Looking out for Myself: Exploring the Relationship Between Conspiracy Mentality, Perceived Personal Risk and COVID-19 Prevention Measures

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Abstract

Objectives. This research examined how conspiracy mentality may affect compliance with preventive health measures necessary to fight the COVID-19 pandemic, and the underlying motivations to comply.

Design and Method. We conducted two cross-sectional studies (Study 1 *N* = 762, Study 2 *N* = 229) on a French population, measuring conspiracy mentality, compliance with preventive health measures, and perceived risks related to COVID-19. We also measured motivations to comply with preventive measures in Study 2.

Results. We show that people high in conspiracy mentality are likely to engage in non-normative prevention behaviours (Study 1), but are less willing to comply with extreme preventive behaviours that are government-driven (Study 2). However, we demonstrate that a perceived risk to oneself (risk of death) and a motivation to protect oneself can act as a suppressor: conspiracy mentality is linked with an increase in the perception of risk to oneself, which in turn, is associated with normative compliance. We also find that perceived risk of death explains the relationship between conspiracy mentality and non-normative prevention behaviours.

Conclusions. Our studies showcase how people high in conspiracy theorizing may (dis)engage with prevention behaviours, but that perceived risk and motivation to protect oneself could increase these individuals' compliance.

Keywords: COVID-19; conspiracy mentality; preventive health behaviours; perceived risk; motivation

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In March 2020, the World Health Organization (WHO) declared the novel coronavirus SARS-CoV-2 (commonly known as COVID-19) a pandemic (WHO, 2020). At the time of writing, there have been over 2 million confirmed cases worldwide (Dong et al., 2020). Preventive health measures to curb the spread of the virus, implemented by governments around the world, include *recommendations* of barrier gestures (i.e. frequent hand washing, avoiding shaking hands) to *enforced* lockdowns where residents are unable to leave their homes except for essential travel (« Coronavirus: recommendations », 2020; Decree regulating movements, 2020). Whilst there are likely to be numerous contributors to (dis)engagement with preventive health measures, one important potential factor could be conspiracy theorizing where people believe power actors are plotting something sinister concerning the virus. In the current research, we explored the relationship between conspiracy mentality and normative (i.e., government-driven) and non-normative (i.e., not government-driven) preventive behaviours to tackle COVID-19. We also focused on the role of perceived risk of COVID-19 and motivations for preventive behaviours. We examined how the perception of personal risk and the motivation to protect oneself may enhance both normative and non-normative preventive behaviours among people with higher conspiracy mentality.

The Psychology of Conspiracy Theories

Conspiracy theories are defined as explanations for events that implicate secretive and powerful groups, who cover-up information to suit their own interests (Douglas et al., 2017). Conspiracy theories develop around significant events, such as the death of Princess Diana, the 9/11 terrorist attacks, or the Zika virus (Douglas & Sutton, 2008; Klofstad et al., 2019; Swami et al., 2010; Wood, 2018). COVID-19 provides an ideal context for conspiracy theories to develop, as they tend to arise in threatening moments of crisis that breed uncertainty (van Prooijen & Douglas, 2017). Indeed, a range of COVID-19 conspiracy theories exist, such as the proposal that the virus is a bio-

weapon engineered by the CIA or that it was introduced to make money from its vaccine (Conspiracy Watch, 2020; Duncan, 2020).

Belief in conspiracy theories is common. A 2019 study found that 43% of French people believe that health officials are hiding negative effects of vaccines and 27% believe in the Illuminati (Ifop, 2019). In a recent survey on conspiracy beliefs surrounding COVID-19, 26% of French respondents believe it was created in a lab (Ifop, 2020). Researchers consistently find that endorsing one conspiracy theory is strongly predictive of endorsing many others (e.g., Swami et al., 2010, 2011), even when those conspiracy theories are mutually exclusive (Wood et al., 2012). These findings have led several scholars to argue that a general world view – a *conspiracy mentality* – may underpin conspiracy beliefs (e.g., Bruder et al., 2013; Imhoff & Bruder, 2014; Moscovici, 1987). Viewing the world as full of conspiracies can promote belief in conspiracy theories about specific events, like COVID-19.

Subscribing to conspiracy beliefs can impact citizens in significant ways (see van Prooijen & Douglas, 2018). For example, researchers have found that exposure to conspiracy information can reduce intentions to engage in politics (Jolley & Douglas, 2014a). However, others have discovered that conspiracy theories can motivate people to become politically active (Imhoff & Bruder, 2014; Imhoff & Lamberty, 2018). In resolving these contradictions, Imhoff et al. (2020) have recently shown that endorsing a conspiracy worldview both decreases intentions to engage in normative (legal) political acts (e.g., voting), and at the same time, increases non-normative (illegal) political acts (e.g., violent protest). They argue that conspiracy beliefs may lead people to disengage from normative methods of interacting with society and thus, non-normative actions become the best option.

In a similar vein, Lamberty and Imhoff (2018) found that conspiracy mentality predicted a preference for alternative rather than biomedical therapies perceived as promoted by high power institutions. Indeed, in an experimental study, a (fictional) biomedical approach was rated more positively by those high in conspiracy mentality when the approach was supported by a powerless

(vs. powerful) agent. Other studies have also demonstrated conspiracy beliefs lead to a lower respect of prevention and cure measures using biomedical therapies (e.g., HIV and child vaccination; Bogart & Thorburn, 2005; Jolley & Douglas, 2014b). Taken together, these studies provide evidence that people who subscribe to conspiracy theorizing are more likely to engage in non-normative behaviours, because such behaviours are often supported by the low-power underdog rather than a high power entity, such as the government. It is theoretically plausible, therefore, that individuals high in conspiracy mentality may prefer non-normative preventive behaviours to stop the spread of COVID-19, and be less supportive of normative, government driven measures.

Risk Perception and Conspiracy Mentality

Whilst conspiracy theorizing may discourage people from following normative prevention behaviour, perception of greater risk could suppress this effect. Previous work has showcased that conspiracy believers are motivated by self-interests (e.g., Cichocka et al., 2016) and adopt self-serving behaviours (e.g., Jolley et al., 2019). Klofstad et al. (2019) found conspiracy beliefs were positively correlated with increased concern about Zika. Subscribing to conspiracy theories has also been shown to be associated with psychological factors that could increase feelings of personal risk, such as paranoia (Bruder et al., 2013). One of the defining features of paranoia is increased perceptions of hostility and interpreting ambiguous information in a negative light (Combs et al., 2013), which could result in people high in conspiracy mentality perceiving greater risks *to themselves* associated with COVID-19.

Conspiracy theories also appeal to people who are high in narcissism (Cichocka et al., 2016). People high in narcissism express less empathy towards others (Watson & Morris, 1991) and feel their own lives are more important than other people's (Campbell & Foster, 2007). As a result, conspiracy theories can motivate people to want to protect *themselves*. For example, people who are high in conspiracy theorizing are more likely to accept political violence towards high powered agents, such as the government, in order to protect themselves (Uscinski & Parent, 2014). Thus, people with heighted conspiracy mentality may only be motivated by the risks associated with

COVID-19 if they perceive it as affecting their own health, rather than that of people in society at large.

Risk Perception and Preventive Health Behaviours

The perception of risk has long been studied in the field of health psychology as a necessary motivator of preventive health behaviours (van der Pligt, 1998), ranging from condom use to dental hygiene (Sheeran et al., 2014). Relevant to the current study, a meta-analysis of 34 studies found a moderate positive correlation between perceived risk of infection and the decision to vaccinate (Brewer et al., 2007). Furthermore, perceived risk increased the decision to vaccinate during the swine flu (A/H1N1) pandemic of 2009 - 2010 (Setbon & Raude, 2010). Vaccination is a preventive, self-protective health behaviour with similar aims to the barrier gestures and confinement orders currently being used to combat COVID-19. Thus, we predict that perceived risk will increase the self-protective, preventive behaviours that are currently available to individuals. In sum, conspiracy mentality is likely to increase the perceived risk from COVID-19, which may then translate into compliance with preventive health behaviours, but only with the goal of protecting oneself.

Current Research

In two studies, we tested whether conspiracy mentality predicts engagement in non-normative preventive behaviours, whilst decreasing willingness to engage in normative, government-driven, behaviours to tackle COVID-19. We also explored the role of perceived risk to self and self-serving motivation to protect oneself from COVID-19. Four hypotheses were proposed:

Hypothesis 1: Conspiracy mentality will be positively associated with non-normative preventive behaviours (Study 1).

Hypothesis 2: Conspiracy mentality will be negatively associated with normative preventive behaviours (Studies 1 and 2).

Hypothesis 3: The perception of personal risk will act as a mediator between conspiracy mentality and non-normative preventive behaviour (Study 1).

Hypothesis 4a: Conspiracy mentality will increase the perception of personal risk, which will act as a suppressor between conspiracy mentality and normative preventive behaviour (Study 1).

Hypothesis 4b. Conspiracy mentality will increase the perception of personal risk, increasing the motivation to protect oneself, which will act as a suppressor between conspiracy mentality and normative preventive behaviour (Study 2).

Study 1

This study was conducted on March 9, 2020 in France. At this point there were 1,412 confirmed cases in France, 30 deaths had been reported (Dong et al., 2020), and only gatherings of more than 1,000 people were prohibited (Measures to fight against Covid-19, 2020) Additionally, barrier gestures (not kissing or shaking hands) were strongly recommended by the government as ways to stop the spread of the virus (« Coronavirus: recommendations », 2020). Thus, not shaking hands and not kissing were the normative preventive behaviours at this point. However, certain people were also beginning to take more extreme non-normative measures, such as no longer going to public places. Study 1 aims to study the link between conspiracy mentality, risk, and the adoption of both normative and non-normative social distancing behaviours. We hypothesize that conspiracy is linked to more non-normative preventive behaviours (H1) but to less normative preventive health behaviours (H2). Moreover, we predict that the perception of risk for oneself may lead individuals to adopt more preventive behaviours, resulting in a mediation effect for non-normative behaviours (H3) and a suppressor effect for normative behaviours (H4a).

Method

Participants

We recruited 762 French participants (665 women, 93 men, 4 others), aged between 18 and 67 years (M = 23.89, SD = 9.96) by posting the questionnaire to Facebook groups associated with different French towns, universities, and political groups. Due to the quickly changing situation around governmental recommendations on COVID-19, all data were collected on the same day. A sensitivity analysis was conducted which demonstrated that the study is suitably powered to detect

at least a small two-tailed correlation (|*r*| = .07), with an alpha of 0.05% and a power of .80 (G*Power; Faul et al., 2007).

Procedure

Participants were recruited to participate in an online study, which was presented as a study on science and COVID-19. After giving consent, participants answered questions on conspiracy mentality, risk perception regarding COVID-19, prevention behaviours adopted, and sociodemographic information.[1]

Measures

Conspiracy Mentality. Five items (from Bruder et al., 2013; used in French by Lantian et al., 2016) measured conspiracy mentality, on an 11-point scale ranging from 1 = *0% - Certainly not*, to 11 = *100% - Certain*. Though its psychometric properties are adequate, Swami et al. (2017) recommend assessing Conspiracy Mentality Questionnaire's structure whenever a global score is to be computed. A principal axis factor analysis with varimax rotation indicated the presence of two factors, explaining 75% of the total variance. The first factor, which we called *scepticism*, included two items: "I think that many very important things happen in the world, which the public is never informed about."; "I think that politicians usually do not tell us the true motives for their decisions.", $r = .59$, $p < .001$. The second factor, which we called *conspiracy*, included three items: "I think that government agencies closely monitor all citizens."; "I think that events which superficially seem to lack a connection are often the result of secret activities."; "I think that there are secret organizations that greatly influence political decisions. ", $\omega = .81$. Since the objective of this article is to study the impact of conspiracy, we will focus on this dimension for the analyses and discussion that follow.[2]

Perceived Risk. *The perceived risk of contamination of the French population* ("What percentage of the French population could be contaminated by COVID-19 this year?"), *of personal contamination* ("What is the percentage risk of you being contaminated with COVID-19 this year?")

and *of death* ("If you were contaminated, what would be the percentage risk that you would die from COVID-19? ") were measured by single items, as a percentage (from Setbon & Raude, 2010).

Preventive Health Behaviours. Participants were asked to indicate for seven social distancing behaviours the extent to which they were engaging in these behaviours compared to before the coronavirus crisis, on a scale ranging from 1 = *Much less than before* to 9 = *Much more than before*. Principal axis factor analysis with varimax rotation confirmed the presence of two factors. The first factor referred to *normative prevention behaviours* ("kissing someone"; "shaking hands"), $r = .78$, $p < .001$. The second factor referred to *non-normative prevention behaviours* ("talking to people"; "taking public transportation"; "going to a restaurant"; "going to a gathering in a closed place"; "going to a gathering in an open place"), $\omega = .78$. The scores were reversed so that a higher score corresponds to more adoption of preventive behaviour.

Results

Links Between Conspiracy, Perceived Risks and Preventive Behaviours

The means, standard deviations, and correlations are reported in Table 1 (data from both studies are available at: https://osf.io/ucf4m/?view_only=f99a04d4d20f4b63ae4344bcc9ec591e). Conspiracy was positively correlated with the adoption of non-normative prevention behaviours (supporting H1). In contrast, no association was observed with the adoption of normative prevention behaviours (not supporting H2). Furthermore, conspiracy was associated with a greater perception of risk of contamination of the French population, personal contamination, and risk of death (supporting H3 and H4a).

[INSERT TABLE 1]

Indirect Effects of Conspiracy on Preventive Behaviours through Perceived Risks

We next wanted to test whether a greater perception of self-risk on the part of higher conspiracy believers could explain the adoption of non-normative prevention behaviours (H3), and

alleviate the disengagement in normative prevention behaviours (H4a). To do so, we conducted a mediation analysis simultaneously considering the perceived risk of contamination of the French population, of the self, and the risk of death as mediators. This analysis was conducted with PROCESS (Hayes, 2013, model 4) with a bootstrap of 5000 and a confidence interval of 95%.[3]

This analysis conducted on normative prevention behaviours showed an indirect effect of conspiracy through perceived risk of personal contamination, but not through perceived risk of contamination of the French population or through perceived risk of death, cf. Figure 1.

[INSERT FIGURE 1]

This analysis conducted on non-normative prevention behaviours showed a mediation effect through the risk of death, but not through risk of contamination of the French population or through personal contamination, cf. Figure 2.

[INSERT FIGURE 2]

Discussion

Supporting H1, we found that conspiracy mentality is associated with more non-normative prevention behaviours, although it is worth noting that the effect size was small. The hypothesized indirect effect of self-perceived risk was observed, with the adoption of non-normative behaviours explained by increased perception of risk of death (H3). However, H2 was not supported: conspiracy mentality was unrelated to the adoption of normative prevention behaviours. Nevertheless, H4a was supported; there was an indirect effect of conspiracy on normative prevention behaviours via risk of self-contamination. These results suggest that the higher people's conspiracy mentality, the more likely they are to adopt preventive behaviours when they perceive a risk to themselves. Furthermore, our results partially confirm that conspiracy believers are more likely to adopt non-

normative prevention behaviours, but not normative ones. The second study further explores the link between conspiracy mentality and the adoption of extreme prevention behaviour made normative by law (confinement). Furthermore, in order to confirm that conspiracy believers may be more inclined to adopt prevention behaviours for their personal benefit, we measured individuals' motivations to comply with confinement.

Study 2

Study 2 was conducted during the first week of total confinement in France. The governmental confinement order started on March 17 at 12:00pm (Decree regulating movements, 2020), following an exponential increase in the number of confirmed cases. On March 18th there were 9,134 confirmed cases and 244 deaths (Dong et al., 2020). French citizens were ordered to leave their houses only for essential items, required to complete a form stating the purpose of the trip and show it to any public safety officials that questioned them. At this point, behaviours like staying away from public places/transportation, thus obeying the confinement order, became normative. The second study examines the link between conspiracy mentality, risk, motivation for obeying the confinement order, and the adoption of normative preventive health behaviours, in this situation, compliance with confinement. We hypothesized that conspiracy mentality would be linked to less respect of confinement (H2), but that nevertheless, the perception of personal risk could lead to self-protective motivation to obey the confinement order (H4b).

Method

Participants

We recruited 229 French participants (177 women, 51 men, 1 other), aged between 18 and 74 years (M = 26.91, SD = 12.46). All data was collected between 18th and 23rd March, the first week of confinement. A sensitivity analysis was conducted which demonstrated that the study is suitably powered to detect at least a small two-tailed correlation ($|r|$ = .13), with an alpha of 0.05% and a power of .80 (G*Power; Faul et al., 2007).

Procedure

Participants were recruited in the same manner as Study 1. After giving consent, participants were asked questions about conspiracy beliefs, the perception of risk related to COVID-19, various elements related to confinement, and sociodemographic information.[4]

Measures

Variables From Study 1. We used the same items to measure conspiracy mentality, $\omega = .86$,[5] perceived risk of contamination for the French population, personal contamination, and death.

Confinement Compliance. Compliance with the confinement rule was measured by a single item "To what extent do you comply with the confinement measures (limiting movement, limiting social contact)? "on a 7-point scale ranging from 1 = *Not all*, to 7 = *Very Much.*

Motivation to Comply with Confinement. Five motivations were proposed, introduced by the question "What are your reasons for respecting these measures?". For each motivation, participants had to answer using a 7-point scale ranging from 1 = *Not at all*, to 7 = *Very Much*. The motivations were to protect: oneself ("To protect myself from COVID-19"); one's close relatives ("To protect my close relatives (family, friends)"); vulnerable people ("To protect people at risk (the elderly, people with certain chronic diseases)"); French people ("To protect all French people"); humanity ("To protect humanity").

Results

Links Between Conspiracy, Perceived Risks, Motivations and Confinement Compliance

The means, standard deviations, and correlations are reported in Table 2. Supporting H2, conspiracy was negatively correlated with compliance with confinement. In addition, conspiracy was linked to a higher perceived risk of death, but not to other risks (of contamination of the French population and personal contamination, H4b). Furthermore, conspiracy was linked to a motivation to respect confinement in order to protect oneself, but was not linked to any other motivation (to protect one's relatives, vulnerable people, the French population or humanity, H4b).

[INSERT TABLE 2]

Indirect Effect Through Perceived Risk and Motivation to Comply With Confinement

We hypothesized an indirect effect of conspiracy mentality on compliance with confinement through perceived risk to self and motivation to protect oneself, that may alleviate the negative link between conspiracy and compliance with confinement (H4b). Yzerbyt et al. (2018) call for testing the indirect effects of a relationship only if the different components of the model are significant. Considering the correlations presented above, we tested the serial mediation model with conspiracy as the predictor, perceived risk of death followed by the motivation to protect oneself as mediators, and compliance with confinement as the dependent variable (Hayes, 2013, model 6), with a 5000 bootstrap and a 95% confidence interval. The indirect effect via perceived risk of death and motivation for oneself was significant, cf. Figure 3. The path through the perceived risk of death only, or through motivation for oneself only, were not significant.

[INSERT FIGURE 3]

Discussion

Study 2 supported H2, that conspiracy mentality is linked to less compliance with confinement measures. The results also provided support for H4b, showing an indirect effect between conspiracy beliefs and compliance with confinement via perceived risk of death and self-motivation. This indirect effect alleviated the negative link between conspiracy and non-normative behaviour, and thus led conspiracy believers to adopt more normative prevention behaviours.

This study therefore complements Study 1 by confirming that people with a heighted conspiracy mentality are less inclined to adopt more extreme and legal normative preventive behaviours. In addition, Study 2 supplements Study 1 by showing that the indirect link through the perception of risk is also underpinned by a motivation to protect oneself.

General Discussion

The present research examined the impact of conspiracy mentality on the adoption of non-normative (i.e., not government-driven) (H1), and normative (i.e., government-driven) behaviours (H2). Study 1 provides support for H1: those higher in conspiracy theorizing adopt more non-normative social distancing behaviours, whereas unexpectedly, no link is observed with the normative behaviours (disconfirming H2). However, in Study 2, we do find support for H2 when the normative behaviour is extreme: people who have heightened conspiracy mentality are less likely to comply with confinement. Conspiracy mentality is, therefore, associated with engagement with non-government driven behaviours, and there is evidence to suggest it reduces extreme government-driven preventive behaviour.

We also examined the factors and motivations underlying the adoption of preventive behaviours, particularly perceived risk to self (H3 and H4) and motivation to protect oneself (H4b). Hypotheses were supported: the adoption of preventive behaviours among people with a higher conspiracy mentality was associated with a perception of risk for oneself. Indeed, Study 1 showed that perceived risk of death mediated the link between conspiracy mentality and non-normative behaviours. An indirect effect through perceived risk of personal contamination also contributed to reinforcing the link between conspiracy and normative behaviours. In Study 2, conspiracy mentality was associated with the perception of risk of death, and thus the motivation to protect oneself, contributing to an increased link with confinement compliance.

Conspiracy Mentality and (Dis)Engagement in Extreme Behaviours

We demonstrate that a key factor in whether people high in conspiracy mentality engage with COVID-19 preventive behaviour is the normative context of that behaviour (i.e., who recommends the behaviour). We found that preventive behaviours, such as avoiding social gatherings, were supported when they were not government-driven (Study 1); but when they were government-driven, those high in conspiracy mentality disengaged (Study 2). Although the effect sizes found in our studies were small, our studies test in a real context the influence of the source

recommending prevention health behaviours. When these behaviours are not advocated by the government, people with a strong conspiracy-mentality adopt them, but quickly disengage as soon as they become official, government recommendations. This finding supports previous work that has found people high in conspiracy mentality engage in counter-normative behaviours (e.g., extremist protest) but not in normative behaviours (e.g., voting, Imhoff et al., 2020). By mobilizing similar non-normative behaviours in Study 1, which became normative in Study 2, our studies shed new light on the impact of the source of preventive behaviours. Thus, people with a greater conspiracy mentality may also adopt behaviours that are beneficial and effective in terms of prevention (the unofficial behaviours in Study 1) if they are not defended by an official authority.

Additionally, an unexpected factor seems to influence our results: the extreme nature of the preventive behaviour. At the time of Study 1, the normative, government-driven behaviours were simply to stop shaking hands and kissing, relatively common behaviours. However, non-normative behaviours in Study 1 (avoiding public places), which became normative behaviour in Study 2 (confinement), were extreme. Previous research has linked conspiracy mentality with the desire to feel different from others (Imhoff & Lamberty, 2017; Lantian et al., 2017). Desire for uniqueness leads individuals to adopt atypical behaviours (Lynn & Snyder, 2001). Perhaps, then, uniqueness seeking may lead conspiracy theory endorsers to only engage with extreme health behaviours, engagement in non-normative behaviours or disengagement in normative behaviours, but may not affect common, everyday behaviours.

The Role of the Perceived Threat and Motivation to Protect Oneself

Whilst those who subscribe to conspiracy theories disengage with government supported behaviours, we also demonstrate, for the first time in literature to our knowledge, that increases in perceived risk, specifically of death, is linked to greater adoption of government-driven behaviours. This perception of risk reinforces engagement in non-normative preventive behaviours and attenuates disengagement with normative ones. Furthermore, when asked about their motivations for obeying the confinement order, those higher in conspiracy beliefs were more willing to act to

protect themselves. Thus, these findings are important because they provide insight into the factors, notably protecting oneself, that may lead to the adoption of effective prevention behaviours among people who are least likely to adopt them.

Highlighting the risk to others is generally advocated to increase health behaviours (e.g., Pechmann et al., 2003). A recent study compares the use of an anti-smoking prevention message focusing on death or social loss (Martin & Kamins, 2019) and shows the social motivation is more effective. Our results suggest an inverse process in people with a conspiracy mentality. Although conspiracy mentality is not particularly related to death anxiety (Bruder et al., 2013), death risk could nevertheless be a driving force motivating one to protect oneself and thus engage in preventive behaviours in threatening contexts. Thus, highlighting the risk to oneself should not be neglected as a method of convincing people with a higher conspiracy mentality to engage in preventive health behaviours. This finding may be particularly useful to policy makers when they consider the best communication message to present health behaviours to the public. For example, if policy makers were to consider minimizing the mention of 'governmental authority' in promoting preventive health behaviours, this could increase the likelihood of compliance by those high in conspiracy mentality. Moreover, compliance may also be increased for those high in conspiracy mentality if emphasis is placed on personal risk.

Limitations and Future Research Directions

Although our findings are important, there are some limitations. For example, we used mainly single-items measures to keep the questionnaire as short as possible. Although single-items are reliable and widely used in health research (e.g., Brewer et al., 2007), they can decrease the variance of responses (Loo, 2002). Other studies should use multi-item scales to provide complementary results. Moreover, we included a range of preventive behaviours, which guided by factor analyses, grouped the behaviours into normative and non-normative behaviours. However, we did not include any extreme non-normative behaviours - such as the use of bleach which has

been suggested as a way to treat COVID-19 by conspiracy theorists (Broderick, 2020). We did not include these behaviours in the questionnaire as we did not wish to suggest to participants that such alternatives should be considered as a treatment for the virus. Moreover, we did not include questions related to specific conspiracy theories concerning COVID-19. Similarly, we did not want to introduce COVID-19 conspiracy theories at a time of crisis (see van Prooijen & Douglas, 2017); thus, we examined conspiracy mentality more broadly, which predicts belief in real-world conspiracy theories (Douglas et al., 2019).

In both studies, we uncover a robust, but small effect between conspiracy mentality and preventive behaviours. Although the effects are small, we argue that even a small effect could make a large difference when dealing with exponential infection rates. Whilst we have tested our hypotheses in two studies, our findings are based on correlational data, thus, we are unable to examine cause and effect. We considered the conspiracy mentality as a predictor of risks, and this model seem to correspond to our data better than alternative models positioning risk as a predictor of conspiracy (cf. Footnote 3). However, it is also plausible that there are multiple cause-effects links between the variables we studied. It is also possible that another variable influences both conspiracy and perception of risks. Future research could examine the links between conspiracy theorizing and risk using experimental methods to determine causal effects and provide further evidence concerning the size of such effects.

Future research could also examine the links between conspiracy beliefs and risk in other contexts. At the time of data collection (March 2020), coronavirus was a close and direct threat, where there was an actual risk to French citizens. Perhaps in a country where coronavirus was a distant threat, and thus, the actual risk was significantly lower, the link between conspiracy mentality, risk and behaviours could be different. Indeed, the suppression effect of risk may not be evident for those high in conspiracy mentality in these countries. It is, therefore, important to understand the boundary conditions of risk in relation to conspiracy theories. In a similar vein, future research could examine how risk impacts conspiracy believers' engagement in other contexts, such

as engaging with vaccine uptake and HIV prevention. Such investigations would extend our understanding of risk and conspiracy theorizing.

Conclusion

In summary, our work has uncovered a link between conspiracy mentality and preventive behaviours to curb the spread of COVID-19. We demonstrate that conspiracy mentality is linked to engagement in non-normative prevention behaviours, but reduces compliance with extreme normative prevention. However, the perceived risk to oneself acts as a suppressor, whereby conspiracy mentality is associated with perceiving greater risk, that then results in engagement in normative behaviours. Our results make an important contribution to understanding the role that conspiracy mentality and the perception of risk can play in individuals' health behaviour responses to a worldwide epidemic.

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Footnotes

[1] Other measurements were also carried out. They are not relevant to the subject of this paper and are not reported or discussed here.

[2] Scepticism (M = 8.99, SD = 1.72) was correlated with conspiracy, r = .53, p < .001, but not with the other variables, all $|rs| < .06$, $ps > .175$.

[3] Analyses conducted with one mediator at a time reported indirect effects on normative and non-normative prevention behaviours that are significant for all risks, ranging from 0.001 to 0.005 for 95% LLCIs and from 0.02 to 0.05 for 95% ULCIs. Alternative models, positioning perceived risk as IV and conspiracy as MV were mostly not significant. The results of the alternative models from both studies are reported as supporting information.

[4] Other measurements not relevant to the subject of this paper are not reported here.

[5] Scepticism (r = .64, p < .001; M = 8.33, SD = 1.91) was correlated with conspiracy and perceived risk of death, $rs > .13$, $ps < .035$, but not with the other variables, all $|rs| < .11$, $ps > .128$.

Tables

Table 1

Means, Standard Deviations and Correlations (Study 1, N = 762)

Variable	*M* (*SD*)	1	2	3	4	5	6
1. Conspiracy	6.04 (2.10)	–					
2. Risk of Contamination of the French Population	29.91 (22.96)	.08* [.01, .15]	–				
3. Risk of Personal Contamination	29.99 (26.00)	.09* [.02, .16]	.71*** [.67, .74]	–			
4. Risk of Death	8.18 (13.43)	.13*** [.06, .20]	.22*** [.15, .29]	.28*** [.21, .34]	–		
5. Normative Prevention Behaviours	6.14 (1.49)	.05 [-.02, .12]	.12*** [.05, .19]	.20*** [.13, .27]	.07* [-.001, .14]	–	
6. Non-Normative Prevention Behaviours	5.30 (0.66)	.08* [.01, .15]	.14*** [.07, .21]	.13*** [.06, .20]	.17*** [.10, .24]	.44*** [.31, .50]	–

Note. The numbers in square brackets correspond to the 95% confidence interval of the correlation coefficient shown above.

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 2

Means, Standard Deviations and Correlations (Study 2, N = 229)

Variable	*M* (*SD*)	1	2	3	4	5	6	7	8	9	10
1. Conspiracy	5.65 (2.21)	–									
2. Risk for the French Population	49.68 (22.85)	.07 [-.06, .20]	–								
3. Risk of Personal Contamination	43.20 (25.72)	.10 [-.03, .23]	.66*** [.58, .73]	–							
4. Risk of Death	17.38 (20.33)	.25*** [.12, .37]	.26*** [.13, .38]	.24*** [.11, .36]	–						
5. Confinement Compliance	6.45 (0.82)	-.15* [-.27, -.02]	.10 [-.03, .23]	.07 [-.06, .20]	-.06 [-.19, .07]	–					
6. Motivation for Oneself	5.72 (1.75)	.18** [.05, .30]	.04 [-.09, .17]	-.05 [-.18, .08]	.29*** [.17, .40]	.12 [-.01, .25]	–				
7. Motivation for Close Relatives	6.70 (0.92)	.07 [-.06, .20]	-.01 [-.14, .12]	.06 [-.07, .19]	.14* [.01, .26]	.19** [.06, .31]	.43*** [.32, .53]	–			
8. Motivation for Vulnerable People	6.76 (0.74)	-.003 [-.13, .13]	.10 [-.03, .23]	.17* [.04, .29]	.09 [-.04, .22]	.22** [.09, .34]	.17** [.04, .29]	.64*** [.56, .71]	–		
9. Motivation for French People	6.33 (1.25)	.05 [-.08, .18]	.07 [-.06, .20]	.05 [-.08, .18]	.14* [.01, .26]	.17** [.04, .29]	.41*** [.30, .51]	.55*** [.45, .63]	.46*** [.35, .56]	–	

10. Motivation for Humanity	5.85 (1.74)	.13 [.0004, .26]	.09 [-.04, .22]	.08 [-.05, .21]	.21** [.08, .33]	.15* [.02, .27]	.31*** [.19, .42]	.41*** [.30, .51]	.33*** [.21, .44]	.73*** [.66, .79]	–

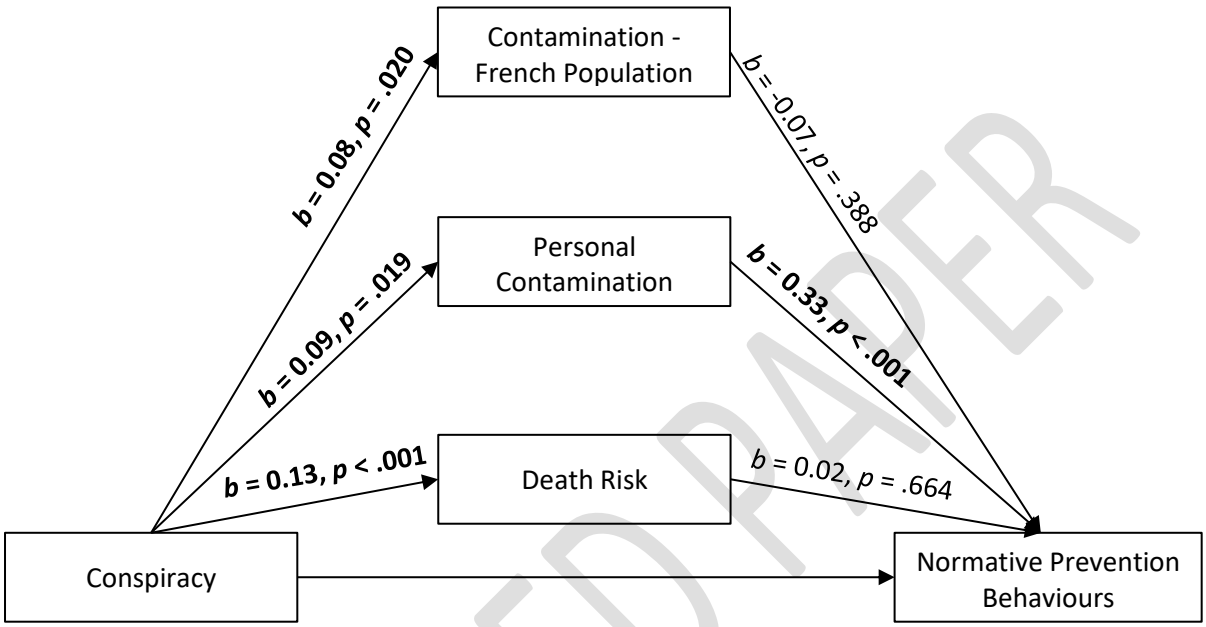
Note. The numbers in square brackets correspond to the 95% confidence interval of the correlation coefficient shown above.

* $p < .05$, ** $p < .01$, *** $p < .001$

Figures

Figure 1

Direct and Indirect Effects of Conspiracy on Normative Prevention Behaviours

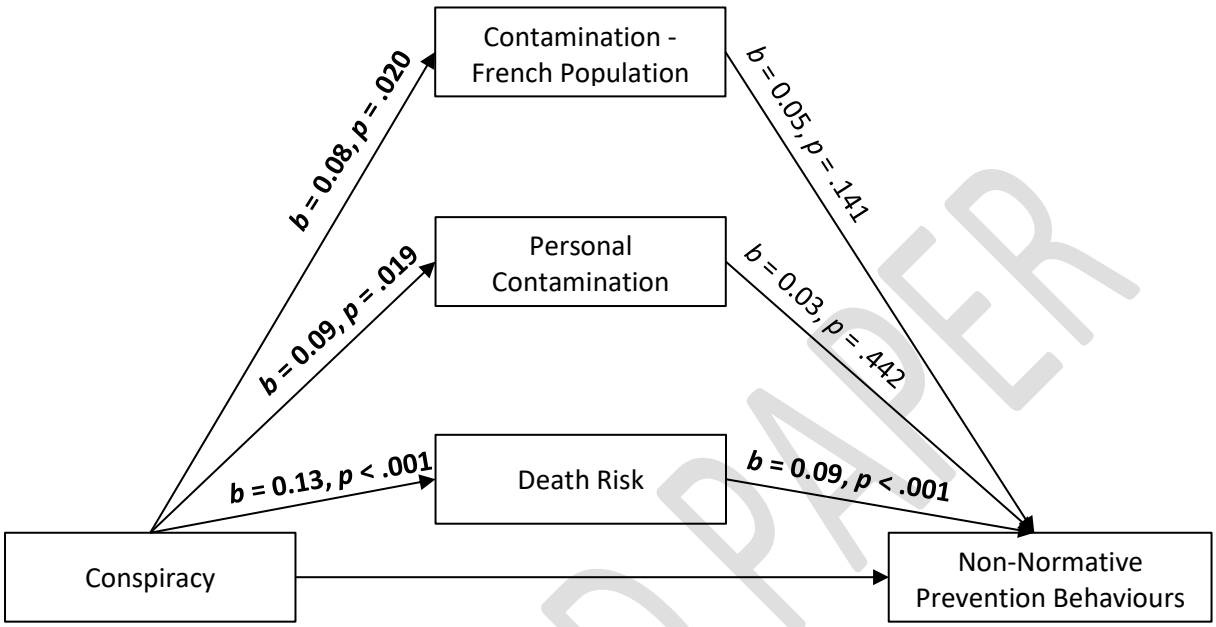


Direct effect : *b* = 0.04, *se(b)* = 0.05, *t* = 0.79, *p* = .430, 95% CI [-0.06, 0.15]
Total effect : *b* = 0.07, *se(b)* = 0.05, *t* = 1.26, *p* = .207, 95% CI [-0.04, 0.17]
Indirect Effects:
Cons -> CF -> NPB: *b* = -0.01, *se*(*b*) = 0.01, 95%CI [-0.03, 0.01]
Cons -> PC -> NPB: *b* = 0.03, *se*(*b*) = 0.01, 95% CI [0.01, 0.06]
Cons -> DR -> NPB: *b* = 0.003, *se*(*b*) = 0.01, 95%CI [-0.01, 0.02]

Note. Significant results are reported in bold. Cons = Conspiracy; CF = Contamination of the French Population; PC = Personal Contamination; DR = Death Risk; NPB = Normative Prevention Behaviours.

Figure 2

Direct and Indirect Effects of Conspiracy on Non-Normative Prevention Behaviours

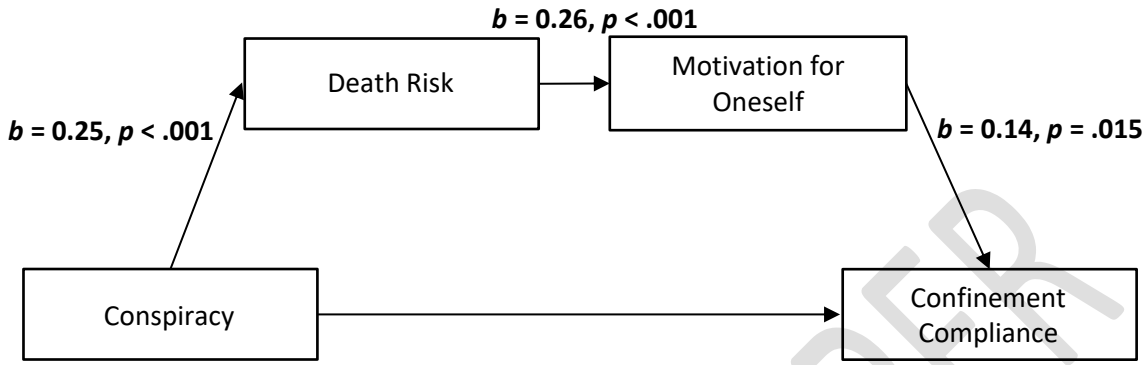


Direct effect : b = 0.04, $se(b)$ = 0.02, t = 1.52, p = .128, 95% CI [-0.01, 0.08]
Total effect : b = 0.05, $se(b)$ = 0.02, t = 2.25, p = .025, 95% CI [0.01, 0.10]
Indirect Effects:
Cons -> CF -> NNPB: b = 0.004, $se(b)$ = 0.004, 95% CI [-0.001, 0.02]
Cons -> PC -> NNPB: b = 0.002, $se(b)$ = 0.003, 95%CI [-0.003, 0.01]
Cons -> DR ->NNPB: b = 0.01, $se(b)$ = 0.01, 95% CI [0.003, 0.03]

Note. Significant results are reported in bold. Cons = Conspiracy; CF = Contamination of the French Population; PC = Personal Contamination; DR = Death Risk; NNPB = Non-Normative Prevention Behaviours.

Figure 3

Direct and Indirect Effects of Conspiracy on the Confinement Compliance



Direct effect: *b* = -0.14, se(*b*) = 0.06, *t* = -2.47, *p* = .014, 95% CI [-0.25, -0.03]
Total effect: *b* = -0.13, se(*b*) = 0.05, *t* = -2.34, *p* = .020, 95% CI [-0.23, -0.02]
Indirect effects:
Cons -> DR -> MO -> CC: *b* = 0.01, se(*b*) = 0.005, 95% CI [0.003, 0.02]
Cons -> DR -> CC: *b* = -0.01, se(*b*) = 0.02, 95%CI [-0.08, 0.02]
Cons -> MO -> CC: = 0.02, se(*b*) = 0.01, 95%CI [-0.0002, 0.05]

Note. Significant results are reported in bold. Cons = Conspiracy; DR = Death Risk; MO = Motivation for Oneself; CC = Confinement Compliance.