

An Existential Threat Model of Conspiracy Theories

Jan-Willem van Prooijen

VU Amsterdam / The NSCR

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European Psychologist

Address correspondence to Jan-Willem van Prooijen, Department of Experimental and Applied Psychology, VU Amsterdam, Van der Boechorststraat 7, 1081BT Amsterdam, the Netherlands. Email: j.w.van.prooijen@vu.nl

Abstract

People endorse conspiracy theories particularly when they experience existential threat, that is, feelings of anxiety or uncertainty often because of distressing societal events. At the same time, such feelings also often lead people to support groups frequently implicated in conspiracy theories (e.g., the government). The present contribution aims to resolve this paradox by proposing an Existential Threat Model of Conspiracy Theories, which stipulates under what conditions existential threat does versus does not stimulate conspiracy theories. The model specifically illuminates that feelings of existential threat increase epistemic sense-making processes, which in turn stimulate conspiracy theories only when antagonistic outgroups are salient. Moreover, once formed conspiracy theories are not functional to reduce feelings of existential threat; instead, conspiracy theories can be a source of existential threat in itself, stimulating further conspiracy theorizing and contributing to a generalized conspiracist mindset. In the discussion, I discuss implications of the model, and illuminate how one may base interventions on the model that breaks this cyclical process and reduces conspiracy beliefs.

Keywords: Conspiracy theories; Existential Threat; Epistemic Sense-making Processes; Antagonistic Outgroups

An Existential Threat Model of Conspiracy Theories

The Internet and social media are full of conspiracy theories, including climate change conspiracy theories, anti-vaccine conspiracy theories, flat-earth conspiracy theories, and many others. Conspiracy theories are explanatory beliefs assuming that a group of actors meets in secret to attain some evil goal (Van Prooijen, 2018). While some conspiracy theories turn out to be true (e.g., Watergate), surprisingly large numbers of citizens believe rather implausible conspiracy theories (Oliver & Wood, 2014). Furthermore, conspiracy theories are not exclusive to our modern digital age. In previous decades many citizens also believed conspiracy theories, such as JFK conspiracy theories, anti-communist conspiracy theories (e.g., McCarthyism), and anti-Semitic conspiracy theories (e.g., during WWII). Conspiracy theories were common in Medieval times (e.g., Witch-hunts; Jewish conspiracy theories), and are common among members of traditional societies, who for instance often believe that enemy tribe members secretly commit sorcery to harm them (Van Prooijen & Douglas, 2018; West & Sanders, 2003). A tendency to be suspicious that others form secret and hostile conspiracies may be an inborn feature of human psychology (Van Prooijen & Van Vugt, 2018).

One pertinent finding in empirical research is that people endorse conspiracy theories particularly when they experience existential threat. I define existential threat here as feelings of anxiety or uncertainty, often because of distressing events that call one's values, one's way of life, or even one's existence into question. As such, existential threat is a composite term for a broad spectrum of everyday anxieties and insecurities that people feel when they, or the people around them, experience harm or expect to suffer losses. Conspiracy theories indeed surge particularly following distressing societal events that elicit existential threat among many citizens, such as terrorist strikes, revolutions, fires, floods, economic crises, wars, and rapid societal change (e.g., Pipes, 1997; Van Prooijen & Douglas, 2017). At the same time,

existential threat does not lead to conspiracy theories all the time, or among all citizens. For instance, the 9/11 terrorist strikes inspired many conspiracy theories (e.g., the 9/11 truth movement), but at the same time, George W. Bush enjoyed historically high public approval ratings in the months after this event. Consistently, empirical research suggests that threats to control can increase belief in conspiracy theories about the government (Van Prooijen & Acker, 2015), yet at the same time, threats to control may increase people's support for that same government (Kay, Gaucher, Napier, Callan, & Laurin, 2008).

The present contribution seeks to resolve this paradox by developing a theoretical model that illuminates when and how existential threat increases belief in conspiracy theories. In the scientific study of conspiracy theories, there is a paucity of theoretical models to integrate previous findings and enable novel predictions (Van Prooijen & Douglas, 2018). Here, I propose an existential threat model of conspiracy theories, displayed graphically in Figure 1. This model articulates that existential threat is at the root of conspiracy theories by increasing people's motivation to make sense of their social and physical environment. These sense-making processes, however, only lead to conspiracy theories when an antagonistic outgroup is salient. Put differently, conspiracy theories emerge if a despised outgroup is salient when people try to make sense of the world following distressing events. This outgroup may be high in power (e.g., politicians; CEOs) or low in power (e.g., ethnic minority groups); what matters is that perceivers mentally construe the suspected conspirators as an entitative outgroup that is not to be trusted, and different from "us" (e.g., regular citizens; employees). In the following, I introduce the model in more detail.

An Existential Threat Model of Conspiracy Theories

The three core factors in the model to predict conspiracy beliefs—existential threat, sense-making processes, and an antagonistic outgroup—closely correspond to the assertion that conspiracy beliefs are rooted in three types of motives. Specifically, Douglas, Sutton, and

Cichočka (2017) proposed that people believe conspiracy theories for existential, epistemic, or social motives. The Existential Threat Model of Conspiracy Theories expands on this perspective by proposing that these motives are not independent, but influence each other in a specific causal order. Feelings of existential threat increase epistemic sense-making processes, subsequently leading to conspiracy theories; moreover, social motives moderate these effects by determining if these feelings make people more suspicious of the covert actions of a despised outgroup (cf. scapegoating). Sometimes the antagonistic outgroup can also be a source of existential threat itself, such as in the case of ideological conflict (e.g., Democrats vs. Republicans; Uscinski & Parent, 2014) or violent intergroup conflict (Pipes, 1997)—but also in these situations, the three motives underlying conspiracy theories are not independent, but instead interrelated in a specific causal order.

Furthermore, The Existential Threat Model expands the Adaptive Conspiracism Hypothesis, which illuminates the distal, evolutionary origins and functions of the human tendency to believe conspiracy theories (Van Prooijen & Van Vugt, 2018). The Adaptive Conspiracism Hypothesis proposes that ancient hunter-gatherers evolved an adaptive tendency to be suspicious of hostile coalitions or outgroups, to protect against the frequent and realistic dangers of lethal intergroup conflict in an ancestral environment. In this evolutionary process, both antagonistic outgroups, as well as socio-ecological threat cues that increase the likelihood of intergroup conflict (e.g., floods; fires), are important antecedents of the human tendency to believe conspiracy theories. The Adaptive Conspiracism Hypothesis does not specify the proximate psychological processes through which these factors interact to increase conspiracy theories, however, and the present model seeks to fill this void.

In the following, I discuss the evidence for the various components of the model by (a) focusing on the effects of existential threat on sense-making processes and conspiracy theories, and (b) illuminating the moderating role of antagonistic outgroups in these

processes. Furthermore, I propose that once formed, conspiracy theories are not functional to sooth feelings of existential threat, but instead often exacerbate such feelings, and may contribute to a general mindset that explains distressing events in the world through conspiracy theories (i.e., conspiracy mentality).

Existential threat, Sense-making, and Conspiracy Theories

The core of the model is that feelings of existential threat increases mental sense-making processes, which subsequently stimulate belief in conspiracy theories. This idea originates from the assumption that existential threat elicits a vigilant reaction in organisms to pay careful attention to the imminent physical or social environment. These sense-making processes are part of an inborn threat-management system that enables organisms to cope with existential threats in a functional manner. By quickly identifying the nature of the threat, people are able to take appropriate action in time, thus effectively protecting themselves and kin from harm (Neuberg, Kenrick, & Schaller, 2013). Sense-making processes can be defined as cognitive attempts to establish straightforward, meaningful, and causal relationships between stimuli. Several psychological theories proposed that people have a fundamental need to recognize these expected relationships, as this enhances the extent to which people experience their environment as predictable. For instance, the Meaning Making Model articulates that existential threats stimulate a fluid compensation process in which people seek to reestablish a sense of meaning by identifying clear and coherent relationships between stimuli (Heine, Proulx, & Vohs, 2006).

Conspiracy theories satisfy these sense-making motivations by providing perceivers with the idea that they understand the root causes of feelings of existential threat. For instance, conspiracy theories offer perceivers a straightforward and meaningful narrative to understand the complex dynamics often involved in societal crisis situations, by attributing such events entirely to the actions of an all-evil conspiracy (Abalakina-Paap, Stephan, Craig,

& Gregory, 1999; Hofstadter, 1966). Furthermore, conspiracy theories offer the coherent relationships that are at the root of meaning making. Specifically, any belief needs to contain a number of critical ingredients before qualifying as conspiracy theory, and two of these ingredients are patterns and agency (Van Prooijen, 2018; Van Prooijen & Van Vugt, 2018). *Patterns* means that conspiracy theories always assume specific causal relationships between physical stimuli, events, and actors. For instance, one may perceive causal links between a disease epidemic, the quality of tap water, and assumed hostile intentions of governmental officials, laying the foundations for a conspiracy theory of how governmental officials poisoned the water supply to cause the epidemic. *Agency* means that conspiracy theories always make assumptions of intentionality or purpose. If one believes a technological malfunction caused a plane crash, this is in and of itself not a conspiracy theory. But if one additionally believes that a group of actors deliberately tampered with the engine to cause the malfunction, it is a conspiracy theory. By perceiving patterns and agency, conspiracy theories offer perceivers an explanatory framework to make sense of the world when experiencing feelings of existential threat.

Four predictions follow from this line of reasoning. Specifically, (1) Existential threat activates epistemic sense-making processes; (2) Existential threat predicts increased belief in conspiracy theories; (3) Sense-making processes predict increased belief in conspiracy theories; and (4) Sense-making processes mediate the effects of existential threat on conspiracy theories. Below, I review the evidence for each prediction.

Existential threat and sense-making processes. The core idea that existential threat activates sense-making processes is consistent with a range of well-established theories and findings across psychology. For instance, Park (2010) found that stressful life events (e.g., illness; disaster) stimulate a coping process by which people make sense of such events through specific appraisals, but also by searching for global meaning through for instance

spirituality, justice, and religion. These sense-making processes may contribute to mental health and resilience in the face of adversity. Wiseman and Watt (2006) focused on paranormal beliefs and superstition as sense-making processes, and noted that such beliefs make perceivers experience an uncertain future as more predictable. Finally, sense-making is an essential part of human being's predicament to cope with the most basic existential challenges of life such as the certainty of death, and the unpredictability of the future (Greenberg, Koole, & Pyszczynski, 2004).

The effects of existential threat on sense-making can also be observed in political attitudes and choices. For instance, feelings of uncertainty stimulate a preference for rigid and radical leaders, who offer simple (and therefore understandable) solutions for complex problems (Hogg, Meehan, & Farquharson, 2010). Relatedly, existential threat has stimulated extremist political movements across the 20th century (Midlarsky, 2011), and promotes political extremism among regular citizens (Van Prooijen & Krouwel, 2018). These insights suggest that existential threat promotes political views that offer perceivers epistemic clarity by reducing a complex reality into a coherent set of assumptions about the world (see also Burke, Kosloff, & Landau, 2013).

Various specific empirical findings are relevant for the current purposes by revealing effects of existential threat on the specific sense-making processes that are involved in conspiracy theories. Notably, existential threat increases the extent to which people perceive patterns in random stimuli. For instance, Whitson and Galinsky (2008) found that threats to control increases illusory pattern perception, as reflected not only in conspiracy theories but also in seeing images in noisy picture, seeing illusory correlations in random stock market information, and increased superstition. Likewise, threats to control make people rely more strongly on horoscopes, to the extent that these horoscopes help them better understand themselves or others (Wang, Whitson, & Menon, 2012). Furthermore, manipulations of

attitudinal ambivalence—and unpleasant experience related to uncertainty—shape illusory pattern perception in a snowy pictures task (Van Harreveld, Rutjens, Schneider, Nohlen, & Keskinis, 2014).

Likewise, existential threat predicts an increased tendency to detect agency, that is, to perceive events as caused by intentional or purposeful agents. Agency detection is at the root of not only conspiracy theories but also many religious beliefs, by assuming the existence of agentic, moralizing gods. Feelings of uncertainty and fear, however, increase people's belief in such agentic gods (Kay et al., 2008). Moreover, feelings of awe reduce people's tolerance for uncertainty, which in turn increases agency detection (Valdesolo & Graham, 2014). Taken together, the evidence reveals that existential threat increases people's tendency to endorse simplified models of reality, to perceive causal relations between stimuli that are not necessarily related in reality (pattern perception) and to perceive events as caused by purposeful agents (agency detection).

Existential threat and conspiracy theories. One of the core propositions of the model is that impactful and anxiety-provoking societal events stimulate belief in conspiracy theories. These events can be incidental (e.g., a terrorist strike) or more continuous (e.g., an economic crisis), and moreover they can be real (e.g., climate change) or merely in the eyes of the perceiver (e.g., the belief that vaccines damage people's health, for instance by causing autism). The feelings of anxiety and uncertainty that emerge due to such events often stimulate belief in conspiracy theories. As with other cognitions and beliefs, once formed such conspiracy theories may subsequently become a stable and integral part of a perceiver's understanding of the world due to the epistemic processes of 'seizing' and 'freezing' (Kruglanski & Webster, 1996), even when the initial feelings of anxiety and uncertainty have long dissipated. For instance, historical events such as the JFK assassination and the 9/11 terrorist strikes have stimulated widespread conspiracy theories; but even though these events

took place decades ago, large groups of citizens currently still endorse these theories with high confidence, and transmit them to others (Van Prooijen & Douglas, 2017).

Empirical research supports a causal effect of existential threat on belief in conspiracy theories. One stream of research investigated the influence of consequential versus inconsequential threatening societal events. Scenario studies revealed that people believe conspiracy theories more strongly if the assassination of a president leads to a war than if it does not lead to a war (LeBoeuf & Norton, 2012). Furthermore, studies examined people's responses to scenarios where an African opposition leader died in a car crash, or miraculously survived the car crash. Participants believed more strongly that a conspiracy sabotaged the car if the opposition leader died as opposed to survived the crash (Van Prooijen & Van Dijk, 2014). In sum, threatening and consequential societal events lead to stronger conspiracy belief than relatively inconsequential societal events.

Also studies experimentally manipulating the emotions underlying existential threat support an effect on conspiracy beliefs. Various studies found that inducing a lack of control increases belief in conspiracy theories (Van Prooijen & Acker, 2015; Whitson & Galinsky, 2008), and leads people to ascribe exaggerated influence to their enemies (Sullivan, Landau, & Rothschild, 2010). Furthermore, inducing emotions that reflect uncertainty about the world increases belief in conspiracy theories (Whitson, Galinsky, & Kay, 2015; see also Van Prooijen & Jostmann, 2013), and people believe conspiracy theories more strongly following an experimentally induced threat to the status quo (Jolley, Douglas, & Sutton, 2018). Finally, attitudinal ambivalence increases feelings of anxiety and uncertainty, which in turn predicts belief in conspiracy theories (Van Harreveld et al., 2014).

A range of correlational findings are consistent with these experimental findings, revealing relationships between belief in conspiracy theories and feelings of powerlessness (Abalakina-Paap et al., 1999), negative emotions (Grzesiak-Feldman, 2013; Van Prooijen &

Acker, 2015), death-related anxiety (Newheiser, Farias, & Tausch, 2011), and perceived system identity threat, that is, the belief that society's core values are changing (Federico, Williams, & Vitriol, 2018). Furthermore, conspiracy beliefs predict political attitudes commonly associated with feelings of existential threat, including political extremism (Van Prooijen, Krouwel, & Pollet, 2015) and populism (Silva, Vegetti, & Littvay, 2017).

Furthermore, deprived life circumstances in general are associated with increased belief in conspiracy theories. For instance, low education reliably predicts increased belief in conspiracy theories, which is mediated not only by decreased analytic thinking skills but also by feelings of powerlessness (Van Prooijen, 2017). Furthermore, conspiracy theories are more common among marginalized minority group members than among majority group members in a society, due to a tendency to blame their groups' actual problems (e.g., poverty, reduced opportunities) on discrimination (Crocker, Luhtanen, Broadnax, & Blaine, 1999). Minority members even believe conspiracy theories more strongly that are unrelated to their deprived life circumstances, due to a general belief that the societal system is rigged (e.g., belief in the cover-up of evidence for the existence of UFOs; Van Prooijen, Staman, & Krouwel, 2018). In sum, empirical evidence reveals that distressing societal events, feelings of anxiety and uncertainty, and deprived life circumstances reliably predict conspiracy beliefs.

Sense-making processes and conspiracy theories. The essence of sense-making is subjective attempts to understand reality by perceiving causal relationships, meaning, and purpose (e.g., Heine et al., 2006; Greenberg et al., 2004; Park, 2010). Conspiracy theories contribute to such sense-making by offering explanations of why distressing events occurred, through a set of explicit assumptions of patterns and agency. In doing so, conspiracy theories often make a complex reality more understandable by assuming that an all-evil group (i.e., the conspiracy) is solely responsible for any harm that has occurred (Hofstadter, 1966). This simplifying property of conspiracy theories contains a paradox, as many conspiracy theories

are based on a relatively complex list of assumptions (e.g., 9/11 truth conspiracy theories). Empirical evidence reveals, however, that analytic thinking *reduces* conspiracy beliefs; intuitive thinking instead predicts *increased* conspiracy belief (Swami, Voracek, Stieger, Tran, & Furnham, 2014; see also Ståhl & van Prooijen, 2018). Likewise, conspiracy beliefs are positively related with a tendency to perceive simple solutions for complex problems (Van Prooijen, 2017; Van Prooijen et al., 2015), and with other manifestations of people's sense-making efforts including paranormal beliefs, superstition, belief in pseudoscience, and spirituality (e.g., Darwin, Neave, & Holmes, 2011; Newheiser et al., 2011).

Various studies investigated the underlying process that pattern perception and agency detection predict conspiracy beliefs. Van Prooijen, Douglas, and De Inocencio (2018) found that perceiving patterns in random coin toss outcomes and in chaotic abstract paintings, as well as a general tendency to believe that world events do not occur through coincidence, are related with conspiracy beliefs. Furthermore, Wagner-Egger, Delouvé, Dieguez, and Gauvrit (2018) found that conspiracy beliefs are related with teleological thinking, defined as “the attribution of purpose and a final cause to natural events and entities” (p. R867). Finally, various studies found relationships between conspiracy beliefs and agency detection indicators, including anthropomorphism and a tendency to perceive agency in moving geometric figures (Douglas et al., 2016; Imhoff & Bruder, 2014).

A limitation of this part of the model is a relative paucity of causal evidence. One recent study directly tested the proposed causal effect in an experimental design, however (Van der Wal, Sutton, Lange, & Braga, 2018; Study 4). This study specifically manipulated the core features of pattern perception by varying whether harmful events (e.g., a mayor's illness) co-occurred with similar recent events, and whether the described events were causally interconnected. Results revealed that perceiving clusters of similar events elicited stronger conspiracy theories than perceiving events in isolation; moreover, perceiving causal

connections between events independently stimulated stronger conspiracy theories than not perceiving causal connections between events. This study illuminates that the core elements of pattern perception—notably perceiving co-occurrences that are no coincidence—causally shape people's belief in conspiracy theories.

Sense-making as Mediator. A final proposition of this part of the model is that sense-making mediates the effects of existential threat on belief in conspiracy theories. Although the empirical evidence is somewhat indirect at this point, various studies offer evidence that is consistent with this mediating process. Correlational studies reveal that the relationship between political attitudes associated with existential threat (i.e., political extremism) and conspiracy theories is mediated by a belief in simple solutions for complex problems (Van Prooijen et al., 2015). Likewise, the relationship of conspiracy beliefs with low education levels—which may reflect deprived life circumstances—is mediated by an increased tendency to detect agency where none exists (Douglas et al., 2016) and by a tendency to perceive simple solutions for complex problems (Van Prooijen, 2017).

One study manipulated whether or not participants read about a conspiracy theory of the NSA surveillance program (Van Prooijen et al., 2018; Study 5), and as will be argued later, a conspiracy theory can be a source of existential threat in itself, generating belief in other conspiracy theories. Results indeed revealed that as compared with the control condition, exposure to an NSA conspiracy theory increased belief in conceptually unrelated conspiracy theories (e.g., about Ebola being made by humans). Of importance, this relationship was mediated by an increased tendency among participants to see patterns in world events. Finally, in one study participants read how an African political activist died of food poisoning, and the study manipulated perspective-taking to vary participants' emotional involvement in the event (Van Prooijen & Van Dijk, 2014; Study 5). Participants who felt emotionally involved believed conspiracy theories more strongly (i.e., beliefs that the activist

was poisoned deliberately), and this effect was mediated by participants' sense-making motivation. These findings are consistent with the notion that sense-making processes mediate the link between existential threat and conspiracy beliefs.

Antagonistic Outgroups

The Existential Threat Model predicts that the processes articulated above only stimulate conspiracy beliefs in combination with one additional critical ingredient: A salient antagonistic outgroup that promotes conspiratorial suspicions during sense-making processes (Van Prooijen & Van Vugt, 2018). Without a salient antagonistic outgroup, the sense-making processes following feelings of existential threat may lead people to find meaning in belief systems such as religiosity, spirituality, political ideology, and support for the status quo (e.g., Hogg et al., 2010; Kay et al., 2008; Park, 2010; Van Prooijen & Krouwel, 2018). When an antagonistic outgroup is salient, however, these sense-making processes are likely to translate into beliefs that accuse members of this outgroup of secretly conspiring. For instance, the 9/11 terrorist strikes elicited conspiracy theories mostly among Democrats, who were more likely to blame the event on an inside job of the Republican administration that was in office at the time (Oliver & Wood, 2014; see also Uscinski & Parent, 2014). Likewise, information about climate change elicits conspiracy theories mostly among Republicans, who often interpret this information as a hoax by Democratic scientists and policy-makers (Van der Linden, 2015).

Of course, groups are subjective social-psychological constructions, and sometimes one may wonder to what extent people consider the actors involved in common conspiracy theories as an "outgroup". For instance, citizens often endorse conspiracy theories about the government of their *own* country. Citizens are likely to differ, however, in whether or not they mentally construe their nation's government as part of their ingroup, or instead as a powerful outgroup. Findings reveal, for instance, that particularly citizens who feel alienated from their government endorse conspiracy theories (Abalakina-Paap et al., 1999; Goertzel, 1994).

Relatedly, populist movements typically construe their nation's government as part of "the corrupt elites" who oppose "the noble people", and therefore these movements often endorse strong conspiracy theories (Müller, 2016). This suggests that governmental conspiracy theories emerge particularly among citizens who mentally construe their own government as an antagonistic outgroup within society.

Previous research and theorizing suggest that conspiracy beliefs are associated with two complementary types of social motives, which are to uphold a strong ingroup identity, and to protect a valued ingroup against a hostile outgroup (Douglas et al., 2017; Van Prooijen & Van Lange, 2014; Van Prooijen & Douglas, 2018). Both these social motives are functional in the context of intergroup conflict, however, and increase the salience of antagonistic outgroups. For instance, collective narcissism is a tendency to perceive an ingroup as superior, reflecting a strong ingroup identity. Perceiving an ingroup as superior implies perceiving outgroups as inferior, however, leading people to more easily perceive salient outgroups as antagonistic. Consistently, collective narcissism predicts belief in conspiracy theories about different nations, minority groups, and competing political parties (Cichocka, Marchlewska, Golec de Zavala, & Olechowski, 2016; Golec de Zavala & Federico, 2018). Other individual difference variables that predict hostile intergroup perceptions—notably authoritarianism and social dominance orientation—also are associated with belief in conspiracy theories (Abalakina-Paap et al., 1999; Imhoff & Bruder, 2014; Swami, 2012).

It should be noted that, sometimes, an antagonistic outgroup can be a direct source of existential threat. For instance, in a war an enemy group directly threatens the existence of one's ingroup, and indeed, conspiracy theories about the enemy are common in wartime (Pipes, 1997). Furthermore, during an election campaign opposing political parties directly threaten one's core values, stimulating conspiracy theories (Golec de Zavala & Federico, 2018). Conspiracy theories are particularly common among members of political parties that

lose an election, yielding conspiracy theories that for instance accuse the winning party of foul play (Uscinski & Parent, 2014). In such cases, the links between existential threat, antagonistic outgroups, and conspiracy theories can be relatively straightforward, as these variables all involve a specific threat caused by a specific outgroup. In many cases, however, distressing events are not explicitly linked with a specific outgroup (e.g., an economic crisis; a natural disaster). In such cases, the model stipulates that the salience of an antagonistic outgroup acts as a moderator of the relationship between existential threat and conspiracy theories.

Various studies support this hypothesized moderating process. One experiment among Indonesian citizens found that conspiracy theories—about how Western countries organized terrorist strikes in Indonesia—were stronger following information describing the West as threatening as opposed to non-threatening to Muslims. This effect only occurred among participants whose Muslim identity was made salient, facilitating the extent to which participants indeed construed the West as an antagonistic outgroup (Mashuri & Zaduqisti, 2015). Relatedly, feelings of uncertainty about the self predicts conspiracy theories, but only among participants who experience inclusion in a social group (Van Prooijen, 2016). Furthermore, a distressing societal event (i.e., the death of an African politician) increases conspiracy theories only among people who emotionally and cognitively align themselves with the victimized group (i.e., the citizens of the deceased politician's country; Van Prooijen & Van Dijk, 2014).

While the above evidence pertains to a relatively indirect indicator of intergroup conflict—that is, a strong ingroup identity—other studies more directly varied the salience of antagonistic outgroups. Notably, Van Prooijen and Jostmann (2013) first manipulated uncertainty, after which they provided information that a salient target group (e.g., a foreign government) was either moral or immoral. Their results suggested that uncertainty increased

conspiracy theories about the target group only when it was immoral. Another study focused on the need for cognitive closure, that is, the extent to which people are tolerant of uncertainty. This measure predicted conspiracy theories of societal crises only when explanations blaming the event on the covert activities of antagonistic outgroups were made salient (Marchlewska, Cichocka, & Kossowska, 2018). In sum, social cues that increase the salience of antagonistic outgroup enhance the likelihood that the sense-making processes caused by feelings of existential threat produce conspiracy theories.

Conspiracy Theories as a Source of Existential Threat

Being the result of basic sense-making processes, conspiracy beliefs are a form of coping with existential threat. Does this imply that conspiracy theories help perceivers to reduce fear and uncertainty? In some situations, believing that powerful enemies caused negative events may be less frightening than believing that events happened randomly (Sullivan et al., 2010). Quite often, however, conspiracy theories only exacerbate feelings of uncertainty and fear (Douglas et al., 2017). Put differently, believing in the existence of powerful, evil, and secret conspiracies can cause feelings of existential threat, triggering belief in more conspiracy theories. These observations are consistent with the Adaptive Conspiracism Hypothesis (Van Prooijen & Van Vugt, 2018), which proposes that in the evolution of our species conspiracy theories have been adaptive not to reduce fear, but rather, to *instill* fear and anger in perceivers. In an ancestral environment where people regularly faced the realistic danger of hostile coalitions colluding in secret, it would be dysfunctional to respond to a suspected conspiracy with indifference or even reassurance. Instead, the functional (and often life-saving) response would be either fear-based (e.g., protect against the conspiracy by migrating to a safer environment) or anger-based (e.g., protect against the conspiracy by committing a pre-emptive strike).

Empirical evidence is consistent with the notion that a conspiracy theory can be a

source of existential threat in itself. For instance, anti-vaccines conspiracy theories increase a fear-based motivation to protect against the suspected harm, leading to lowered vaccination intentions (Jolley & Douglas, 2014). Furthermore, conspiracy theories have been associated with hostility (e.g., Abalakina-Paap et al., 1999), and contribute to the violent tendencies of extremist fringe groups (Bartlett & Miller, 2010). Conspiracy theories hence elicit fear and anger in perceivers, suggesting that they perpetuate and exacerbate feelings of existential threat. Conspiracy theories may therefore lead to further conspiracy theorizing. Empirical evidence indeed reveals that the single best predictor of belief in one conspiracy theory is belief in a different conspiracy theory (e.g., Abalakina-Paap et al., 1999; Goertzel, 1994). Due to the cyclical feedback loop described by the model, conspiracy theories may contribute to a generalized conspiracy mentality, that is, a mindset that habitually perceives conspiracies as responsible for major events in the world (Imhoff & Bruder, 2014).

Discussion and Conclusion

The scientific study of conspiracy theories has been emerging in recent years, yet, the field is lacking solid theoretical models that integrate previous empirical findings and allow for novel predictions (Van Prooijen & Douglas, 2018). The model presented here addresses the questions how feelings of existential threat increases conspiracy theories, and why such feelings do not predict conspiracy theories in all situations. Furthermore, the model extends previous theorizing by specifying that the existential, epistemic, and social motives underlying conspiracy theories (Douglas et al., 2017) are not independent, but instead are all part of one specific causal process. Finally, the model extends the Adaptive Conspiracism Hypothesis (Van Prooijen & Van Vugt, 2018) by articulating how antagonistic outgroups and existential threats interact to produce conspiracy theories.

Empirical research thus far supports the model articulated here. Yet, more experimental and longitudinal research needs to test all the hypothesized causal chains in the

model. Moreover, future research may specify important nuances to the model that, based on the current state of the literature, are yet impossible to establish with confidence. For instance, the model only addresses actual beliefs in conspiracy theories, and no other forms of conspiracy endorsement (e.g., strategic spreading of conspiracy theories for political gain). Furthermore, people can consider many events threatening, some imminently dangerous (e.g., a natural disaster), some spread out over a longer time (e.g., an economic crisis), and some perhaps shocking but not necessarily detrimental to one's own well-being (e.g., the unexpected death of a celebrity). While all of these events have been part of conspiracy theories, at present there is no hard evidence establishing that they influence conspiracy theories through identical processes.

The processes articulated here have substantial implications for society, and enable policy-makers to predict the likelihood and shape of conspiracy theories after threatening societal events. For this purpose, it is important to recognize the sometimes subtle and complex history, power dynamics, and sentiments between subgroups in society. For instance, distressing societal events are likely to stimulate governmental conspiracy theories among citizens who do not feel represented by that government (cf. Abalakina-Paap et al., 1999; Uscinski & Parent, 2014). Similarly, distressing events may stimulate conspiracy theories about minority groups (e.g., Muslims) among politically right-wing citizens, and about powerful companies among politically left-wing citizens (cf. Van Prooijen et al., 2015). Moreover, opposing political groups may blame each other of conspiring (Oliver & Wood, 2014), and ethnic minority group members may believe in conspiracies that involve members of the dominant majority group in society (Crocker et al., 1999; Goertzel, 1994; Van Prooijen et al., 2018). What matters is what specific societal groups citizens perceive as antagonistic outgroups, which are salient when experiencing feelings of existential threat.

Furthermore, the model supposes that belief in conspiracy theories is a cyclical and

mutually reinforcing process: Once formed, one conspiracy theory fuels further feelings of existential threat, stimulating more conspiracy theories (Abalakina-Paap et al., 1999; Goertzel, 1994). Yet, the model also gives clues how to design interventions to break this cycle and reduce conspiracy theories. Indeed, interventions may target each of the four variables in the model. For instance, one may try to mitigate feelings of existential threat among citizens. Research indeed suggests that while lacking control increases conspiracy beliefs, increasing feelings of control *reduces* conspiracy beliefs (Van Prooijen & Acker, 2015). Likewise, one may target the shape of the sense-making processes underlying conspiracy theories. While conspiracy theories are rooted in a desire to understand and simplify complex events (Hofstadter, 1966), evidence suggests that providing people with good education, and good analytic thinking skills, decreases their tendency to simplify reality and therefore their belief in conspiracy theories (Douglas et al., 2016; Swami et al., 2014; Van Prooijen, 2017). Furthermore, it has been speculated that well-known interventions to reduce intergroup conflict—such as stimulating contact between subgroups in society (e.g., a politician getting out of parliament to talk with angry citizens)—may mitigate conspiracy theories by reducing psychological tensions between societal subgroups (Van Prooijen & Douglas, 2018). Finally, one may try to directly change conspiracy beliefs, and thus break the cycle described in the model. Research suggests that rationally refuting specific conspiracy theories, or ridiculing them, can reduce belief in them (Orosz et al., 2016).

One should note that actually implementing such interventions is likely to run into a range of practical problems not captured by the model. For instance, some groups of citizens may easily perceive a governmental campaign to reduce conspiracy theories as part of a cover-up, and might therefore backfire. Furthermore, while interventions can be effective among relatively moderate citizens—who believe conspiracy theories but are also open to being persuaded otherwise—these interventions may not be particularly effective among

citizens who are deeply invested in the idea that the world is run by evil conspiracies (and who for instance are active on conspiracist websites). These practical issues notwithstanding, the model articulated here provides a starting point for policy-makers to develop interventions that are grounded in empirical research.

To conclude, belief in conspiracy theories originate from feelings of existential threat, which stimulates sense-making processes. The salience of antagonistic outgroups moderates these effects, explaining under what circumstances the sense-making processes following feelings of existential threat do and do not lead to conspiracy beliefs. These insights may not only resolve the paradox that feelings of existential threat sometimes stimulate support for the government (Kay et al., 2008), but may also explain why conspiracy theories are prevalent across times and cultures, as the variables central to conspiracy theorizing have been inherent to the human condition for millennia (Van Prooijen & Van Vugt, 2018). The model presented here may hence provide a solid theoretical basis to facilitate the empirical study of conspiracy theories.

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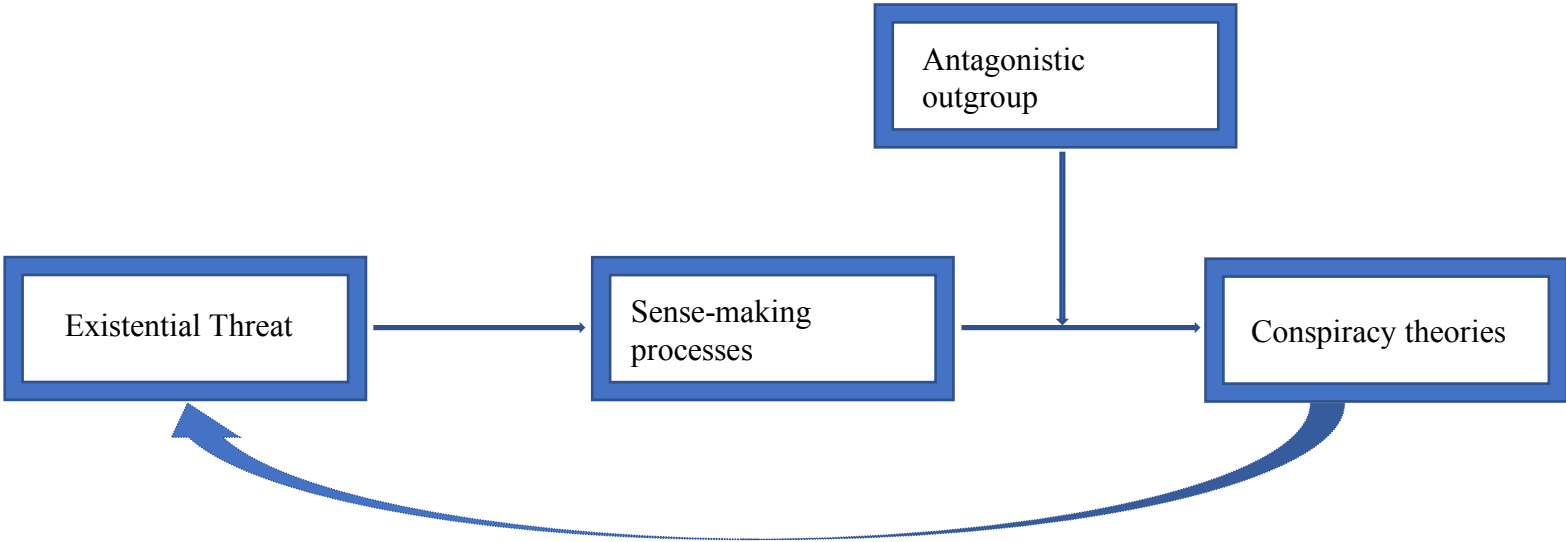


Figure 1. An Existential Threat Model of Conspiracy Theories.