Douglas, Karen and Sutton, Robbie M. (2018) *Why conspiracy theories matter: A social psychological analysis.* European Review of Social Psychology, 29 (1). pp. 256-298. ISSN 1046-3283.

Why conspiracy theories matter: A social psychological analysis

Karen M. Douglas & Robbie M. Sutton

University of Kent

Please address correspondence to:

Karen Douglas

School of Psychology

University of Kent

Canterbury, CT2 7NP

United Kingdom

Email: k.douglas@kent.ac.uk; Twitter: @Karen_Douglas

Word count:

13203 (excluding title page, abstract, references, tables and figures)

Abstract

Although conspiracy theories have arguably always been an important feature of social

life, they have only attracted the attention of social psychologists in recent years. The last

decade, however, has seen an increase in social psychological research on this topic that has

yielded many insights into the causes and consequences of conspiracy thinking. In this article,

we draw on examples from our own programme of research to highlight how the methods and

concepts of social psychology can be brought to bear on the study of conspiracy theories.

Specifically, we highlight how basic social cognitive processes such as pattern perception,

projection, and agency detection predict the extent to which people believe in conspiracy

theories. We then highlight the role of motivations such as the need for uniqueness, and the

motivation to justify the system, in predicting the extent to which people adopt conspiracy

explanations. We next discuss how conspiracy theories have important consequences for social

life, such as decreasing engagement with politics and influencing people's health and

environmental decisions. Finally, we reflect on some of the limitations of research in this domain

and consider some important avenues for future research.

Keywords:

Conspiracy theories, social psychology, social cognition, motivation, consequences

Why conspiracy theories matter: A social psychological analysis

Conspiracy theories are attempts to explain the ultimate causes of significant social and political events as secret plots by powerful and malicious groups (e.g., Douglas, Sutton & Cichocka, 2017). For example, well known contemporary conspiracy theories suppose that the 9/11 attacks on the New York Twin Towers were an 'inside job' to help the Bush administration justify the war on terror, and that climate change is a hoax coordinated by scientists to secure research funding. Conspiracy theories feature prominently in current political contexts, but they are not just a modern phenomenon (McKenzie-McHarg & Fredheim, 2017). For example, conspiracy theories concerning the supposedly evil and controlling acts of Jewish people date back to antiquity, and there is good evidence that conspiracy theories were rife on the streets of ancient Rome (Knight, 2003; Uscinski & Parent, 2014).

Conspiracy theories have arguably always been a feature of civilised social life. It is also important to remember that people *do* conspire and a small number of conspiracy theories such as those surrounding the Watergate scandal have been found to be true. However, conspiracy theories have attracted serious scholarly attention only since the middle of the 20th century—and social psychologists arrived at the party decades later. The philosopher Karl Popper was perhaps the first academic to pay conspiracy theories serious attention. Popper (1945/2013) wrote against the "conspiracy theory of history", which he defined as the view that historical, economic, and social phenomena are created not by random or systemic factors but are the planned outcomes of deliberate actions by powerful actors (for a review and critique of Popper's analysis, see Pigden, 1995). Popper saw this view as not only fallacious, because history is replete with unintended rather than intended consequences, but also pernicious, because it misdirects policies and scapegoats groups as culpable for society's ills. Popper saw this theory operating in the Nazi

regime's blaming of Jews for the problems of Germany and the world, and also in their hubristic ambition to establish a utopian society that would last a thousand years. In effect, the Nazis wanted to replace one perceived conspiracy with their own.

In Popper's wake, scholarly interest in conspiracy theories gained momentum in the humanities and social sciences. Hofstadter (1964), an historian, argued that conspiracy thinking was characteristic of American politics, forged, as they were, in the crucible of revolution and wars of secession. In a landmark paper, the sociologist Goertzel (1994) explored how conspiracy theories may appeal in particular to ethnic minority groups and put forward the influential idea that belief in conspiracy theories can develop into a distinct and self-sustaining mindset. The political science scholar Barkun (2003) put forward a theory of the social trends underpinning contemporary conspiracy belief, including the increasing appeal of millenarian (end of the world) thinking and stigmatised forms of "knowledge" spanning beliefs about UFOs, alternative medicine, Atlantis, and astrology. The American studies scholar Knight (2003) links conspiracy theories in the USA to a general cultural zeitgeist of paranoia. Researchers across the social sciences have reported, among many other findings, that conspiracy theories are recruited to mobilise support by groups on either side of social divides including White supremacist and Black power groups (e.g., Corte & Edwards, 2008; Gosa, 2011). In the humanities, researchers have charted vibrant and evolving traditions of conspiracy theory in cinema, literature and various forms of popular music (e.g., Arnold, 2008). In medical and environmental sciences, researchers have written that conspiracy theories comprise a potent obstacle to the adoption of evidence-based decision-making by the public (e.g., Bogart & Bird, 2003). Recently, digital communication scholars have shown that conspiracy theories proliferate widely on the web and

feature heavily in fake-news and post-fact discourses that are alleged to have undermined democracy and the public understanding of science (e.g., Del Vicario et al., 2016).

As these examples make clear, conspiracy theories have captured the attention of scholars across many disciplines. They also highlight the relevance of conspiracy theories to phenomena of long-standing interest to social psychologists, including intergroup relations, collective action, prejudice and discrimination, trust, ideology, epistemic motivations, and social cognition. Conspiracy theories, therefore, have much to offer social psychology—not only opportunities for engagement with other academic disciplines but also advancements in its mission to understand the interplay between the social and the psychological. In turn, social psychology has much to offer the interdisciplinary study of conspiracy theories. It offers the methods needed to develop precise measurements of conspiracy beliefs and to tease them apart from related constructs, such as paranoid thinking (Imhoff & Lamberty, in press). The use of experiments affords social psychology researchers the power to tease causal relationships apart from mere correlations. As a discipline with an accumulated body of theory to relate social and psychological phenomena, it has powerful conceptual tools to bring to the study of conspiracy theories. It is better placed than any other discipline to understand how social, historical, economic and cultural forces shape—and are shaped by—people's cognitive, emotional and behavioural responses to conspiracy theories.

It is perhaps puzzling, then, that until the last decade, social psychologists paid little attention to conspiracy theories (for exceptions see Crocker, Luhtanen, Broadnax & Blaine, 1999; McHoskey, 1995). Furthermore, aside from Moscovici (1987) who argued that belief in conspiracy theories constitutes a "mentality" based on individuals' and groups' fears and antipathy against minorities and outgroups, there has been very little theorising about the social

psychological functions of conspiracy theories. This last decade, however, has seen a rapid

increase in social psychological research that has already yielded many insights into the causes

and consequences of conspiracy thinking. Drawing on examples from our own programme of

research, we highlight in this article how the methods and concepts of social psychology can be

brought to bear on the study of conspiracy theories. We outline some of the insights into the

causes and consequences of conspiracy theories that social psychological research has yielded.

Specifically, we underline how basic social cognitive processes such as pattern perception,

projection, and agency detection predict the extent to which people believe in conspiracy

theories. This research suggests that we are all, to some extent, 'conspiracy theorists'. We then

highlight the role of motivations such as the need for uniqueness, and the motivation to justify the

system, in predicting the extent to which people adopt conspiracy explanations. That is,

conspiracy beliefs are driven by central social motives. We next discuss some of the important

social consequences of believing in conspiracy theories, such as decreasing engagement with

politics and influencing people's health and environmental decisions. This research highlights

that conspiracy theories are an important and impactful social phenomenon. Finally, we then

reflect on some of the limitations of the existing research and of our own research programme,

and consider avenues for future research on this rapidly expanding topic.

Social cognition

Much of the early research on the psychology of conspiracy theories focused on

personality and individual differences factors that predispose people to believe in conspiracy

theories. Believers tended to be portrayed as delusional, irrational and paranoid. For example,

belief in conspiracy theories has been linked to factors such as non-clinical delusional thinking

(Dagnall, Drinkwater, Parker, Denovan & Parton, 2015) and schizotypy (Barron, Morgan,

Towell, Altemeyer & Swami, 2014; Darwin, Neave & Holmes, 2011; Bruder, Haffke, Neave, Nouripanah & Imhoff, 2013; van der Tempel & Alcock, 2015; Swami, Pietschnig, Tran, Nader, Stiener & Voracek, 2013). Furthermore, believers have been characterised as mistrustful (Goertzel, 1994), powerless, (Abalakina-Paap et al., 1999), uncertain (van Prooijen & Jostmann, 2013), and anxious (Grzesiak-Feldman, 2013; Radnitz & Underwood, 2017).

However, recent findings call into question this rather pathological view of conspiracy beliefs. Far from being limited to people who are paranoid and delusional, research suggests that conspiracy beliefs are common (Oliver & Wood, 2014) and may be better characterised as the product of everyday cognitive processes. That is, everyone is to some extent likely to believe in conspiracy theories. In this section, we highlight our research which shows that conspiracy beliefs are linked to the perception of agency and intentionality when it does not (or is unlikely to) exist, and to pattern perception more generally. We also explore our findings demonstrating how people may use conspiracy theories to reconcile inconsistent beliefs, and how the process of projection can help explain why people believe in conspiracy theories.

Agency detection

Conspiracy theories portray socially significant events as the intended outcomes of schemes by malign groups. Following Popper (1945/2013), Klein (2013) argued that people might have a conspiratorial view of historical events in general—overestimating the role of conscious intentions in making these events happen. More explicitly, other scholars have suggested that conspiracy theories arise from a tendency to anthropomorphise social forces (e.g., in political science see Qualter, 1985, in philosophy see Keeley, 2007, in cultural studies see Lewis & Kahn, 2005). Research in social psychology has shown that lay people are indeed prone to anthropomorphic thinking, seeing weather events, machines' behaviour, and even the

movements of basic two-dimensional geometric shapes as intentional and agentic (e.g., Heider & Simmel, 1944; Scholl & Tremoulet, 2000). Barrett (2004) argued that this happens because the brain is hard-wired to be hypersensitive to agency in the environment. According to this perspective, it is necessary for people to be sensitive in case they face danger or threat, so this tendency is somewhat evolutionarily driven.

In two studies, we built on this work to provide empirical tests of the role of anthropomorphic thinking in conspiracy belief (Douglas, Sutton, Callan, Harvey & Dawtry, 2016; see also Brotherton & French, 2015; Imhoff & Bruder, 2014). In our first correlational study, we asked 202 participants from the USA recruited from Amazon's Mechanical Turk (Mturk) to rate the extent to which they agreed with a list of well-known conspiracy theories (taken from Douglas & Sutton, 2011 – e.g., "The Apollo moon landings were a hoax"). We then asked participants to view the animation by Heider and Simmel (1944), which depicted three shapes moving in and out of a rectangular box. In the original study, Heider and Simmel found that the majority of participants described the movement of the shapes as they would describe the intentional actions of people (e.g., chasing, running away). We asked participants several questions about the nature of the shapes (e.g., whether they were purposeful and conscious), and the actions of the shapes (e.g., whether they were intentional and the result of conscious decisions). We combined responses to these questions to form our first measure of agency detection. As a second measure of agency detection, we asked participants to complete an anthropomorphism scale (Waytz et al., 2010), which measures the extent to which people afford inanimate objects with human qualities. Finally, we measured a range of demographic factors, including education level.

Our findings revealed that both measures of agency detection predicted belief in conspiracy theories (see Table 1). Further, across Study 1 and a second study there was a significant relationship between education level and conspiracy belief, such that participants with lower levels of education were more likely to believe conspiracy theories. In both studies, agency detection in the form of anthropomorphism mediated this relationship. These findings therefore suggest that conspiracy theorising may partly be a consequence of a specific thinking style—assuming that events have an underlying intentional cause when they most likely do not— and that this thinking style may be somewhat changed by education. Importantly, rather than being the result of delusional or paranoid thinking, belief in conspiracy theories may simply result from the overestimation of agency and intentionality in the environment. Underscoring this point, in our second study ($N = 330$ Mturk participants from the USA) we controlled for belief in paranormal phenomena (a specific type of irrational belief), and found our results held.

TABLE 1 HERE

Pattern perception

Just as scholars across disciplines have suggested that anthropomorphic thinking fuels conspiracy theories, scholars in political science (Barkun, 2003), sociology (Spark, 2000), and literary studies (Wilman, 1998) have argued that conspiracy theories are a response to the apparent randomness of socio-political events. Social psychologists have shown that people are averse to this randomness, and impose meaning on it cognitively by perceiving patterns in events, including causal connections, even when none exist (Zhao, Hahn, & Osherson, 2014). Whitson and Galisnky (2008) linked this tendency to conspiracy theories by showing that both the perception of patterns (e.g., planets, buildings, or animals) in random visual arrays, and belief in conspiracy theories, was increased by a manipulation that lowered personal control. However, it

was not until 2015 that social psychologists directly examined the relationship between conspiracy belief and pattern perception. In a set of studies, Dieguez, Wagner-Egger and Gauvrit (2015) found no relation between conspiracy beliefs and the perception of non-randomness in strings of Xs and Os. However, as they acknowledged, these null findings may have been attributable to the non-social and arbitrary nature of Xs and Os (e.g., compared to the apparently hidden figures in Whitson & Galinsky's, 2015, paintings).

We (van Prooijen, Douglas & de Incocencio, 2018) also investigated the extent to which beliefs in conspiracy theories are rooted in pattern perception. In Study 1 ($N = 264$ participants from the USA recruited from the crowdsourcing site Crowdflower), we measured belief in both well-known and fictitious conspiracy theories. To measure belief in well-known conspiracy theories, we asked participants to rate their agreement with a series of statements (e.g., "The US government had advance knowledge of the 9/11 attacks"). To measure belief in fictitious conspiracy theories, we adapted the scale created by Swami et al. (2011) concerning the energy drink Red Bull (e.g., "The official inventor of Red Bull pays 10 million Euro each year to keep food controllers quiet"). To measure pattern perception, we used the website "random.org" to generate 100 random coin tosses. These were chunked into groups of 10 and for each group of coin tosses, participants were asked to rate on a single scale the extent to which the outcomes were completely random or completely determined. Results revealed that pattern perception was significantly correlated with both measures of belief in conspiracy theories (see Table 2). Pattern perception also predicted belief in supernatural phenomena such as mind reading and horoscopes (Eckblad & Chapman, 1983). In a second study ($N = 223$ participants from the USA recruited from Crowdflower), we experimentally manipulated pattern search by asking participants to either look for patterns in the coin tosses, or we informed participants explicitly that the coin

tosses were random and that there were no patterns. As in Study 1, participants were then asked to rate the extent to which they viewed the coin tosses as completely random or completely determined (to measure their pattern perception), and we also asked them to rate their agreement with a range of conspiracy theories and their experiences of supernatural phenomena. Results revealed an indirect effect of the pattern search manipulation on conspiracy and supernatural beliefs via pattern perception. This suggests that intuitively searching for patterns increased pattern perception, which predicted conspiracy beliefs and supernatural beliefs.

TABLE 2 HERE

In a third study ($N = 214$ participants from the USA recruited from Crowdflower), we attempted to determine whether pattern perception in general predicts belief in conspiracy theories and supernatural phenomena, or if it is specifically *illusory* pattern perception that predicts conspiracy and supernatural beliefs. It may be that perceptions of patterns in general predict these beliefs regardless of whether the patterns are real or illusory. Or, it may be the case that pattern perception needs to be illusory to predict irrational beliefs. That is, perception of patterns in random or chaotic stimuli specifically should predict these beliefs. To attempt to tease these two explanations apart, we asked one group of participants to view paintings by Viktor Vasarely and another group to view paintings by Jackson Pollock. Vasarely's paintings contain clear patterns, whereas Pollock's paintings are more random and chaotic. Should participants detect patterns in the Vasarely paintings, they would be real patterns. Should participants detect patterns in the Pollock paintings, they would be illusory. We reasoned that if general pattern perception (regardless of whether the patterns are illusory or real) predicts belief in conspiracy theories and the supernatural, then such beliefs should increase to the extent that people perceive patterns. However, if only illusory pattern perception predicts conspiracy and supernatural

beliefs, then only perceiving patterns in the Pollock paintings should be associated with increased beliefs (and not the perceived real patterns in the Vasarely paintings). Results supported the illusory pattern hypothesis. Specifically, perceiving patterns in the Pollock paintings predicted belief in conspiracy theories and supernatural phenomena. Perceiving patterns in the Vasarely paintings, however, was not significantly associated with belief in well-known conspiracy theories or fictitious conspiracy theories, and negatively predicted supernatural beliefs. These results suggest that only seeing patterns in the random and chaotic stimuli (i.e., illusory pattern perception) predicts irrational beliefs. Perceiving patterns in non-random and structured stimuli (i.e., general pattern perception) does not.

Two additional studies (Ns = 401 and 228 participants from the USA recruited via Crowdflower) found further evidence for the relationship between illusory pattern perception and both conspiracy beliefs and beliefs in the paranormal. Study 4 demonstrated that pattern perception increased when people read a statement by a believer in conspiracy theories or supernatural phenomena (vs. a sceptic), and Study 5 showed that reading pro-conspiracy theory material (vs. anti-conspiracy material; see Jolley & Douglas, 2014a, b) increased the extent to which people generally believe events in the world to be related. This, in turn, also predicted the extent to which people believed in conceptually unrelated conspiracy theories and supernatural phenomena. Overall, these studies support the idea that conspiracy and supernatural beliefs are associated with a basic and normal cognitive function. Sometimes however, this can lead people to detect patterns when they are not there.

As we have seen, most of the studies linking conspiracy thinking to pattern perception have presented participants with randomly structured stimuli, in which no pattern objectively exists and in which pattern perception is therefore illusory. One limitation of this approach is that

real-world events, including those that attract conspiracy theories, are seldom—if ever—randomly determined. Rather than being undetermined, human behaviour is overdetermined, and the normal problem for observers is not to generate explanations *ex nihilo* but to select from a range of competing alternatives. For example, the Death of Princess Diana was caused, among other things, by proximal factors including the blood alcohol level of her driver, her pursuit by paparazzi, and the design of the tunnel in which she died. It was also the result of distal causal factors including the privileged lifestyles of the moneyed classes and the appetite of the public for stories about them. The many conspiracy theories advanced for her death compete not only with each other but with these factors.

Nonetheless, perceptions of patterns in random stimuli are relevant to explanations of such events because they depend on implausible causal reasoning—the willingness to suppose that events are connected by conventionally unlikely or even impossible causal links. This permissive causal inference is at the heart of superstitious or "magical" thinking (Eckblad & Chapman, 1983), which causes people to draw causal links between objectively unrelated events as in the superstition that stepping on a crack in a pavement may bring about bad luck. As we have seen, one study (Van Prooijen et al., 2018, Study 3) has shown that conspiracy belief was unrelated to perceptions of patterns in objectively structured stimuli. However, in the case of a painting it is scarcely imaginable that a structure could exist without having been intended (caused) by the artist. In the case of real-life event sequences such as the death of Princess Diana, the presence of an apparent structure is much more ambiguous. It may or may not have been intended, and causal links may or may not exist between some of the events in the sequence.

Following this reasoning, van der Wal, Sutton, Lange, and Braga (in press) examined the tendency to perceive causal relations between events that are objectively structured but between which no direct causal links may exist. In Study 1 ($N = 200$ US participants recruited from

Mturk), participants were presented with six real-life, unlikely, and often entertaining spurious

correlations compiled by Vigen (2015), for example between national chocolate consumption and

Nobel Prizes. As shown in Table 3, they found that beliefs in conspiracy theories spanning topics

including 9/11, the JFK assassination, and Princess Diana's death were positively correlated with

the belief that spurious bivariate correlations were produced by a direct causal connection

between the two variables. In contrast, conspiracy thinking was unrelated to perceptions that

spurious correlations reflected co-incidence or the operation of a third cause (imagine, for

example, that wealthier countries might be prone to consuming more chocolate and producing

more high-level research). In their second study, van der Wal et al. showed that this effect held

controlling for a range of control factors. In their final study, they showed that conspiracy

explanations for an event such as the death of a journalist increased when they were described as

one of a cluster of similar events (as opposed to happening in isolation). Furthermore, whether or

not events comprised a cluster, participants endorsed conspiracy explanations more strongly

when events were described as causally connected (vs. unconnected). This finding provides

direct evidence that perceiving unlikely causal connections between events contributes to belief

in conspiracy theories.

 TABLE 3 HERE

Belief consistency

One of the most common findings in the literature is that if a person believes in one

conspiracy theory then they are more likely to believe in others. This phenomenon is so robust

that participants' agreement with conspiracy theories spanning topics as diverse as alien landings,

the JFK assassination, the death of Princess Diana, and the origin of the AIDs virus are

sufficiently correlated for their answers to comprise a highly reliable, unifactorial scale (Douglas

& Sutton, 2011; Swami, Barron, Weis, Voracek, Stieger & Furnham, 2017). These scales are

routinely used by many researchers, ourselves included, to study the theoretical causes and consequences of conspiracy beliefs. Research has shown that participants' belief in novel, experimentally constructed conspiracy theories is also strongly predicted by these scales (Swami et al., 2011). This finding underpins the entire psychological literature on conspiracy belief, since it establishes that belief in conspiracy theories comprises a coherent psychological construct (Sutton & Douglas, 2014).

The strong intercorrelation between diverse conspiracy beliefs may also have important theoretical implications for the basis of conspiracy beliefs. Goertzel (1994) saw it as evidence of a *monological belief system* where ideas mutually support each other and lead to a sealed-off worldview where one conspiracy theory reinforces another, and so on. If one conspiracy is possible then all conspiracies are possible. However, social psychological research shows that while belief consistency is an important motivation (Gawronski & Strack, 2012), it is not always overriding, and people do hold contradictory positions (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950; Billig, 1996). One reason for this is that there is pressure on beliefs to be consistent with higher-order knowledge structures, for example when beliefs have an ideological purpose. Systems of belief serve a purpose in guiding emotional and behavioural responses, and their "gestalt" or overall consistency may be more important at a given time than consistency between peripheral beliefs in the system (Abelson, 1968; Heider, 1979; McGuire & Papageorgis, 1961; Simon, Snow & Read, 2004). Consistent with this reasoning, researchers have shown that a central judgement (e.g., that a defendant is guilty) may exert a powerful effect on evaluations of individual propositions or pieces of evidence (Read, Simon & Snow, 2003). Perhaps the most vivid illustration of tolerance of local contradictions in the service of a higher-order coherence comes from the analysis of anti-Semitic stereotypes by Adorno et al. (1950), who showed that

Jewish people were simultaneously stereotyped as keen to isolate themselves from society (clannish) and keen to participate in it (cosmopolitan). Although these stereotypes are not consistent with each other, they cohere with an overall derogation of Jewish people as alien intruders on Western civilisation.

The possibility that people may maintain multiple conspiracy beliefs about even a single event, even if these are inconsistent with each other, is suggested by even a cursory glance at the conspiracy theories that circulate around high-profile events. For example, conspiracy theories surrounding the death of Diana, Princess of Wales vary from those asserting that she was murdered by the British royal family, to those arguing that she was helped by others to fake her own death so that she could live a life away from the probing lenses of the paparazzi. Clearly, both cannot be true at the same time and these beliefs are not mutually supportive.

Inspired by these possibilities and social-psychological analyses of belief consistency, we (Wood, Douglas & Sutton, 2012) sought to understand how people might reconcile inconsistent conspiracy beliefs. Specifically, we wanted to first establish if there is indeed evidence that people entertain contradictory conspiracy theories. We then sought to determine whether the apparent coherence of contradictory conspiracy theories is driven not by direct relationships amongst the theories themselves (as in the monological account), but agreement between each separate conspiracy theory and higher-order beliefs about the world. For example, the idea that people in power (e.g., governments) cover up their actions to deceive the public is central to most conspiracy theories. Someone who believes in many conspiracy theories would begin to see powerful groups as fundamentally deceptive, and new conspiracy theories that they come across would seem more realistic (Read et al., 2003; Simon et al., 2004). Going back to the example of the death of Princess Diana, belief in some kind of cover-up—the details do not matter—would

support (and be supported by) both the murder and faked death conspiracy theories. Therefore, the contradiction between these two conspiracy theories might be overruled by their coherence with a broader conspiracist worldview of a cover-up. We examined this hypothesis in two studies.

In one of these studies, participants ($N = 102$ British undergraduates) were asked to read a brief summary of the official story of Osama bin Laden's death. They were then asked to rate the extent to which they agreed with the official story (i.e., "Osama bin Laden was killed in the American raid") and then three conspiracy theories ("Osama bin Laden is still alive", "When the raid took place, Osama bin Laden was already dead", and "The actions of the Obama administration indicate that they are hiding some important or damaging piece of information about the raid"). The first two conspiracy items are contradictory—Osama bin Laden cannot be both dead and alive. The third conspiracy item was included to test the hypothesis that the relationship between the two contradictory conspiracy beliefs would be explained by belief in the overarching idea of a cover-up. That is, the relationship between the two contradictory conspiracy beliefs would no longer be significant when belief in the cover-up was taken into account.

The results revealed a significant positive correlation between endorsement ratings of the two contradictory conspiracy theories, which replicates the findings of a first study in this same paper showing high correlations between contradictory conspiracy theories concerning the death of Diana, Princess of Wales ($N = 137$ British undergraduates). We next examined the extent to which belief in a cover-up explained the positive relationship between the two contradictory conspiracy theories. Using a multiple regression, endorsement of the cover-up item significantly predicted belief in both conspiracy theories. However, endorsement of this item fully explained

the relationship between the two conspiracy beliefs (see Figure 1). Therefore, the correlation in endorsement of the two contradictory theories is explainable entirely by their connection with belief in a deceptive cover-up by authority. Conspiracy theories appear to be defined not by adherence to a particular alternative account, but by opposition to the official story and a belief that deception is taking place. Further evidence of this was provided by our archival examination of online comments to news articles (Wood & Douglas, 2013, 2015) where conspiracist comments appeared to be based on a rejection of official explanations rather than on proposing alternative explanations. This tendency can be understood as a reflection of an underlying conspiracist worldview in which the details of individual conspiracy theories are not as important as a generalised rejection of official explanations (for further articulation and alternative interpretations see Sutton & Douglas, 2014).

FIGURE 1 HERE

Projection

Hofstadter (1964) was heavily influenced by psychodynamic theory. As a result, Hofstadter saw conspiracy belief as arising from unconscious conflicts and processes. One of these was projection. "It is hard to resist the conclusion", wrote Hofstadter (1964, p. 80), "that this enemy is a projection of the self", where "this enemy" was a metaphor for a person or persons alleged to be part of some powerful, far-reaching conspiracy. There has been relatively little systematic research into the psychodynamic conception of projection, in which traits, motives or behaviours are projected onto others to avoid recognising them in oneself. However, there is extensive support for projection as a social-cognitive process in which the observer, lacking more direct or objective information, relies on what they know about him/herself when

making judgments about what other people might be thinking, feeling and doing when more reliable or objective information is missing (Ames, 2004; Krueger, 2000).

Building on this social-cognitive conceptualisation of projection as a sense-making mechanism, we (Douglas & Sutton, 2011) provided the first empirical test of the role of projection in conspiracy belief. In two studies ($N = 189$ and 60 British undergraduate students), we examined whether people's endorsement of conspiracy theories depends, in part, on whether they themselves are willing to conspire. We reasoned that when evaluating a conspiracy theory, people might use projection to try to understand whether those accused of conspiring in some way actually might have done so. For example, people might be less likely to dismiss the conspiracy theory that Princess Diana was murdered by MI6 if they believe that they personally would have done the same thing if they were in that position. In other words, a person's perception that "I would do it" informs their perception that "They did it".

The second of these studies was an experiment aimed at testing this hypothesis, where we assumed that people's willingness to conspire would be determined by their own personal morality (cf. Bandura, 2006; Eagly & Chaiken, 1993). We therefore directly manipulated participants' perception of their own personal morality. Participants were randomly assigned to one of two conditions. An experimental group was asked to think of, and write about, a time when they behaved in a moral and decent manner by helping another individual. According to self-perception theory (Bem, 1967, 1972), people infer their attitudes and dispositions by observing their own behaviour. We therefore reasoned that by recalling a time when they behaved in a moral and decent manner, people would perceive themselves as less likely to conspire to perform negative acts. A control group did not engage in this task. Following this manipulation, participants were asked to rate their agreement with a range of conspiracy theories

(e.g., "The AIDS virus was created in a laboratory"), but crucially, to also rate the extent to which they would be personally willing to engage in each conspiracy (e.g., "If you were a scientist, would you have created the AIDS virus?"). They were asked to indicate their willingness on a scale from "Never under any circumstances" to "Probably yes". We predicted that participants in the "moral" condition would endorse conspiracy theories to a lesser degree than those in the control condition, and that this effect would be mediated by willingness to engage in the alleged conspiracies. Results supported these predictions (see Figure 2) and provided experimental evidence for correlational findings in Study 1. In Study 1, the morality manipulation was replaced with a measure of Machiavellianism (Christie & Geis, 1970). The rationale was the same—but we expected that Machiavellianism would positively predict belief in conspiracy theories via projection—and this hypothesis was supported. Together, these two studies provide further evidence that belief in conspiracy theories results from normal social cognitive processes—in this case the projection of one's own moral tendencies onto others. If people believe that they would take part in the conspiracy themselves, then it is plausible that others would have done so, too.

FIGURE 2 HERE

Other social psychological findings provide further support for the argument that conspiracy theories result from basic cognitive and social cognitive processes, rather than being a simple product of paranoia and delusion. Conspiracy beliefs have been linked to the conjunction fallacy—an error in probabilistic reasoning where people overestimate the likelihood of co-occurring events (Brotherton & French, 2014; Dagnall, Denovon, Drinkwater, Parker & Clough, 2017). Also, lower levels of analytic thinking have been linked to conspiracy belief (Ståhl, & van Prooijen, 2018; Swami, Voracek, Stieger, Tran & Furnham, 2014). All of these findings

suggest that conspiracy theories are a normal by-product of the way people think and organise information about the world.

Motivations

Our programme of research also suggests that beliefs in conspiracy theories are dependent on people's motivations. In this section, we focus on our research highlighting the role of powerful, widely shared motivations that are well documented in social psychological theory and research. These are the motivation to feel unique or distinct from others, the motivation to justify the social status quo, and the motivation to feel safe and secure in the social environment.

The motivation to be unique

First, we have shown that *need for uniqueness* predicts the extent to which people believe in conspiracy theories (Lantian, Muller, Nurra & Douglas, 2017). Need for uniqueness is defined as the need or desire to be different from other people (Lynn & Snyder, 2002). It is a stable trait but it also responds to feedback that the self is not unique from others (Snyder & Fromkin, 1977; 1980). Social psychological research has found that people with higher need for uniqueness are more interested in scarce or unique commodities because they set the self apart from other people (e.g., Brock & Brannon, 1992; Lynn & Harris, 1997; Snyder & Fromkin, 1980). Snyder and Fromkin (1980) suggested that people can also fulfil their need for uniqueness by adopting particular beliefs. By cultivating original views, they express the unique nature of their personality (Abelson, 1986). We reasoned that people high in need for uniqueness should be more likely than others to believe in conspiracy theories because such theories represent unconventional, original, and scarce information. People who believe in conspiracy theories can feel special because they feel that they are enlightened and others are in the dark. As Billig (1987) noted: "The conspiracy theory offers the chance of hidden, important, and immediate

knowledge, so that the believer can become an expert, possessed of a knowledge not held even by the so-called experts" (p. 132). We tested this hypothesis in four studies.

In Study 1 (*N* = 190 French participants, the majority of whom were university students) we first asked participants to complete a French translation of a scale measuring belief in conspiracy theories (Swami, Chamorro-Premuzic & Furnham, 2010). Afterwards, we asked them to rate the scarcity of the information that they might have used to answer the conspiracy theory questions. We did so using three items (e.g., "The information I used to answer the questions in the previous section was…") and participants rated information scarcity on a scale from 1 (disclosed to the public) to 9 (hidden from the public). Results revealed that participants with higher beliefs in conspiracy theories were also more likely to feel that they possessed scarce information about the events in question.

In Study 2 (*N* = 208 from the USA recruited via MTurk), we tested our hypothesis more directly, examining the relationship between dispositional need for uniqueness and beliefs in conspiracy theories. In this study, participants completed a scale measuring need for uniqueness (Lynn & Harris, 1997) where participants were asked to rate their agreement with items such as "I prefer being different from other people". We also measured beliefs in conspiracy theories using a different scale from Study 1 (Brotherton, French & Pickering, 2013). Results revealed, as predicted, that need for uniqueness was positively correlated with belief in conspiracy theories. Next, we argued that a situational increase in the need for uniqueness should increase adherence to conspiracy theories. In the third (*N* = 143 French undergraduates) and fourth studies (*N* = 375 people recruited online via French-speaking forums), we therefore tested the causal effect of need for uniqueness on conspiracy beliefs by experimentally manipulating need for uniqueness. We predicted that creating the need for uniqueness should result in higher conspiracy beliefs.

In Study 3, participants were randomly assigned to one of two experimental conditions in order to manipulate need for uniqueness. This manipulation took the form of a writing task where participants were asked to think and write about the importance of individuality (vs. conformity), which is designed to increase (vs. decrease) the need for uniqueness. Participants then read a fictional newspaper article about a bus accident in Moldova in which 45 people died, crucially including eight politicians who were members of the political opposition at the time of the event. The account of the event was ambiguous and designed in such a way to raise suspicions of conspiracy. Participants were then asked to rate their agreement with four statements. Two were allegations of conspiracy (e.g., "The coach crash was deliberately planned by the established power in the country") and two referred to non-conspiracy explanations (e.g., "This event is the result of an unfortunate accident due to uncontrollable factors [e.g., bad weather, mechanical failure, etc.]"). The latter two items were reverse-scored and the items were combined to form a scale of conspiracy beliefs. Results revealed a marginal effect of the experimental condition such that participants in the individuality condition scored higher in conspiracy beliefs than those in the conformity condition. In Study 4 we used a different manipulation of need for uniqueness and a more diverse sample to re-test the hypothesis. In this study, we adapted a procedure used to manipulate the self-concept (Kunda & Sanitioso, 1989; Sanitioso, Kunda, & Fong, 1990). Specifically, this previous research showed that people who were led to believe that being extraverted (or introverted) was related to positive consequences were more motivated to view themselves as extraverted (or introverted). In order to increase (vs. decrease) people's need to feel unique, we led participants to believe that trying to be unique (or trying to be like other people) was related to positive consequences (e.g., better academic success, higher salary). We used the same method as Study 3 to measure beliefs in conspiracy

theories. Results were very similar to Study 3, again revealing a marginal effect of the need for uniqueness manipulation on conspiracy beliefs. However, when we meta-analysed the results of Studies 3 and 4, we found—as hypothesised—that participants in the high need for uniqueness condition believed conspiracy theories more than those in the low need for uniqueness condition. These findings were corroborated by Imhoff and Lamberty (2017), whose findings also linked conspiracy beliefs with need for uniqueness. Although the effect may be quite small, believing in conspiracy theories appears to provide people with the means to stand apart from the rest, if they have the motivation to be different.

The motivation to justify the system

Both across and within disciplines, opinion has differed on the political consequences of conspiracy theories. Some scholars argue that they are subversive and empowering, providing alternative narratives to groups who wish to reject and challenge the status quo (e.g., Sapountzis & Condor, 2013). Others argue that they are essentially counterproductive, deterring resistance by breeding helplessness in the face of disadvantage or misdirecting resistance by scapegoating real or imagined enemies (e.g, Uscinski & Parent, 2014). The legal scholar Fenster (1999, xiii) eloquently acknowledges both perspectives:

> Articulating a necessary distance between "the people" and "power", conspiracy theory draws on the most simplistic, disabling, and dangerous interpretations of political order, including fascism, totalitarianism, and anti-Semitism – yet it also represents a populist possibility, a resistance to power that implicitly imagines a better, collective future.

In our work (Jolley, Douglas & Sutton, 2018), we have made an attempt to examine empirically what the political consequences of conspiracy belief might be in terms of support for (vs.

opposition to) the social status quo. From a social psychological perspective, one paradox of conspiracy belief is that it conflicts with the motivation to justify the social status quo. According to system justification theory, people are motivated to hold positive views about existing social, economic and political arrangements (e.g., Jost & Banaji, 1994), because doing so symbolically satisfies relational, epistemic, and existential needs. Threats to social systems threaten these needs, causing people to look for ways to defend, bolster or rationalise the status quo, even at the expense of their own interests (Jost et al., 2004). One may ask then, why do people believe in conspiracy theories, which are critical of social systems?

We proposed that conspiracy theories may paradoxically bolster support for the status quo when its legitimacy is threatened. We refer to the words of Goertzel (1994) who said "a conspiracy theory gives believers someone tangible to blame for their perceived predicament, instead of blaming it on impersonal or abstract social forces" (p. 494). In other words, conspiracy theories identify a small group of negative influences within the system that are responsible for the bad things that happen. These negative influences are not representative of the system as a whole because they only have their own interests at heart. People can therefore uphold their belief that the system is fair and functional by using conspiracy theories to explain why things go wrong. This idea echoes the social psychological principle of subtyping, which preserves group stereotypes by categorising people who violate them as members of subgroups who are not characteristic of the group as a whole (Kunda & Oleson, 1995). The idea also echoes social psychological findings such as the 'black sheep effect', where people derogate deviant ingroup members more harshly than outgroup members in order to preserve the belief that typical ingroup members are better than typical outgroup members (Marques & Paez, 1994). Likewise, by

blaming a small number of conspiring people for the ills of society, people can believe that society is still functioning as it should. We conducted three experiments to test this hypothesis.

Study 1 ($N = 120$ UK participants recruited via Crowdflower) examined whether conspiracy theorising would increase (vs. not increase) in response to "system threat" information. In this study, we used the threat manipulation adapted from previous research (e.g., Jost, Kivetz, Rubini, Guermandi & Mosso, 2005) in which participants read a statement about the current social, economic and political circumstances in the United Kingdom. In one condition this was framed as positive (e.g., "People feel safer and securer than they used to, and there is a sense of confidence and optimism regarding the country's future"—system affirming) and in the other it was negative (e.g., "People do not feel as safe and secure as they used to, and there is a sense of uncertainty regarding the country's future"—system threat). We then measured belief in well-known conspiracy theories and general notions of conspiracy. We hypothesised that if the motivation to restore the status quo motivates belief in conspiracy theories, then such beliefs should increase under system threat. The opposite prediction should hold if, instead, conspiracy theories undermine support for the status quo, in which case they should be rejected as additional system threats. We found support for the first hypothesis. Endorsement of both well-known and general notions of conspiracy was higher in the system threat vs. system affirmation condition.

Study 2 ($N = 190$ British undergraduates) directly tested the hypothesis that exposure to conspiracy theories would buffer (vs. aggravate) the negative effects of system threat on satisfaction with the status quo. We manipulated system threat as in Study 1, and then exposed half of the participants to conspiracy theories about the death of Princess Diana whereas the other half did not read this material (control). This manipulation was adapted from a study by Douglas and Sutton (2008), which was successful in increasing conspiracy beliefs. We predicted that, if

conspiracy theories help people defend the system from threat, the negative effects of system threat on satisfaction with the status quo should be lessened when people are also exposed to conspiracy theories. Findings supported this hypothesis (Table 4). For participants in the system threat condition, exposure to conspiracy theories increased satisfaction with the status quo relative to control. There was no difference between conditions after the system affirmation induction.

TABLE 4 HERE

The final study ($N = 166$ UK participants recruited via Crowdflower) tested our proposed mechanism for this effect—specifically that conspiracy theories allow people to maintain positive views about social systems because they attribute negative events in society to a small number of negative influences within the social system. In this study, we exposed all participants to system threat and then half of the participants to conspiracy theories. All participants then rated the extent to which various social problems (e.g., pollution, inequality) are caused by individuals or small groups, as opposed to broader problems within the social system. For each social problem, this question was asked with the two options (individuals and small groups vs. broader problems within the social system) at either pole. Participants then rated their satisfaction with the status quo, as in Study 2. We expected to observe an indirect causal path in which participants exposed to conspiracy theories (vs. not) would be more likely to blame societal problems on the actions of individuals and small groups than on flaws present in society (i.e., blaming a small number of negative influences rather than the system), and in turn, to express increased satisfaction with the status quo. Results supported our predictions (see Figure 3). Therefore, this is evidence that at least some conspiracy theories appear to serve the function of bolstering—rather than

subverting—the status quo. Thus another reason why people believe in conspiracy theories may be because they are motivated to feel positive about the system in which they live.

FIGURE 3 HERE

Safety and security

Some of our other research suggests that people might turn to conspiracy theories partly because they have had negative childhood experiences (Green & Douglas, 2018). Specifically, people appear to turn to conspiracy theories to meet existential needs (Douglas, Sutton et al., 2017), and the origins of these needs might be understood through the lens of attachment theory (Bowlby, 1969/1982). The primary goal of attachment behaviour is to alleviate feelings of anxiety and increase a sense of security. Attachment styles (avoidant, anxious and secure) result from early childhood experiences with caregivers and can persist throughout life, influencing adult bonds and relationships. Although attachment theory arose in the context of biological and developmental psychology, social psychologists have shown that attachment style can predict an array of social psychological phenomena, including intragroup processes (Rom & Mikulincer, 2003), sexism (Hart, Hung, Glick, & Dinero, 2012), prejudice (Boag & Carnelley, 2016) discrimination (Boag & Carnelly, 2016) and co-operation vs. defection in social dilemmas (McClure, Bartz, & Lydon, 2013). We reasoned that a specific attachment style—anxious attachment—would be associated with belief in conspiracy theories amongst adults. We hypothesised that this would occur because anxious attachment style is characterised by a preoccupation with security, negative views of outgroups, sensitivity to threats, and a tendency to exaggerate the seriousness of such threats. People with secure and avoidant attachment styles, on the other hand, are less sensitive to threats and do not exaggerate such threats. We conducted two studies to examine this hypothesis.

In the first study (*N* = 246 Mturk participants, 89% from the USA) we tested the relationship between anxious attachment style and belief in conspiracy theories whilst also controlling for other known predictors of conspiracy belief. Specifically, we controlled for right-wing authoritarianism (RWA; Adorno, Frenkel-Brunswick, Levinson, & Sandford, 1950; Altemeyer, 1981) and social dominance orientation (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994; Sidanius & Pratto, 1999), both of which have been found to predict conspiracy beliefs (Abalakina-Paap et al., 1999; Bruder et al., 2013; Grzesiak-Feldman & Irzycka, 2009). We also controlled for the extent to which people view the world as a battle between good and evil (i.e., a *Manichean worldview*), which is also associated with conspiracy belief (Oliver & Wood, 2014). Finally, we controlled for individual differences in interpersonal trust and demographic variables (Abalakina-Paap, 1999; Douglas et al., 2016; Goertzel, 1994).

Using a multiple regression analysis, we tested whether anxious attachment predicts belief in conspiracy theories whilst taking into account other predictors. We found, as hypothesised, that anxious attachment significantly predicted conspiracy belief whereas avoidant (and secure) attachment did not. SDO, interpersonal trust, and Manichean worldview also remained significant predictors of conspiracy belief. Anxious attachment therefore appears to be a unique predictor of belief in conspiracy theories (see Table 5). A second study (*N* = 230 participants recruited from the crowdsourcing site Prolific Academic, 99% British) replicated this relationship and also showed that anxious attachment predicted belief in well-known conspiracy theories (as measured by Douglas & Sutton, 2011; Douglas et al., 2016) and conspiracy theories about groups (i.e., the idea that specific groups such as bankers and politicians conspire against others). Conspiracy beliefs therefore appear to respond to the motivation to restore security and control.

This may be lacking as a result of an insecure attachment style that develops in childhood and persists into adulthood.

TABLE 5 HERE

Other research supports the idea that motivations are important determinants of conspiracy beliefs. People also appear motivated to adopt conspiracy theories when they have high cognitive need for closure (Marchlewska, Cichocka, & Kossowska, 2018), and have a desire to aggrandise or uphold an image of the self and the social group (Cichocka, Marchlewska, Golec de Zavala, & Olechowski, 2016; Golec de Zavala and Cichocka, 2012). For example, by viewing other groups as evil conspirators, people can serve their need to maintain a positive image of their ingroups. Conspiracy beliefs also appear to be motivated by political ideology, such that people believe in conspiracy theories that suit their own political leanings and interests, and disbelieve those that do not (e.g., Uscinski & Parent, 2014). People also appear especially motivated to use conspiracy explanations in times of crisis (Kofta, Sędek, & Sławuta, 2011; van Prooijen & Douglas, 2017). Research therefore supports the idea that belief in conspiracy theories can be viewed as a response to a diverse range of common social psychological motives.

Conspiracy theories have important social consequences

The normality of conspiracy beliefs and their relation to all levels of analysis in social psychology raises an important question—do conspiracy theories have consequences for individuals, groups and society? All of the theoretical perspectives across all of the academic disciplines that have engaged with conspiracy theory have one thing in common: they assume that conspiracy theories matter—that is, that they exert a role in shaping the experience, thoughts, feelings and behaviour of individuals, and that they may play a role in shaping broader social and political realities. Social psychology is well placed to test this basic assumption that conspiracy

theories have effects. Thus far, research has focused primarily on effects that most people would agree are essentially negative—highlighting how conspiracy theories may undermine social life (for an overview, see Douglas, Sutton Jolley & Wood, 2015). Specifically, there are several ways in which conspiracy theories have been found to be potentially harmful in the domains of politics, the environment, health, and also in determining how people feel about their workplace. They also appear to influence people without their awareness. We will outline these findings in the following section.

Influence without awareness

We first investigated the extent to which conspiracy theories can influence people's attitudes (Douglas & Sutton, 2008). In this study, we asked two questions: (1) do conspiracy theories change people's attitudes? and (2) if so, are people aware that their attitudes have changed? We conducted an experimental study ($N = 96$ British undergraduates) to answer these questions. Participants were assigned to a control or experimental group. The participants were drawn from the same population of psychology undergraduate students and were randomly assigned to the groups, so they did not differ demographically. The control group were asked to rate their own (control self) and others' (control other) perceived agreement with a series of conspiracy-related statements about the events surrounding the death of Princess Diana in 1997. In the experimental group, participants were first asked to read some information containing popular conspiracy theories about the event. They were then asked to rate their own (current self) and others' (current other) perceived agreement with the same items. They were also asked to rate their retrospective attitudes (i.e., what they perceive their attitudes to have been before reading the material—retrospective self) and the same for others (retrospective other). Using this design, it was possible to compare the perceived (current – retrospective) attitude change for both

self and others, with true attitude change (current self – control self) to examine participants' accuracy of judgements of their own attitude change and others' attitude change. Although in this design the current and control measures for the self and others were taken from different participants, by sampling from the same population the control group can be treated as a baseline for the experimental group. We can therefore identify whether participants' perceptions of their own and others' attitude change were accurate. In other words, the comparisons between the control and experimental groups act as proxies for actual attitude change ratings.

We hypothesised that conspiracy theories would influence people's attitudes, but that people would not necessarily be aware that their attitudes had changed. This finding has been shown in other domains (e.g., attitudes about gun control, attitudes about global warming; Douglas & Sutton, 2004) and we expected that, as in other domains, people would perceive their attitudes to be unchanged after reading conspiracy-related material. Specifically, participants should rate their 'current self' and 'retrospective self' attitudes to be the same. However, when we compare perceived attitude change for others (current – retrospective) with participants' actual attitude change (current self – control self), people are likely to be accurate about the attitude change of others, but underestimate the impact of the conspiracy theories on themselves.

Findings were as predicted. First, participants were more in agreement with the conspiracy theories surrounding Princess Diana's death in the experimental group than in the control group, demonstrating that the conspiracy theories were indeed influential. Furthermore, whilst participants' estimates of others' attitude change were accurate, participants underestimated the extent to which their own attitudes were influenced (see Table 6). These findings therefore also suggest that the influence of conspiracy theories could be subtle rather than blatant.

TABLE 6 HERE

Engagement with politics

Since discovering that conspiracy theories can influence people's attitudes about events without their awareness, we theorised that conspiracy theories may influence people's attitudes and behavioural intentions in specific domains. We turned our attention first to politics. Many conspiracy theories concern the shady and sinister actions of government operations, which could plausibly influence the extent to which people intend to engage in the political system. To examine the effects of conspiracy theories on political decisions, we conducted an experiment (N = 168 British undergraduate and postgraduate students) where participants read a narrative that either supported conspiracy theories about governments (conspiracy), or refuted such conspiracy theories (mainstream; Jolley & Douglas, 2014a). A sample of text from the conspiracy condition was:

"…To take the example of Princess Diana's death, it is no secret that the British government were discontented with Princess Diana's involvement with Dodi Fayed and also with her increasing involvement in politics… one must therefore question the claim that her death was simply a tragic accident …"

An example of text from the mainstream condition was:

"…To take the example of Princess Diana's death, it is no secret that Princess Diana's popularity made some members of the government uneasy. However, there is no evidence at all to suggest that the British government were involved in her death... her death was simply a tragic accident ... "

We expected lower intentions to vote in an upcoming election in the conspiracy condition than in the mainstream condition. We further tested potential mediators of this predicted effect.

Specifically, we measured interpersonal trust (Goertzel, 1994; Abalakina-Paap et al., 1999), feelings of powerlessness (Abalakina-Paap et al., 1999), and uncertainty (van Prooijen & Jostmann, 2013), which are all known correlates of conspiracy beliefs as we explained earlier in this article. We also tested the potential mediating role of disillusionment with the political system. As expected, exposure to conspiracy theories decreased participants' intentions to vote. Further, this effect was mediated by feelings of powerlessness. Although exposure to conspiracy theories significantly influenced feelings of powerlessness and uncertainty, when controlling for each other, only powerlessness remained as a significant mediator (see Figure 4).

FIGURE 4 HERE

Environmental behaviour

We conducted a very similar experiment ($N = 214$ British undergraduate students) to examine whether this effect of conspiracy theories occurs in another domain—concerning conspiracy theories about climate science (Douglas & Sutton, 2015; Uscinski, Douglas & Lewandowsky, 2017). Participants read a narrative either supporting climate change conspiracy theories (e.g., that climate change is a hoax—conspiracy condition) or refuting them (mainstream condition) and were asked to rate their likelihood of engaging in a range of climate-friendly behaviours. There were seven statements in total, asking participants about their intended behaviours over the next 12 months (e.g., "Do you intend to use energy-efficiency as a selection criterion when buying a light bulb or household appliance?", "Do you intend to walk or cycle more than driving or using public transport?"). In this experiment, we also included a control condition in which participants read no material. We found that intentions to engage in climate-friendly behaviours were significantly lower in the conspiracy condition than the mainstream condition and the control condition. Intentions to engage in climate-friendly behaviours were not

significantly different in the anti-conspiracy condition relative to the control. We again included a set of potential mediators and found that the effect of conspiracy theories on climate behavioural intentions was mediated by feelings of powerlessness (e.g., "I feel that my actions will not affect the outcome of climate change", uncertainty (e.g., "I feel uncertain as to whether climate change is a significant problem", and disillusionment (e.g., I am very disappointed with the climate scientists").

Health-related behaviour

In recent years, vaccination has declined in many regions of the world (Health Protection Agency 2008) and this is a particular concern for the combined Measles, Mumps and Rubella vaccination (Burgess, Burgess & Leask, 2006). One contributor to this problem seems to have been the 1998 publication in the *Lancet* by Andrew Wakefield that linked the MMR vaccination to the appearance of autism. Although this research has been discredited and retracted, some doubts still remain and conspiracy theories about vaccine efficacy and safety are common (Kata, 2012). According to the most popular conspiracy theories, pharmaceutical companies stand to make such huge profits that they hide information that vaccines do not work and are unsafe (Offit, 2010). Some scholars have speculated that conspiracy theories are a barrier to vaccine uptake (e.g., Chung, 2009) and we tested this assertion empirically.

In two studies, we also tested the role of conspiracy theories in determining people's intentions to engage in vaccination behaviour (Jolley & Douglas, 2014b). In the first study, which was correlational, participants were asked to rate the extent to which they agreed or disagreed with statements related to a range of anti-vaccine conspiracy theories (e.g., "Vaccines are harmful, and this fact is covered up"). Participants ($N = 89$ British people), who were all parents, were then presented with a scenario depicting a fictitious child. They were asked to

imagine that they needed to make a decision whether or not to have the child vaccinated against a specific (fictional) disease. We found that anti-vaccine conspiracy beliefs indeed predicted vaccination intentions. Specifically, participants who endorsed anti-vaccine conspiracy theories to a greater extent reported weaker intentions to vaccinate. Furthermore, anti-vaccine conspiracy beliefs were associated with three potential mediator variables that had been examined in previous research: disillusionment, powerlessness (Jolley & Douglas, 2014a), trust towards authorities, and also the perceived dangers of vaccines (e.g., "Vaccines lead to allergies"). When all factors were taken into account, each significantly mediated the relationship between anti-vaccine conspiracy beliefs and vaccination intentions (see Table 7).

TABLE 7 HERE

A second study (*N* = 246 residents of the USA recruited from Mturk) found experimental support for this finding. Participants were exposed to material supporting anti-vaccine conspiracy theories (vs. anti-conspiracy information or a control condition). An excerpt from the anti-vaccine conspiracy information is as follows:

"… further, there is a significant amount of evidence that vaccines can hurt more than they help. For example, by the year 2000, tens of thousands of reactions to vaccines, including deaths, were reported. One must magnify these figures tenfold, because it is estimated that 90% of doctors do not report incidents …".

An excerpt from the anti-conspiracy article is as follows:

"… further, there is little evidence to suggest that vaccines are harmful. The side effects are minimal and whilst millions of people have been immunised over the years, less than .005% have ever had an adverse reaction to a vaccine …"

Participants were then asked to indicate their intention to have a fictitious child vaccinated as in Study 1. The same potential mediators were measured. Results revealed that participants who were exposed to anti-vaccine conspiracy theories felt less inclined to have a fictitious child vaccinated against a made-up disease compared those in the anti-vaccine and control conditions. This effect was again mediated by the perceived dangers of vaccines, feelings of powerlessness, disillusionment, and trust in authorities.

Commitment to the workplace

Across three studies, we have also shown that perceived conspiracies in the workplace are associated with decreased engagement in the workplace (Douglas & Leite, 2017). To illustrate one study ($N = 202$ participants from the USA recruited from Mturk), participants were asked to rate their agreement with several statements about conspiracies occurring in their own workplace (e.g., "A small group of people makes all of the decisions to suit their own interests", "A small group of people secretly manipulates events"—see also van Prooijen & de Vries, 2017). They were also asked to rate their intention to leave their current position (e.g., "Do you intend to leave your job in the next 12 months", "How likely is it that you will leave your job in the next 12 months") as a measure of turnover intentions. We tested the prediction that higher perceptions of workplace conspiracies would predict higher turnover intentions. We also tested the mechanisms that may mediate this relationship. Specifically, we reasoned that the relationship between organisational conspiracy belief and turnover intentions could be mediated by organisational identification (e.g., "What my workplace stands for is important to me"), organisational commitment ("I would be happy to spend the rest of my working life in my workplace"), and job satisfaction (e.g., To what extent are you satisfied with … "your work in general?", "your opportunities for advancement?). Results revealed evidence for these mediated

relationships (see Figure 9). That is, the more people perceived conspiracies to be occurring in their workplace, the more they were inclined to want to leave that workplace—a relationship mediated by identification, commitment and satisfaction with the job.

Although results suggest that conspiracy beliefs predict turnover intentions via these mediators, this does not provide conclusive support for the hypothesised causal direction. In two subsequent experimental studies, we therefore directly manipulated organisational conspiracy theories. In the first of these studies ($N = 119$ British workers recruited from Prolific Academic), we manipulated perceived *organisational climate* by asking participants to imagine working in either a positive workplace where employees have a lot of autonomy or a negative workplace where they do not. We again measured organisational commitment and job satisfaction. Findings revealed that a negative organisational climate increased belief in organisational conspiracy theories, which in turn influenced commitment, satisfaction, and led to higher turnover intentions.

In a third study ($N = 202$ participants from the USA recruited via Mturk), we manipulated exposure to organisational conspiracy theories using a method similar to that used by Jolley and Douglas (2014a, b). Participants were asked to read a paragraph carefully and imagine that they are working for a large consultancy firm and had been employed there for five years. One half of the participants (conspiracy condition), were presented with a scenario in which a conspiracy had occurred or was occurring. There were three scenarios which were counterbalanced. In the first scenario, a leaked email suggested that the management had plotted to fix the employee of the year award. In the second scenario, a leaked email suggested that the management team were secretly planning to cut the company pay budget to give higher bonuses to themselves. In the third scenario, it was suspected that certain employees were being handpicked for better and more

lucrative projects than others. Turnover intentions again served as the dependent measure, and we included organisational commitment and job satisfaction as potential mediators. As in Study 2, exposure to organisational conspiracy theories increased turnover intentions, and this effect was mediated by commitment and job satisfaction (see Figure 5).

FIGURE 5 HERE

On the whole, our research suggests that conspiracy theories have potentially negative social consequences. They tend to reduce engagement in important social domains and are associated with feelings of powerlessness, disillusionment and mistrust. However, this is not always the case. For example, Imhoff and Bruder (2014) found in one context that beliefs in conspiracy theories motivated rather than attenuated social action aimed at changing the status quo. Different contexts may elicit different effects of conspiracy theorising and exposure to conspiracy theories. It would be interesting and useful to further investigate the effects of conspiracy theories on political engagement in particular. There was much controversy surrounding both the 2016 Brexit referendum and the US election of Donald Trump. In each case, accusations of conspiracy were rife and so-called "fake news" was a prominent feature of both campaigns (Douglas, Ang & Deravi, 2017). Investigating when conspiracy theories induce political apathy and when they encourage people to take action to bring about social change is an important topic for future research. Further investigating how conspiracy theories spread across digital networks over time, and the relationships between conspiracy theories and fake news is also important.

How do we curb the influence of conspiracy theories?

Given the potentially detrimental effects of conspiracy theories on engagement with important social, political and health processes, an important next step is to understand how to

intervene to prevent these effects. Research on this topic is limited at present. Orosz et al. (2016) found that rational counter-arguments and ridiculing conspiracy believers were both effective in reducing conspiracy beliefs. Banas and Miller (2013) also examined the effectiveness of counter-arguments. Participants in their study were asked to view a clip from the film *Loose Change: Final Cut*, which sets out to prove that the official explanation for the 9/11 attacks on the New York World Trade Center buildings is false. After viewing the clip, participants were either given a fact-based argument against the film (e.g., that the film provided no evidence that explosives were used to demolish the World Trade Center buildings), or logic-based arguments (e.g., that the theory lacks parsimony). There was also a control condition where participants read no information. Participants were then asked to indicate their belief in the theory that the US government participated in a conspiracy to carry out the 9/11 attacks. Results revealed that the fact-based argument was most effective in reducing conspiracy belief.

Our research described earlier (Jolley & Douglas, 2014b, Study 2) provides further evidence of the effectiveness of fact-based arguments. Specifically, exposure to anti-conspiracy arguments about vaccines reduced belief in conspiracy theories relative to a control condition. However, results also indicated that exposure to anti-conspiracy information did not improve intentions to vaccinate relative to the control condition. Therefore, whilst it may be easy to influence belief in conspiracy theories by introducing factual arguments, this may not be effective in changing people's behaviours. As Jolley and Douglas (2014b) argued, "once the very idea of a conspiracy has been mentioned and has taken root, even strong [anti-conspiracy] arguments may be unable to lead to behavioural action" (p. 8).

We therefore next reasoned that a way to strengthen the persuasiveness of anti-conspiracy arguments may be to present them *before* participants have been exposed to conspiracy theories

next (Jolley & Douglas, 2017). If material presented first is relatively controversial, interesting, and familiar, this tends to produce a primacy effect (i.e., the first arguments presented have an advantage; e.g., Furnham, 1986; Rosnow, 1966; Rosnow & Robinson, 1967). We therefore hypothesised that presenting anti-conspiracy arguments before people are exposed to conspiracy material may inoculate them (e.g., McGuire & Papageorgis, 1961; Pfau & van Bockern, 1994) from any potentially harmful consequences. We tested this hypothesis in two studies.

In each study, participants were given anti-conspiracy arguments concerning vaccination either before or after conspiracy arguments, or in the absence of each other. For example, in Study 1 (*N* = 267 participants from the USA recruited from Mturk) there were five different conditions. Participants were asked to read one of five combinations of arguments: (1) conspiracy arguments only, (2) anti-conspiracy arguments only, (3) arguments refuting anti-vaccine conspiracy theories, followed by arguments in favour (anti-conspiracy/conspiracy), (4) arguments in favour of conspiracy theories, followed by arguments refuting them (conspiracy/anti-conspiracy), or (5) a control condition where participants were presented with no information. The materials were taken from Jolley and Douglas (2014b, Study 2). Participants were then asked to rate the extent to which they believed in a series of anti-vaccine conspiracy theories, and the extent to which they perceived vaccines to be dangerous (potential mediators). Then, participants were presented with a scenario depicting a fictitious child and were asked to imagine that they were faced with the decision to have this child vaccinated against a specific (made up) disease (see Jolley & Douglas, 2014b).

Results revealed that intentions to vaccinate were lower in the conspiracy condition than in the anti-conspiracy and control conditions, replicating previous research (Jolley & Douglas, 2014b). Furthermore, vaccination intentions were increased when participants were presented

with anti-conspiracy arguments prior to exposure to conspiracy theories, but not when presented with anti-conspiracy arguments after exposure to conspiracy theories. As predicted, therefore, anti-conspiracy arguments presented prior to exposure to conspiracy theories improved vaccination intentions (see Table 8). These findings support Lewandowsky, Ecker, Seifert, Schwarz, and Cook's (2012) observation that misinformation may be "sticky" (p. 107) and may become even more persuasive if people have not had a chance to prepare a defence against the incorrect information. Results further revealed that this effect was mediated by anti-vaccine conspiracy beliefs and the perception that vaccines are dangerous. We replicated these findings in a second study ($N = 180$ participants from the USA recruited via Prolific Academic). In this study, vaccination intentions were again improved when anti-conspiracy arguments were presented before conspiracy theories, but were not improved when anti-conspiracy arguments were presented after conspiracy theories.

TABLE 8 HERE

There is therefore a growing literature on the consequences of conspiracy theories and conspiracy theorising. Further research is needed to illuminate the potentially negative consequences and also to uncover the positive outcomes of conspiracy theorising. It also appears that a distinct challenge for scholars will be to determine what—if anything—can or should be done about the influence of conspiracy theories.

Limitations and future directions

Despite a massive growth in activity over the past decade, research on the social psychology of conspiracy theories is still very much in its infancy and the research to date therefore suffers from some important limitations that need to be addressed in future investigations. In this final section of the article, we refer to the limitations of our own research

programme and research on the social psychology of conspiracy theories in general, whilst suggesting possible solutions and making suggestions for future research.

Firstly, with a few exceptions, our research has relied on correlational research designs. Most of the time, we have measured beliefs in conspiracy theories and have also measured other variables of interest that we theorise will predict conspiracy beliefs (e.g., education), via mediators which we have also measured via self-report scales (e.g., agency detection; see Douglas et al., 2016). This limits the conclusions we are able to draw from this research. Specifically, whilst such research may suggest causal directional effects and mediation patterns, they cannot establish causality. Also, in some cases, reverse causal patterns might be equally plausible and correlational designs cannot rule them out. Future research should therefore focus more effort on experimental designs and longitudinal studies to establish cause and effect.

Another limitation of this research and other research in this area is that we have typically sampled from undergraduate student populations or samples from online crowdsourcing sites such as Crowdflower and Mturk. Whilst the latter are more representative of society as a whole and we can therefore draw more accurate inferences about conspiracy beliefs amongst the general public, they are still not representative samples and are typically younger and more educated than representative samples. Political scientists working on conspiracy beliefs tend to collect data from more representative samples, and it would be ideal if psychology could follow suit.

That said, many of the demographic variables that have been linked to beliefs in conspiracy theories (e.g., education, socioeconomic status; see Douglas, Sutton et al., 2017 for a review) would imply that representative general population samples are in many cases also not ideal. Instead, to better understand the psychological processes that attract people to conspiracy theories, researchers should focus more on the groups of people in society who seem most drawn

to them. Ideally, too, psychologists should study the psychological processes underlying conspiracy beliefs for those who are strong believers. In our studies of student and general public samples, overall belief in conspiracy theories tends to be quite low (e.g., around midpoint on a 5- or 7-point scale). These are not the people for whom conspiracy theories are important to their everyday lives. These are also not people for whom conspiracy theories strongly drive their daily decisions. More research should therefore focus on people who score high on measures of conspiracy beliefs. Potentially, too, different measures of conspiracy belief (e.g., interview responses, eye-tracking responses to conspiracy material, reaction times in responding to conspiracy material) could be valuable additions to the social psychologist's toolbox for examining conspiracy beliefs.

Another limitation of our research is that in our studies we have not always controlled for all variables that might plausibly be associated with conspiracy belief. For example, we controlled for variables such as RWA and SDO in our studies of attachment style and conspiracy beliefs (Green & Douglas, 2018) but did not control for these in other studies of individual differences and conspiracy theories, instead controlling for demographics such as age and political ideology (e.g., Douglas et al., 2016). Whilst it is not possible to include all potential correlates in every study—studies would become impractically lengthy for participants—a more systematic approach to control variables is needed in future research. In a similar vein, the mediators are not always consistent in our research. Feelings of powerlessness tend to emerge as a consistent mediator of the relationship between conspiracy theories and social action (e.g., political, vaccination, environmental; see Jolley & Douglas, 2014a, b), but again a more systematic approach to studying mediation (and also potential moderating variables) would be fruitful for future research and would help focus the literature further.

Next, our research on the consequences of conspiracy theories has solely focused on negative consequences (e.g., apathy, disengagement and inaction; see Jolley & Douglas, 2014a, b; Douglas & Leite, 2017). However, some theorists point to the potential benefits of conspiracy theories. For example, Imhoff and Bruder (2014) found in one context that beliefs in conspiracy theories motivated rather than attenuated social action aimed at changing the status quo. Others have suggested that conspiracy theories may inspire debate and make authorities accountable for their actions (Clarke, 2002; Miller, 2002). Attempts to undermine conspiracy theories might also undermine some of these positive consequences. More research therefore needs to examine when conspiracy theories might be helpful rather than harmful, and when efforts are made to debunk or undermine conspiracy theories, researchers need to be mindful of the positive as well as the negative consequences that might be affected.

Finally, whilst recent efforts have been made to organise the social psychological literature on conspiracy theories and to develop theoretical frameworks from which to study them (Douglas, Sutton et al., 2017), more theoretical work still needs to be done. In particular, the research to date—including our own research which we have highlighted in this article—is largely focused on processes occurring at the level of the individual. However, conspiracy theories are also important intergroup phenomena. Indeed, as Moscovici (1987) argued, conspiracy theories are social representations—that is shared beliefs about things that have happened and who the responsible actors are. These typically have an "us vs. them" flavour, focusing on fear and resentment of outgroups and in particular of minority groups. Research and theorising could return to these early social psychological conceptualisations of conspiracy theories to better integrate individual and group-level factors.

Conclusions

In summary, research has established that conspiracy theories are widespread in the social environment, widely believed, and consequential. They are not mere aberrations to be studied through the lens of abnormal or personality psychology but complex phenomena to be studied by scholars across the humanities and social sciences. The findings we have reviewed in this article, including those from our own research programme, indicate that social psychology plays a vital role in understanding what causes conspiracy theories to be so commonplace and influential.

Conspiracy theories also provide opportunities for social psychologists to connect with other academic disciplines. They are a phenomenon that everyone agrees exists. Most disciplines use the same language to describe them. The study of conspiracy theories is not like other topics where separate research literatures have emerged and similar phenomena are studied using different theoretical languages and different definitions. Collaborations across disciplines are also developing. In 2015, Peter Knight and Michael Butter—two scholars from American studies—successfully set up a European COST action on "Comparative analysis of conspiracy theories". This project brings together senior and junior researchers studying conspiracy theories across many disciplines in the humanities and social sciences. Research projects are emerging from this network and an interdisciplinary volume on conspiracy theories will be published in 2020. These networks are important. They help scholars to bridge their theoretical and methodological divides to produce research that considers conspiracy theories from a variety of different angles—and this is essential for such a complex phenomenon. Social psychology will be an important part of this process.

References

Abalakina-Paap, M., Stephan, W. G., Craig, T., & Gregory, W. L. (1999). Beliefs in

conspiracies. *Political Psychology*, *20*(3), 637-647.

Abelson, R. P. (1986). Beliefs are like possessions. *Journal for the Theory of Social Behaviour*,

16, 223–250.

Adorno, T. W., Frenkel-Brunswick, E., Levinson, D. J., & Sanford, R. N. (1950). *The*

authoritarian personality. New York: Harper.

Altemeyer, B. (1981). *Right-wing authoritarianism.* Winnipeg: University of Manitoba Press.

Ames, D.R. (2004). Inside the mind reader's tool kit: Projection and stereotyping in mental state

inference. *Journal of Personality and Social Psychology, 87*, 340-353.

Arnold, G. B. (2008). *Conspiracy theory in film, television, and politics.* Westport, CT: Praeger.

Banas, J. A., & Miller, G. (2013). Inducing resistance to conspiracy theory propaganda: Testing

inoculation and metainoculation strategies. Human Communication Research, 39, 184-

207.

Bandura, A. (2006). Toward a psychology of human agency. *Perspectives on Psychological*

Science, *1*, 164-180.

Barkun, M. (2003). A culture of conspiracy: Apocalyptic visions in contemporary America.

Berkley, CA: University of California Press.

Barrett, J. L. (2004). *Why would anyone believe in God?* Walnut Creek, CA: AltaMira Press.

Barron, D., Morgan, K., Towell, T., Altemeyer, B., & Swami, V. (2014). Associations between

schizotypy and belief in conspiracist ideation. *Personality and Individual Differences, 70*,

156-159.

Bem, D.J. (1967). Self-perception: An alternative interpretation of cognitive dissonance

phenomena. *Psychological Review, 74*, 183-200.

Bem, D.J. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol. 6, pp. 1-62). New York: Academic Press.

Billig, M. (1996). *Arguing and thinking: A rhetorical approach to social psychology*. Cambridge, UK: Cambridge University Press.

Billig, M. (1987). Anti-Semitic themes and the British far Left: Some social-psychological observations on indirect aspects of the conspiracy tradition. In C. F. Graumann, & S. Moscovici (Eds.), *Changing conceptions of conspiracy* (pp. 115–136). New York, NY: Springer.

Boag, E. M., & Carnelley, K. B. (2016). Attachment and prejudice: The mediating role of empathy. *British Journal of Social Psychology*, *55*, 337-356.

Bogart, L. M., & Bird, S. T. (2003). Exploring the relationship of conspiracy beliefs about HIV/AIDS to sexual behaviors and attitudes among African-American adults. *Journal of the National Medical Association, 95*(11), 1057-1065.

Bowlby, J. (1982). *Attachment and loss: Vol. 1 Attachment* (2nd. ed.). New York: Basic Books. (Original work published 1969)

Brock, T. C., & Brannon, L. A. (1992). Liberalization of commodity theory. *Basic and Applied Social Psychology*, *13*, 135–144.

Brotherton, R., & French, C.C. (2014). Belief in conspiracy theories and susceptibility to the conjunction fallacy. *Applied Cognitive Psychology, 28*(2), 238-248.

Brotherton, R., & French, C. C. (2015). Intention seekers: Conspiracist ideation and biased attributions of intentionality. *PLOS ONE, 10*(5), e0124125.

Brotherton, R., French, C. C., & Pickering, A. D. (2013). Measuring belief in conspiracy theories: The generic conspiracist beliefs scale. *Frontiers in Psychology, 4*(279), 1-15.

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. *Frontiers in Psychology*, *4*(225).

Burgess, D.C., Burgess, M.A., Leask, .J (2006). The MMR vaccination and autism controversy in United Kingdom 1998–2005: Inevitable community outrage or a failure of risk communication? *Vaccine, 24*, 3921–3928.

Chung, K. (2009). The phenomenon of the conspiracy theory has contributed substantially to the belief that vaccination is the direct cause of autism. *The Journal of the American Osteopathic Association, 109*, 384-386.

Clarke, S. (2002). Conspiracy theories and conspiracy theorizing. *Philosophy of the Social Sciences, 32*, 131–150.

Cichocka, A., Marchlewska, M., Golec de Zavala, A., & Olechowski, M. (2016). 'They will not control us': Ingroup positivity and belief in intergroup conspiracies. *British Journal of Psychology, 107*(3)*,* 556-576.

Christie, R., & Geis, F.I. (1970) (Eds.), *Studies in Machiavellianism*. New York: Academic Press.

Corte, U., & Edwards, B. (2008). White power music and the mobilization of racist social movements. *Music and Arts in Action, 1*(1), 4-20. Retrieved from:

http://musicandartsinaction.net/index.php/maia/article/view/whitepowermusic

Crocker J., Luhtanen R., Broadnax S., Blaine B. E. (1999). Belief in U.S. government conspiracies against Blacks among Black and White college students: Powerlessness or system blame? *Personality and Social Psychology Bulletin, 25*, 941–953.

Dagnall, N., Denovan, A., Drinkwater, K., Parker, A., & Clough, P. J. (2017). Urban legends and paranormal beliefs: The role of reality testing and Schizotypy. *Frontiers in Psychology, 8*(942).

Dagnall, N., Drinkwater, K., Parker, A., Denovan, A., & Parton, M. (2015). Conspiracy theory and cognitive style: A worldview. *Frontiers in Psychology, 6* (206).

Darwin, H., Neave, N., & Holmes, J. (2011). Belief in conspiracy theories. The role of paranormal belief, paranoid ideation and schizotypy. *Personality and Individual Differences, 50*(8), 1289-1293.

Del Vicario, M., Bessi, A., Zollo, F., Petroni, F., Scala, A., Caldarelli, G., ... & Quattrociocchi, W. (2016). The spreading of misinformation online. *Proceedings of the National Academy of Sciences, 113*(3), 554-559.

Dieguez, S., Wagner-Egger, P., & Gauvrit, N. (2015). Nothing happens by accident, or does it? A low prior for randomness does not explain belief in conspiracy theories. Psychological Science, 26, 1762-1770.

Douglas, K.M., Ang, C.S., & Deravi, F. (2017, June). Reclaiming the truth. *The Psychologist.*

Douglas, K.M., & Leite, A.C. (2017). Suspicion in the workplace: Organizational conspiracy theories and work-related outcomes. *British Journal of Psychology, 108,* 486-506.

Douglas, K.M., & Sutton, R.M. (2004). Right about others, wrong about ourselves? Actual and perceived self-other differences in resistance to persuasion. *British Journal of Social Psychology*, *43*, 585-603.

Douglas, K.M. & Sutton, R.M. (2008). The hidden impact of conspiracy theories: Perceived and actual impact of theories surrounding the death of Princess Diana. *Journal of Social Psychology, 148*, 210-221.

Douglas, K.M., & Sutton, R.M. (2011). Does it take one to know one? Endorsement of

    conspiracy theories is influenced by personal willingness to conspire. *British Journal of*

    Social Psychology, 50, 433-552.

Douglas, K.M., & Sutton, R.M. (2015). Climate change: Why the conspiracy theories are

    dangerous. *Bulletin of the Atomic Scientists, 71,* 98-106.

Douglas, K.M., Sutton, R.M., Callan, M.J., Dawtry, R.J., & Harvey, A.J. (2016). Someone is

    pulling the strings: Hypersensitive agency detection and belief in conspiracy theories.

    Thinking and Reasoning, 22, 57-77.

Douglas, K.M., Sutton, R.M., & Cichocka, A. (2017). The psychology of conspiracy theories.

    Current Directions in Psychological Science, 26, 538-542.

Douglas, K.M., Sutton, R.M., Jolley, D., & Wood, M. (2015). The social, political,

    environmental and health-related consequences of conspiracy theories: Problems and

    potential solutions. In M. Bilewicz, A. Cichocka, & W. Soral (Eds.), *The psychology of*

    conspiracy (pp. 183-200)*.* Abingdon, Oxford, UK: Taylor and Francis.

Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Orlando: Harcourt Brace.

Eckblad, M., & Chapman, L. J. (1983). Magical ideation as an indicator of schizotypy. *Journal of*

    Consulting and Clinical Psychology, 51, 215-225.

Fenster, M. (1999). *Conspiracy theories: Secrecy and power in American culture*. Minneapolis:

    University of Minnesota Press.

Furnham, A. (1986). The robustness of the recency effect: Studies using legal evidence. *The*

    Journal of General Psychology, 11 (4), 351-357.

Gawronski, B., & Strack, F. (Eds.). (2012). *Cognitive consistency: A fundamental principle in*

    social cognition. New York: Guilford press.

Goertzel, T. (1994). Belief in conspiracy theories. *Political Psychology, 15*(4), 731-742.

Golec de Zavala, A., & Cichocka, A. (2012). Collective narcissism and anti-Semitism in Poland. Group Processes and Intergroup Relations, 15, 213-229.

Gosa, T. L. (2011). Counterknowledge, racial paranoia, and the cultic milieu: Decoding hip hop conspiracy theory. *Poetics, 39*(3), 187-204.

Green & Douglas (2018). Anxious attachment and belief in conspiracy theories. *Personality and Individual Differences, 125,* 30-37.

Grzesiak-Feldman, M. (2013). The effect of high-anxiety situations on conspiracy thinking. *Current Psychology, 32*(1), 100-118.

Grzesiak-Feldman, M., & Irzycka, M. (2009). Right-wing authoritarianism and conspiracy thinking in a Polish sample. *Psychological Reports, 105*(2), 389-393.

Hart, J., Hung, J. A., Glick, P., & Dinero, R. E. (2012). He loves her, he loves her not: Attachment style as a personality antecedent to men's ambivalent sexism. *Personality and Social Psychology Bulletin*, *38*, 1495-1505.

Hayes, A. F. (2013). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. New York: Guilford Press.

Health Protection Agency (2008). *Measles Figures Soar*. Retrieved from: http://www.hpa.org.uk/NewsCentre/NationalPressReleases/2008PressReleases/081128measles/

Heider, E. (1979). On balance and attribution. In P W. Holland & S. Leinhardt (Eds.), Perspectives on social network research (pp. 11-23). New York: Academic Press.

Heider, F. & Simmel, M. (1944). An experimental study of apparent behavior. *American Journal of Psychology, 57,* 243-259.

Hofstadter, R. (1964). The paranoid style in American politics and other essays. Cambridge, NY: Harvard University Press.

Imhoff, R., & Bruder, M. (2014). Speaking (un-) truth to power: Conspiracy mentality as a generalised political attitude. *European Journal of Personality, 28*(1), 25-43.

Imhoff, R., & Lamberty, P. K., (2017). Too special to be duped: Need for uniqueness motivates conspiracy beliefs. *European Journal of Social Psychology*, *47*(6), 724-734.

Imhoff, R., & Lamberty, P. K. (in press). How paranoid are conspiracy believers? Toward a more fine-grained understanding of the connect and disconnect between paranoia and belief in conspiracy theories *European Journal of Social Psychology.*

Jolley, D., & Douglas, K.M. (2014a). The social consequences of conspiracism: Exposure to conspiracy theories decreases the intention to engage in politics and to reduce one's carbon footprint. *British Journal of Psychology, 105,* 35-56.

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

Jolley, D., & Douglas, K.M. (2017). Prevention is better than cure: Addressing anti-vaccine conspiracy theories. *Journal of Applied Social Psychology, 47,* 459-469.

Jolley, D., Douglas, K.M., & Sutton, R.M. (2018). Blaming a few bad apples to save a threatened barrel: The system-justifying function of conspiracy theories. *Political Psychology, 39,* 465-478.

Jost, J.T., & Banaji, M. (1994). The role of stereotyping in system justification and the production of false consciousness. *British Journal of Social Psychology, 22,* 1-27.

Jost, J.T., Banaji, M.R., & Nosek, B.A. (2004). A decade of system justification theory: Accumulated evidence of conscious and unconscious bolstering of the status quo. *Political Psychology, 25*, 881–919.

Jost, J.T., Kivetz, Y., Rubini, M., Guermandi, G., & Mosso, C. (2005). System-justifying functions of complementary regional and ethnic stereotypes: Cross-national evidence. *Social Justice Research, 18*, 305-333.

Kata, A. (2012). Anti-vaccine activists, Web 2.0, and the postmodern paradigm - An overview of tactics and tropes used online by the anti-vaccination movement. *Vaccine, 30*, 3778–3789.

Keeley, B. L. (2007). God as the ultimate conspiracy theory. *Episteme*, *4*, 135-149.

Klein, O. (2013). The lay historian: How ordinary people think about history. In R. Cabecinhas & L. Abadia (Eds.), *Narratives and social memory: Theoretical and methodological approaches* (pp. 25-45). Braga: University of Minho.

Knight, P. (2003). Conspiracy theories in America: A historical overview. In P. Knight (Ed.), *Conspiracy theories in American history: An encyclopedia* (Vol 1, pp. ix-x). Santa Barbara, CA: ABC-CLIO.

Kofta, M., Sedek, G., & Slawuta, P. N. (2011, July). Beliefs in Jewish conspiracy: The role of situation threats to ingroup power and positive image. Paper presented at the 34th International Society of Political Psychology (ISSP) conference, Istanbul, Turkey.

Kunda, Z., & Oleson, K.C. (1995). Maintaining stereotypes in the face of disconfirmation: constructing grounds for subtyping deviants. *Journal of Personality and Social Psychology*, *68*, 565-579.

Kunda, Z., & Sanitioso, R. (1989). Motivated changes in the self-concept. *Journal of Experimental Social Psychology*, *25*, 272–285.

Krueger, J. (2000). The projective perception of the social world: A building block of social comparison processes. In J. Suls & L. Wheeler (Eds.), *Handbook of social comparison: Theory and research* (pp. 323–351). New York: Kluwer Academic/Plenum Publishers.

Lewandowsky, S., Ecker, U. K. H., Seifert, C. M., Schwarz, N., & Cook, J. (2012).

Misinformation and its correction: Continued influence and successful debiasing. *Psychological Science in the Public Interest, 13 (3),* 106-131.

Lewis, T., & Kahn, R. (2005). The reptoid hypothesis: utopian and dystopian representational motifs in David Icke's alien conspiracy theory. *Utopian Studies*, *16*, 45-74.

Lynn, M., & Harris, J. (1997). The desire for unique consumer products: A new individual differences scale. *Psychology and Marketing*, *14*, 601–616.

Lynn, M., & Snyder, C. R. (2002). Uniqueness seeking. In C. R. Snyder & S. J. Lopez (Eds.), *Handbook of positive psychology* (pp. 395–419). New York: Oxford University Press.

Lantian, A., Muller, D., Nurra, C., & Douglas, K.M. (2017). "I know things they don't know!" The role of need for uniqueness in belief in conspiracy theories. *Social Psychology, 48,* 160-173.

Marchlewska, M., Cichocka, A., & Kossowska, M. (2018). Addicted to answers: Need for cognitive closure and the endorsement of conspiracy beliefs. *European Journal of Social Psychology, 48,* 109-117.

Marques, J.M., & Paez, D. (1994). The 'black sheep effect': Social categorization, rejection of ingroup deviates, and perception of group variability. *European Review of Social Psychology*, 5, 37-68.

McHoskey, J. W. (1995). Case closed? On the John F. Kennedy assassination: Biased assimilation of evidence and attitude polarization. *Basic and Applied Social Psychology, 17*, 395-409.

McClure, M. J., Bartz, J. A., & Lydon, J. E. (2013). Uncovering and overcoming ambivalence: the role of chronic and contextually activated attachment in two-person social dilemmas. *Journal of Personality*, *81*, 103-117.

McGuire, W. J., & Papageorgis, D. (1961). The relative efficacy of various types of prior belief-defense in producing immunity against persuasion. *Journal of Abnormal and Social Psychology, 62,* 327-337.

McKenzie-McHarg, A., & Fredheim, R. (2017). Cock-ups and slap-downs: A Quantitative analysis of conspiracy rhetoric in the British Parliament 1916-2015. *Historical Methods: A Journal of Quantitative and Interdisciplinary History*, *50,* 156-169.

Miller, S. (2002). Conspiracy theories: public arguments as coded social critiques. *Argumentation and Advocacy, 39*, 40-56.

Moscovici, S. (1987). The conspiracy mentality. In C. F. Graumann & S. Moscovici (Eds.) *Changing conceptions of conspiracy* (pp. 151-169). London: Springer.

Offit, P.A. (2010). *Deadly choices: How the anti-vaccine movement threatens us all*. Basic Books.

Oliver, J. E. & Wood, T. J. (2014). Conspiracy theories and the paranoid style(s) of mass opinion. *American Journal of Political Science, 58(4)*, 952-966.

Orosz, G., Kreko, P., Paskuj, B., Toth-Kiraly, I., Bothe, B., & Roland-Levy, C.R. (2016). Changing conspiracy beliefs through rationality and ridiculing. *Frontiers in Psychology,* https://doi.org/10.3389/fpsyg.2016.01525.

Pfau, M., & Van Bockern, S. (1994). The persistence of inoculation in conferring resistance to smoking initiation among adolescents: The second year. *Human Communication Research, 20,* 413-430.

Pigden, C. (1995). Popper revisited, or what is wrong with conspiracy theories? *Philosophy of the Social Sciences, 25,* 3-34.

Popper, K. (1945/2013). *The open society and its enemies*. Princeton, NJ: Princeton University Press.

Pratto, F., Sidanius, J., Stallworth, L.M., & Malle, B.F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychology 67*(4), 741-763.

Qualter, T. H. (1985). *Opinion control in the democracies*. New York: Springer.

Radnitz, S., & Underwood, P. (2017). Is belief in conspiracy theories pathological? A survey experiment on the cognitive roots of extreme suspicion. *British Journal of Political Science, 47*(1), 113-129.

Read, S. J., Snow, C. J., & Simon, D. (2003). Constraint satisfaction processes in social reasoning. In *The Proceedings of the Twenty-fifth Annual Cognitive Science Society Conference.* Boston, MA.

Rom, E., & Mikulincer, M. (2003). Attachment theory and group processes: The association between attachment style and group-related representations, goals, memories, and functioning. *Journal of Personality and Social Psychology*, *84*, 1220-1235.

Rosnow, R. (1966). Whatever happened to the "Law of Primacy". *Journal of Communication, 16,* 10-31.

Rosnow, R., & Robinson, E. (1967). *Experiments in persuasion.* New York: Academic Press.

Sapountzis, A., & Condor, S. (2013). Conspiracy accounts as intergroup theories: challenging dominant understandings of social power and political legitimacy. *Political Psychology*, *34*, 731-752.

Simon, D., Snow, C.J., & Read, S. J. (2004). The redux of cognitive consistency theories: Evidence judgments by constraint satisfaction. *Journal of Personality and Social Psychology, 86,* 814-837.

Sanitioso, R., Kunda, Z., & Fong, G. T. (1990). Motivated recruitment of autobiographical memories. *Journal of Personality and Social Psychology*, *59*, 229–241.

Scholl, B. J., & Tremoulet, R. D. (2000). Perceptual causality and animacy. *Trends in Cognitive Sciences, 4,* 299-309.

Ståhl, T. & Van Prooijen, J.-W. (2018). Epistemic rationality: Skepticism toward unfounded beliefs requires sufficient cognitive ability and motivation to be rational. *Personality and Individual Differences, 122*, 155-163.

Sidanius, J., & Pratto, F. (1999). *Social dominance: An intergroup theory of social hierarchy and oppression*. New York: Cambridge University Press.

Snyder, C. R. & Fromkin, H. L. (1977). Abnormality as a positive characteristic: The development and validation of a scale measuring need for uniqueness. *Journal of Abnormal Psychology, 86,* 518-527.

Snyder, C. R., & Fromkin, H. L. (1980). *Uniqueness: The pursuit of human difference*. New York, NY: Springer.

Spark, A. (2000). Conjuring order: the new world order and conspiracy theories of globalization. *The Sociological Review*, *48*, 46-62.

Sutton, R.M., & Douglas, K.M. (2014). Examining the monological nature of conspiracy theories. In J-W. van Prooijen & P.AM. van Lange, *Power, politics and paranoia: Why people are suspicious about their leaders.* (pp. 254-272). Cambridge: Cambridge University Press.

Swami, V., Barron, D., Weis, L., Voracek, M., Stieger, S., & Furnham, A. (2017). An examination of the factorial and convergent validity of four measures of conspiracist ideation, with recommendations for researchers. *PloS one*, *12*, e0172617.

Swami, V., Chamorro-Premuzic, T., & Furnham, A. (2010). Unanswered questions: A preliminary investigation of personality and individual difference predictors of 9/11 conspiracist beliefs. *Applied Cognitive Psychology, 24*, 749–761.

Swami, V., Coles, R., Stieger, S., Pietschnig, J., Furnham, A., Rehim, S., & Voracek, M. (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. *British Journal of Psychology*, *102*(3), 443-463.

Swami, V., Pietschnig, J., Tran, U. S., Nader, I. W., Stieger, S. & Voracek, M. (2013). Lunar lies: The impact of informational framing and individual differences in shaping conspiracist beliefs about the moon landings. *Applied Cognitive Psychology, 27*(1), 71-80.

Swami, V., Voracek, M., Stieger, S., Tran, U. S., & Furnham, A. (2014). Analytic thinking reduces belief in conspiracy theories. *Cognition, 133*(3), 572-585.

Uscinski, J., Douglas, K.M., & Lewandowsky, S. (2017). Climate change conspiracy beliefs. In *Oxford encyclopedia of climate change*. Oxford: Oxford University Press. Published online September 2017.

Uscinski, J. E., & Parent, J. M. (2014). *American conspiracy theories*. New York, NY: Oxford University Press.

van der Tempel, J., & Alcock, J. E. (2015). Relationships between conspiracy mentality, hyperactive agency detection, and Schizotypy: Supernatural forces at work? *Personality and Individual Differences, 82,* 136-141.

van der Wal, R. C., Sutton, R. M., Lange, J., & Braga, J. P. N. (in press). Suspicious binds: Conspiracy thinking and tenuous perceptions of causal connections between co-occurring and spuriously correlated events. *European Journal of Social Psychology.*

van Prooijen, J.-W. & Douglas, K.M. (2017). Conspiracy theories as a part of history. The role of societal crisis situations. *Memory Studies*, *10*, 323–333.

van Prooijen J.-W., Douglas, K.M., & de Inocencio, C. (2018). Connecting the dots: Illusory

    pattern perception predicts belief in conspiracies and the supernatural. *European Journal*

    of Social Psychology, 48, 320-335.

van Prooijen, J.-W., & Jostmann, N. B. (2013). Belief in conspiracy theories: The influence of

    uncertainty and perceived morality. *European Journal of Social Psychology*, *43,* 109-115.

Vigen, T. (2015). Spurious correlations. New York: Hachette Books.

Waytz, A., Cacioppo, J., & Epley, N. (2010). Who sees human? The stability and importance of

    individual differences in anthropomorphism. *Perspectives on Psychological Science, 5,*

    219-232.

Whitson, J. A. & Galinsky, A. D. (2008). Lacking control increases illusory pattern perception.

    Science, 322, 115-117.

Willman, S. (1998). Traversing the Fantasies of the JFK Assassination: Conspiracy and

    Contingency in Don Delillo's" Libra". *Contemporary Literature*, *39*, 405-433.

Wood, M.J., & Douglas, K.M. (2013). "What about building 7?" A social psychological study of

    online discussion of 9/11 conspiracy theories. *Frontiers in Psychology, 4,* 409.

Wood, M.J., & Douglas, K.M. (2015). Online communication as a window to conspiracist

    worldviews. *Frontiers in Psychology.* 17th June 2015.

    http://dx.doi.org/10.3389/fpsyg.2015.00836

Wood, M.J., & Douglas, K.M. (forthcoming). Are conspiracy theories a surrogate for God? In

    A. Dyrendal, D. Robertson, & E. Asprem (Eds.), *Brill handbook of conspiracy theory and*

    contemporary religion. Leiden, The Netherlands: BRILL.

Wood, M., Douglas, K.M., & Sutton, R.M. (2012). Dead and alive: Beliefs in contradictory

    conspiracy theories. *Social Psychological and Personality Science, 3,* 767-773.

Zhao, j., Hahn, U., & Osherson, D. (2014). Perception and identification of random events.

Journal of Experimental Psychology: Human Perception and Performance, 40(4), 1358-

1371.

Tables

Table 1
Agency detection significantly predicts belief in conspiracy theories (Douglas, Sutton, Callan, Dawtry & Harvey, 2016, Study 1, $N = 202$; * $p < .05$, ** $p < .01$, *** $p < .001$).

Predictor variable	β	t
Anthropomorphism	.249	3.65***
Perceived intentionality	.130	2.00*
Age	-.160	-2.27*
Religiosity	.078	1.10
Political conservatism	.224	3.26**
Education level	-.051	-.73
Annual household income	.030	.40
Socioeconomic status	-.037	-.50

Table 2
Correlations between belief in conspiracy theories, pattern perception, and supernatural beliefs (van Prooijen, Douglas & de Inocencio, 2018, Study 1, $N = 264$; *** $p < 0.001$).

	Mean	SD	1	2	3	4
1. Belief in existing conspiracy theories	2.88	0.84	-			
2. Belief in fictitious conspiracy theories	2.69	0.84	.70***	-		
3. Supernatural beliefs	2.46	0.69	.47***	.54***	-	
4. Pattern perception	2.82	1.51	.37***	.44***	.38***	-

Table 3

Means (and standard deviations) for predictor variables in van der Wal et al. (in press), Study 1, $N = 200$, and beta-weights from a regression model in which conspiracy thinking was the criterion variable, *** $p < .001$

Predictor	Means (SD)	
	Mean	Predicts conspiracy belief β
Education (1-4)	2.80 (*1.11*)	-.10
Age	36.32 (*11.38*)	-.05
Gender (1=Male, 2 = Female)	1.48 (*0.50*)	-.03
Ease of explanation (1-9)	4.14 (*1.44*)	-.05
Correlation is coincidence (1-9)	6.22 (*1.53*)	-.02
Correlation produced by third cause (1-9)	4.05 (*1.57*)	.07
Direct causal connection	3.19 (*1.43*)	.37***

Table 4

Exposure to conspiracy theories increases satisfaction with the status quo under system threat (Jolley, Douglas & Sutton, 2018, Study 2, $N = 190$).

Condition	Means (SD)	
	Affirm	Threat
Conspiracy	4.68 (.56), n = 38	4.95 (.60), n = 39
No conspiracy	4.81 (.71), n = 43	4.48 (.80), n = 40

Table 5

Predictors of conspiracy beliefs (Green & Douglas, 2018, Study 1, $N = 246$; † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$).

Variable	t	β
Anxious	2.03	0.16*
Avoidant	- 1.21	- 0.10
RWA	0.19	0.02
SDO	1.99	0.13*
Manichean	3.63	0.23**
Trust	- 3.56	- 0.24**
Age	- 0.58	- 0.04
Education	- 1.79	- 0.11†
Religiosity	1.22	0.08

Table 6

Mean (and standard deviation) control, retrospective and current attitudes towards for self and other. Higher values indicate greater rated endorsement of the statements (Douglas & Sutton, 2008, $N = 96$; 48 per condition; means that share a subscript are not significantly different at $p <$ .05).

		Attitude rating				
		Control	Retrospective	Current	Perceived attitude change	Actual attitude change
Person	Self	1.75 (0.62)aa	2.53 (1.05)b	2.68 (1.06)dd	0.15 (0.40)f	0.93 (1.21)g
	Other	2.15 (0.75)c	2.42 (0.84)bc	3.13 (1.01)ee	0.71 (0.98)g	

Table 7

Multiple mediation test of the relationship between anti-vaccine conspiracy beliefs (IV; a) and vaccination intentions (DV; c) through perceived dangers of vaccines [a], and feelings of powerlessness [b], disillusionment [c] and trust in authorities [d] (MVs; b) with 5000 bootstrap resamples (Jolley & Douglas, 2014b, Study 1, $N = 89$; *** $p < .001$).

	Normal test theory				
Mediator (*MV*)		Dependent (*DV*)			
Path	Coeff. (s.e.)	Path	Coeff. (s.e.)	Path	Coeff. (s.e.)
a^a	1.17 (.11)***	c	-.63 (.16)***	c'	-.02 (.26)
a^b	.97 (.15)***				
a^c	1.06 (.12)***				
a^d	-.65 (.14)***				
'MV'				b^a	-.46 (.16)***
				b^b	.04 (.12)
				b^c	-.14 (.14)
				b^d	.08 (.13)

Table 8
Means and standard deviations across conditions for conspiracy belief, perceptions that vaccines are dangerous, and intentions to vaccinate (Jolley & Douglas, 2017; Study 1, $N = 260$, Ns for each condition respectively = 55, 52, 52, 50, and 51).

	Means *(SD)*		
Condition	Anti-vaccine conspiracy belief	Perceived dangers of vaccines	Intention to vaccinate
Conspiracy	4.47 (*0.81*)	4.50 (*1.26*)	4.42 (*1.76*)
Anti-conspiracy	3.38 (*1.02*)	2.92 (*1.57*)	5.60 (*1.49*)
Control	3.83 (*1.12*)	3.55 (*1.62*)	5.50 (*1.21*)
Anti-conspiracy/Conspiracy	3.94 (*1.00*)	3.63 (*1.56*)	5.04 (*1.69*)
Conspiracy/Anti-conspiracy	4.23 *(0.91*)	4.04 (*1.45*)	4.80 (*1.77*)

Figures

Figure 1
Belief in a cover-up explains belief in mutually incompatible conspiracy theories (Wood, Douglas & Sutton, 2012, Study 2, $N = 102$; coefficients are beta coefficients; $* p < .05$; $*** p < .001$).
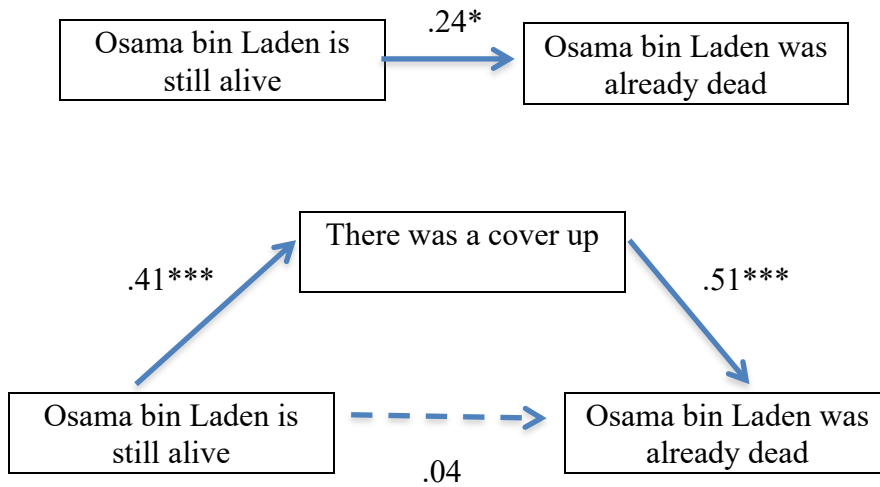
Figure 2
The link between personal morality and belief in conspiracy theories is mediated by personal willingness to conspire (Douglas & Sutton, 2011, Study 2, $N = 60$; 30 per condition; coefficients are beta coefficients; * $p < .05$; *** $p < .001$).
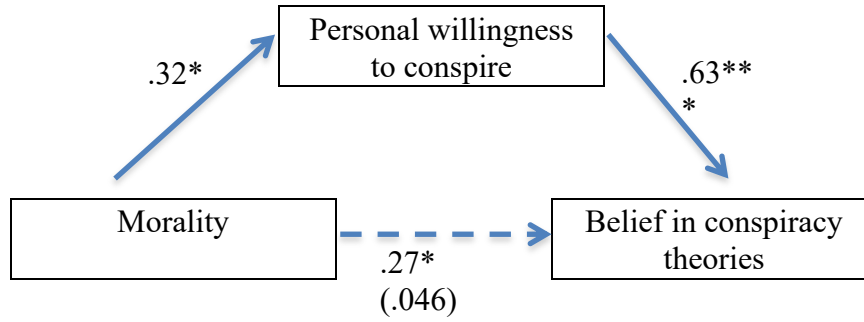
Figure 3

Mediation model of the relationship between exposure to conspiracy theories and satisfaction with the status quo through attributions for social problems. (Jolley, Douglas & Sutton, 2018, Study 3, $N = 166$). Results based on 5000 bootstrapped resamples. The overall indirect effect was significant, (LLCI = -.5667, ULCI = -.0621; Adj R2 = .10, $F(2,51) = 13.97$, $p < .001$; * $p < .05$; ** $p < .01$; *** $p < .001$).
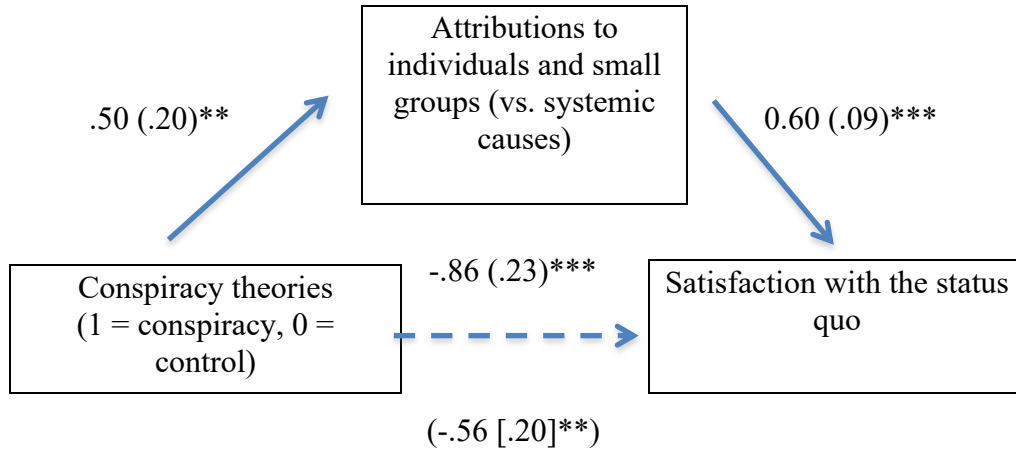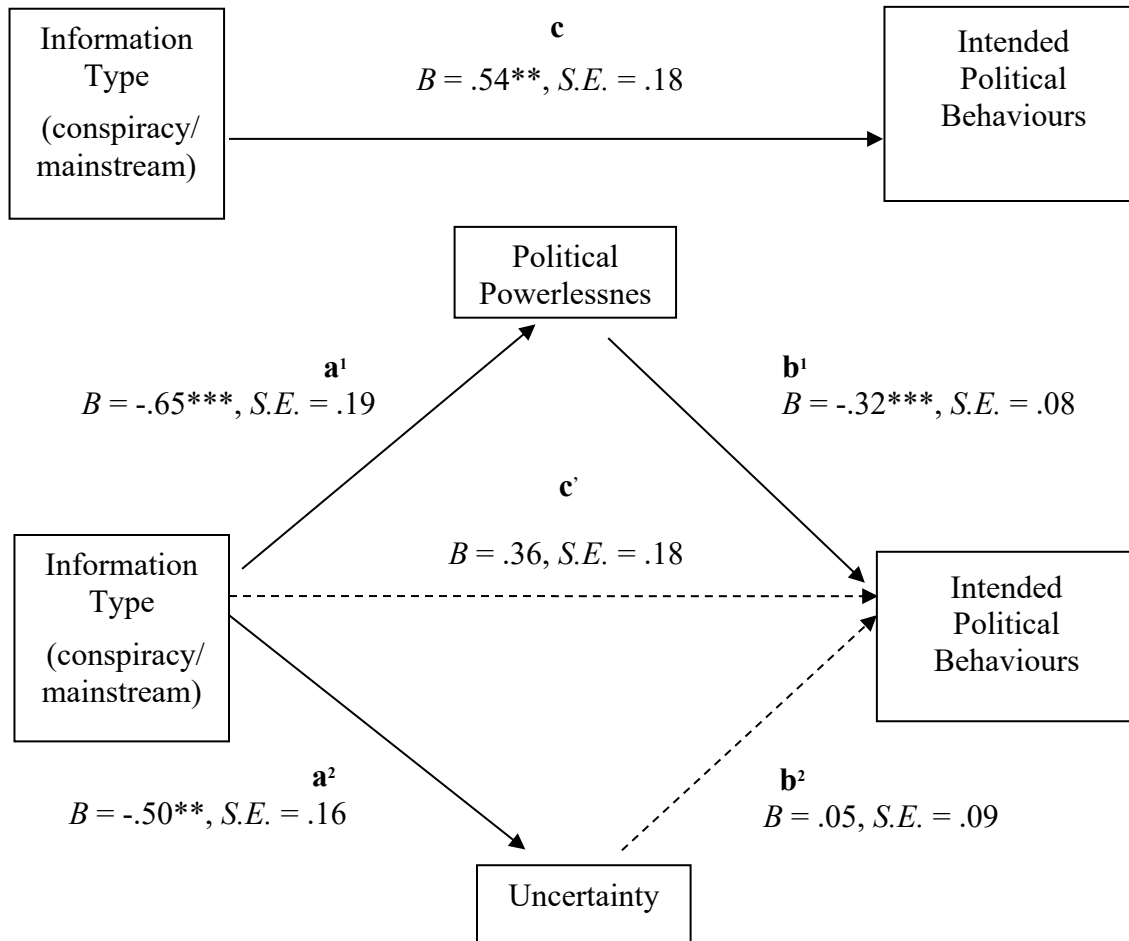
Figure 4

Multiple mediation test of the relationship between information type (conspiracy versus mainstream) and intended political behaviours (Jolley & Douglas, (2014a, Study 1 $N = 168$; dashed lines highlight non-significant relationships and solid lines highlight significant relationships; Adj $R^2 = .14$, $F(3,164) = 9.70$, $p < .001$; $**p < .05$; $***p < .01$).

'a' paths = independent variable to mediator
'b' paths = mediators to DV controlling for IV
'c' path = IV to DV without the mediators – a.k.a. total effect
'c'' path = IV to DV controlling for the mediators – a.k.a. the direct effect

Figure 5
Unstandardised coefficients for mediation analyses using the PROCESS macro (Model 4, 10,000 bootstraps; Hayes, 2013), controlling for belief in other conspiracy theories (Douglas & Leite, 2017, Study 1, $N = 202$, $*p < .05$; $** p < .01$; $***p < .001$).