression: the effects of sharing conspiracy theories. *J. Exp. Soc. Psychol.* 104:104398

Grimes DR. 2016. On the viability of conspiratorial beliefs. *PLOS ONE* 11(3):e0151003

Grzesiak-Feldman M. 2013. The effect of high-anxiety situations on conspiracy thinking. *Curr. Psychol.* 32(1):100–18

Harambam J, Aupers S. 2017. "I am not a conspiracy theorist": relational identifications in the Dutch conspiracy milieu. *Cult. Sociol.* 11(1):113–29

Hart J, Graether M. 2018. Something's going on here: psychological predictors of belief in conspiracy theories. *J. Individ. Differ.* 39(4):229–37

Higgins ET, Rholes WS. 1978. "Saying is believing": effects of message modification on memory and liking for the person described. *J. Exp. Soc. Psychol.* 14(4):363–78

Hogg MA, Rinella MJ. 2018. Social identities and shared realities. *Curr. Opin. Psychol.* 23:6–10

Holtgraves TM, Kashima Y. 2008. Language, meaning, and social cognition. *Pers. Soc. Psychol. Rev.* 12(1):73–94

Hsieh C-L, Goldsmith JA, Schaub JM, Divenere AM, Kuo H-C, et al. 2020. Structure-based design of perfusion-stabilized SARS-CoV-2 spikes. *Science* 369(6510):1501–5

Imhoff R, Bertlich T, Frenken M. 2022a. Tearing apart the "evil" twins: A general conspiracy mentality is not the same as specific conspiracy beliefs. *Curr. Opin. Psychol.* 46:101349

Imhoff R, Bruder M. 2014. Speaking (un-)truth to power: conspiracy mentality as a generalised political attitude. *Eur. J. Pers.* 28(1):25–43

Imhoff R, Zimmer F, Klein O, António JHC, Babinska M, et al. 2022b. Conspiracy mentality and political orientation across 26 countries. *Nat. Hum. Behav.* 6(3):392–403

Johnson NF, Velásquez N, Restrepo NJ, Leahy R, Gabriel N, et al. 2020. The online competition between pro- and anti-vaccination views. *Nature* 582(7811):230–33

Jolley D, Douglas KM. 2014a. The effects of anti-vaccine conspiracy theories on vaccination intentions. *PLOS ONE* 9(2):e89177

Jolley D, Douglas KM. 2014b. The social consequences of conspiracism: Exposure to conspiracy theories decreases intentions to engage in politics and to reduce one's carbon footprint. *Br. J. Psychol.* 105(1):35–56
Jolley D, Douglas KM, Leite AC, Schrader T. 2019. Belief in conspiracy theories and intentions to engage in everyday crime. *Br. J. Soc. Psychol.* 58(3):534–49
Jolley D, Douglas KM, Marchlewska M, Cichocka A, Sutton RM. 2022. Examining the links between conspiracy beliefs and the EU "Brexit" referendum vote in the UK: evidence from a two-wave survey. *J. Appl. Soc. Psychol.* 52(1):30–36
Jolley D, Douglas KM, Sutton RM. 2018. Blaming a few bad apples to save a threatened barrel: the system-justifying function of conspiracy theories. *Political Psychol.* 39(2):465–78
Jolley D, Meleady R, Douglas KM. 2020. Exposure to intergroup conspiracy theories promotes prejudice which spreads across groups. *Br. J. Psychol.* 111(1):17–35
Jolley D, Paterson JL. 2020. Pylons ablaze: examining the role of 5G COVID-19 conspiracy beliefs and support for violence. *Br. J. Soc. Psychol.* 59(3):628–40
Jutzi CA, Willardt R, Schmid PC, Jonas E. 2020. Between conspiracy beliefs, ingroup bias, and system justification: how people use defense strategies to cope with the threat of Covid-19. *Front. Psychol.* 11:578586
Keeley BL. 1999. Of conspiracy theories. *J. Philos.* 96(3):109–26
Klein O, van der Linden N, Pantazi M, Kissine M. 2015. Behind the screen conspirators: paranoid social cognition in an online age. In *The Psychology of Conspiracy*, ed. M Bilewicz, A Cichocka, W Soral, pp. 162–82. London: Routledge
Knight P, ed. 2003. *Conspiracy Theories in American History: An Encyclopedia*. Santa Barbara, CA: ABC-CLIO
Kofta M, Soral W, Bilewicz M. 2020. What breeds conspiracy antisemitism? The role of political uncontrollability and uncertainty in the belief in Jewish conspiracy. *J. Pers. Soc. Psychol.* 118(5):900–18
Kunda Z. 1990. The case for motivated reasoning. *Psychol. Bull.* 108(3):480–98
Lamberty P, Imhoff R. 2018. Powerful pharma and its marginalized alternatives? Effects of individual differences in conspiracy mentality on attitudes toward medical approaches. *Soc. Psychol.* 49(5):255–70
Lantian A, Muller D, Nurra C, Douglas KM. 2017. "I know things they don't know!": the role of need for uniqueness in belief in conspiracy theories. *Soc. Psychol.* 48(3):160–73
Lantian A, Muller D, Nurra C, Klein O, Berjot S, Pantazi M. 2018. Stigmatized beliefs: conspiracy theories, anticipated negative evaluation of the self, and fear of social exclusion. *Eur. J. Soc. Psychol.* 48(7):939–54
Lee BJ. 2017. "It's not paranoia when they are really out to get you": the role of conspiracy theories in the context of heightened security. *Behav. Sci. Terror. Political Aggress.* 9(1):4–20
Lewandowsky S, Gignac GE, Oberauer K. 2013. The role of conspiracist ideation and worldviews in predicting rejection of science. *PLOS ONE* 8(10):e75637
Liekefett L, Christ O, Becker JC. 2021. Can conspiracy beliefs be beneficial? Longitudinal linkages between conspiracy beliefs, anxiety, uncertainty aversion, and existential threat. *Pers. Soc. Psychol. Bull.* In press. **https://doi.org/10.1177/01461672211060965**
Lyons B, Merola V, Reifler J. 2019. Not just asking questions: effects of implicit and explicit conspiracy information about vaccines and genetic modification. *Health Commun.* 34(14):1741–50
Mao J-Y, van Prooijen J-W, Yang S-L, Guo Y-Y. 2021. System threat during a pandemic: how conspiracy theories help to justify the system. *J. Pac. Rim Psychol.* 15:183449092110570
Marchlewska M, Cichocka A, Kossowska M. 2018. Addicted to answers: need for cognitive closure and the endorsement of conspiracy beliefs. *Eur. J. Soc. Psychol.* 48(2):109–17
Marchlewska M, Cichocka A, Łozowski F, Górska P, Winiewski M. 2019. In search of an imaginary enemy: Catholic collective narcissism and the endorsement of gender conspiracy beliefs. *J. Soc. Psychol.* 159(6):766–79
Marchlewska M, Green R, Cichocka A, Molenda Z, Douglas KM. 2022. From bad to worse: Avoidance coping with stress increases conspiracy beliefs. *Br. J. Soc. Psychol.* 61(2):532–49
Mari S, Volpato C, Papastamou S, Chryssochoou X, Prodromitis G, Pavlopoulos V. 2017. How political orientation and vulnerability shape representations of the economic crisis in Greece and Italy. *Int. Rev. Soc. Psychol.* 30(1):52–67
McClosky H, Chong D. 1985. Similarities and differences between left-wing and right-wing radicals. *Br. J. Political Sci.* 15(3):329–63

McHoskey JW. 1995. Case closed? On the John F. Kennedy assassination: biased assimilation of evidence and attitude polarization. *Basic Appl. Soc. Psychol.* 17(3):395–409
Metaxas P, Finn S. 2017. *The infamous "Pizzagate" conspiracy theory: insights from a TwitterTrails investigation*. Work. Pap., Wellesley Coll., Wellesley, MA
Natoli EE, Marques MD. 2021. The antidepressant hoax: Conspiracy theories decrease health-seeking intentions. *Br. J. Soc. Psychol.* 60(3):902–23
Nefes TS. 2017. The impacts of the Turkish government's conspiratorial framing of the Gezi Park protests. *Soc. Mov. Stud.* 16(5):610–22
Nera K, Leveaux S, Klein PPLE. 2020. A "conspiracy theory" conspiracy? A mixed methods investigation of laypeople's rejection (and acceptance) of a controversial label. *Int. Rev. Soc. Psychol.* 33(1):13
Nera K, Schöpfer C. 2022. What is so special about conspiracy theories? Conceptually distinguishing beliefs in conspiracy theories from conspiracy beliefs in psychological research. PsyArXiv, April 18. **https://doi.org/10.31234/osf.io/t8fhj**
Nera K, Wagner-Egger P, Bertin P, Douglas KM, Klein O. 2021. A power-challenging theory of society, or a conservative mindset? Upward and downward conspiracy theories as ideologically distinct beliefs. *Eur. J. Soc. Psychol.* 51(4–5):740–57
Oliver JE, Wood T. 2014. Medical conspiracy theories and health behaviors in the United States. *JAMA Intern. Med.* 174(5):817–18
Oreskes N, Conway E. 2010. Defeating the merchants of doubt. *Nature* 465:686–87
Petrocelli JV. 2018. Antecedents of bullshitting. *J. Exp. Soc. Psychol.* 76:249–58
Pierre JM. 2020. Mistrust and misinformation: a two-component, socio-epistemic model of belief in conspiracy theories. *J. Soc. Political Psychol.* 8(2):617–41
Popper KR. 1963. *Conjectures and Refutations: The Growth of Scientific Knowledge*. London: Routledge
Pummerer L, Böhm R, Lilleholt L, Winter K, Zettler I, Sassenberg K. 2022. Conspiracy theories and their societal effects during the COVID-19 pandemic. *Soc. Psychol. Pers. Sci.* 13(1):49–59
Raihani NJ, Bell V. 2019. An evolutionary perspective on paranoia. *Nat. Hum. Behav.* 3(2):114–21
Romer D, Jamieson KH. 2020. Conspiracy theories as barriers to controlling the spread of COVID-19 in the U.S. *Soc. Sci. Med.* 263:113356
Rottweiler B, Gill P. 2022. Conspiracy beliefs and violent extremist intentions: the contingent effects of self-efficacy, self-control and law-related morality. *Terror. Political Violence* 34(7):1485–504
Rutjens BT, Heine SJ, Sutton RM, van Harreveld F. 2018. Attitudes towards science. *Adv. Exp. Soc. Psychol.* 57:125–65
Sapountzis A, Condor S. 2013. Conspiracy accounts as intergroup theories: challenging dominant understandings of social power and political legitimacy. *Political Psychol.* 34(5):732–52
Shoemaker S. 1980. Causality and properties. In *Time and Cause*, Vol. 19, ed. P van Inwagen, pp. 109–30. Dordrecht, Ger.: Springer
Smallpage SM, Enders AM, Uscinski JE. 2017. The partisan contours of conspiracy theory beliefs. *Res. Politics* 4(4):205316801774655
Steel DP. 2007. *Across the Boundaries: Extrapolation in Biology and Social Science*. Oxford, UK: Oxford Univ. Press
Sternisko A, Cichocka A, Van Bavel JJ. 2020. The dark side of social movements: social identity, non-conformity, and the lure of conspiracy theories. *Curr. Opin. Psychol.* 35:1–6
Stojanov A, Bering JM, Halberstadt J. 2020. Does perceived lack of control lead to conspiracy theory beliefs? Findings from an online MTurk sample. *PLOS ONE* 15(8):e0237771
Sunstein CR, Vermeule A. 2009. Conspiracy theories: causes and cures. *J. Political Philos.* 17(2):202–27
Sutton RM, Douglas KM. 2014. Examining the monological nature of conspiracy theories. In *Power, Politics, and Paranoia: Why People Are Suspicious About Their Leaders*, ed. J-W van Prooijen, PAM van Lange, pp. 254–72. Cambridge, UK: Cambridge Univ. Press
Sutton RM, Douglas KM. 2020. Conspiracy theories and the conspiracy mindset: implications for political ideology. *Curr. Opin. Behav. Sci.* 34:118–22
Sutton RM, Douglas KM. 2022. Agreeing to disagree: Reports of the popularity of Covid-19 conspiracy theories are greatly exaggerated. *Psychol. Med.* 52:791–93
Swami V. 2012. Social psychological origins of conspiracy theories: the case of the Jewish conspiracy theory in Malaysia. *Front. Psychol.* 3. **https://doi.org/10.3389/fpsyg.2012.00280**

Swami V, Coles R. 2010. The truth is out there: belief in conspiracy theories. *Psychologist* 23(7):560–63
Swami V, Coles R, Stieger S, Pietschnig J, Furnham A, et al. 2011. Conspiracist ideation in Britain and Austria: evidence of a monological belief system and associations between individual psychological differences and real-world and fictitious conspiracy theories. *Br. J. Psychol.* 102(3):443–63
Swami V, Furnham A, Smyth N, Weis L, Lay A, et al. 2016. Putting the stress on conspiracy theories: examining associations between psychological stress, anxiety, and belief in conspiracy theories. *Pers. Individ. Differ.* 99:72–76
Swami V, Voracek M, Stieger S, Tran US, Furnham A. 2014. Analytic thinking reduces belief in conspiracy theories. *Cognition* 133(3):572–85
Tetlock PE. 2002. Social functionalist frameworks for judgment and choice: intuitive politicians, theologians, and prosecutors. *Psychol. Rev.* 109(3):451–71
Thorburn S, Bogart LM. 2005. Conspiracy beliefs about birth control: barriers to pregnancy prevention among African Americans of reproductive age. *Health Educ. Behav.* 32(4):474–87
Uscinski JE. 2018. The study of conspiracy theories. *Argumenta* 3(2):233–45
Uscinski JE, Douglas K, Lewandowsky S. 2017. Climate change conspiracy theories. In *Oxford Research Encyclopedia of Climate Science*. Oxford, UK: Oxford Univ. Press
Uscinski JE, Parent JM. 2014. *American Conspiracy Theories*. Oxford, UK: Oxford Univ. Press
van der Linden S. 2015. The conspiracy-effect: exposure to conspiracy theories (about global warming) decreases pro-social behavior and science acceptance. *Pers. Individ. Differ.* 87:171–73
van der Linden S, Panagopoulos C, Azevedo F, Jost JT. 2021. The paranoid style in American politics revisited: an ideological asymmetry in conspiratorial thinking. *Political Psychol.* 42(1):23–51
van der Wal RC, Sutton RM, Lange J, Braga JPN. 2018. Suspicious binds: conspiracy thinking and tenuous perceptions of causal connections between co-occurring and spuriously correlated events. *Eur. J. Soc. Psychol.* 48(7):970–89
van Mulukom V, Pummerer LJ, Alper S, Bai H, Čavojová V, et al. 2022. Antecedents and consequences of COVID-19 conspiracy beliefs: a systematic review. *Soc. Sci. Med.* 301:114912
van Prooijen J-W, Acker M. 2015. The influence of control on belief in conspiracy theories: conceptual and applied extensions: control and conspiracy belief. *Appl. Cogn. Psychol.* 29(5):753–61
van Prooijen J-W, Douglas KM. 2017. Conspiracy theories as part of history: the role of societal crisis situations. *Mem. Stud.* 10(3):323–33
van Prooijen J-W, Douglas KM, De Inocencio C. 2018. Connecting the dots: Illusory pattern perception predicts belief in conspiracies and the supernatural. *Eur. J. Soc. Psychol.* 48(3):320–35
van Prooijen J-W, Jostmann NB. 2013. Belief in conspiracy theories: the influence of uncertainty and perceived morality. *Eur. J. Soc. Psychol.* 43(1):109–15
van Prooijen J-W, van Vugt M. 2018. Conspiracy theories: evolved functions and psychological mechanisms. *Perspect. Psychol. Sci.* 13(6):770–88
Wagner-Egger P, Bangerter A. 2007. The truth lies elsewhere: correlates of belief in conspiracy theories. *Rev. Int. Psychol. Soc.* 20(4):31–61
Wagner-Egger P, Delouvée S, Gauvrit N, Dieguez S. 2018. Creationism and conspiracism share a common teleological bias. *Curr. Biol.* 28(16):R867–68
Wang C, Liu Z, Chen Z, Xu M, He T, Zhang Z. 2020. The establishment of reference sequence for SARS-CoV-2 and variation analysis. *J. Med. Virol.* 92(6):667–74
Whitson JA, Galinsky AD. 2008. Lacking control increases illusory pattern perception. *Science* 322(5898):115–17
Wilson MS, Rose C. 2014. The role of paranoia in a dual-process motivational model of conspiracy beliefs. In *Power, Politics, and Paranoia: Why People Are Suspicious of Their Leaders*, ed. J-W Prooijen, PAM van Lange, pp. 273–91. Cambridge, UK: Cambridge Univ. Press
Wood C, Finlay WML. 2008. British National Party representations of Muslims in the month after the London bombings: homogeneity, threat, and the conspiracy tradition. *Br. J. Soc. Psychol.* 47(4):707–26
Wood MJ. 2016. Some dare call it conspiracy: Labeling something a conspiracy does not reduce belief in it. *Political Psychol.* 37(5):695–705
Wood MJ, Douglas KM. 2013. "What about building 7?": a social psychological study of online discussion of 9/11 conspiracy theories. *Front. Psychol.* 4:409

Zajenkowski M, Gorniak J, Wojnarowski K, Sobol M, Jonason PK. 2022. I need some answers now! Present time perspective is associated with holding conspiracy beliefs. *Pers. Individ. Differ.* 196:111723

Zollo F, Novak PK, Del Vicario M, Bessi A, Mozetič I, et al. 2015. Emotional dynamics in the age of misinformation. *PLOS ONE* 10(9):e0138740

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Am. Psychol. Assoc. 2021. "Speaking of psychology": why people believe in conspiracy theories. Retrieved from **https://www.apa.org/news/podcasts/speaking-of-psychology/conspiracy-theories**. Podcast including a discussion with Karen M. Douglas on the psychology of conspiracy theories.

Bilewicz M, Cichocka A, Soral W, eds. 2015. *The Psychology of Conspiracy*. London: Routledge. A collection of chapters from conspiracy theory researchers in psychology, specifically focusing on quantitative empirical findings.

Brotherton R. 2015. *Suspicious Minds: Why We Believe Conspiracy Theories*. London: Bloomsbury. Popular science and accessible introduction to the psychology of conspiracy theories.

Butter M, Knight P, eds. 2021. *Routledge Handbook of Conspiracy Theories*. London: Routledge. A collection of chapters from conspiracy theory researchers across the social sciences and humanities, exploring the psychological, political, historical and cultural aspects of conspiracy theories.

COMPACT (Comparative Analysis of Conspiracy Theories): **https://conspiracytheories.eu**. Website highlighting the activities of an interdisciplinary network of scholars working on conspiracy theories, including links to researcher profiles, publications, and educational resources.

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