

# Trust in Crisis. Conspiracy Mentality, Lack of Trust and Religiosity Predicted Conspiracy Beliefs about COVID-19 in a Norwegian Sample.

Asbjørn Dyrendal<sup>\*a</sup> and Knut Hestad<sup>b,c</sup>

<sup>a</sup>Department of Philosophy and Religious Studies, Norwegian University of Science and Technology

<sup>b</sup>Department of Research, Innlandet Hospital Trust, Ottestad, Norway

<sup>c</sup>Department of Health and nursing sciences, Inland Norway University of Applied Sciences, Elverum, Norway

\*Corresponding author. Address: Department of Philosophy and Religious Studies, Norwegian University of Science and Technology, N-7491 Trondheim, Email: [asbjorn.dyrendal@ntnu.no](mailto:asbjorn.dyrendal@ntnu.no)

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## Abstract

Crises are associated with search for meaning and security. In recent years, they have also been associated with increased attention to conspiracy theories. Such theories about COVID-19 have been many. We looked at several COVID-specific conspiracy theories and their relation to a number of other measures, including religiosity in a highly educated Norwegian convenience sample (N = 1225). Conspiracy mentality, lack of trust, and religiosity were directly associated with conspiracy beliefs about COVID-19, whereas self-reported stress and negative emotions related to the pandemic had only small, indirect effects. Unlike previous research, we found no effect of gender or age.

**Keywords:** *COVID-19, social trust, conspiracy beliefs, conspiracy mentality, religiosity, meaningfulness, COVID-stress*

## 1. Introduction

As with any high impact event, the COVID-19 pandemic was followed by a host of conspiracy theories. Tied to mistrust of governments and science, the longer the pandemic has lasted, the more people have also been willing to act out opposition in the streets and elsewhere. On January 30<sup>th</sup> of 2021, conspiracy believers blocked access to Dodger stadium in Los Angeles for hours, halting the mass vaccination that the stadium was repurposed to (Ecarma 2021). Conspiracy theories that attributed COVID-19 to radiation from 5G cellphone networks resulted in attacks on both 5G masts and people working on them (Temperton 2020; Jolley and Paterson 2020).

The present paper analyzes the relation between conspiracy theories, religion, meaning in life, COVID-stress, and a set of measures commonly thought to predict conspiracy beliefs in a data set from Norway (n=1225). The data was gathered as a Norwegian version of an Austrian-German study (Schnell and Krampe 2020) on COVID-stress and meaning in life. These are therefore included as part of our analysis.

As we have reason to believe the literature on conspiracy beliefs and its predictors will be least familiar to the reader, we will address those first, before moving on to the relation to religion and the COVID-situation. We follow the general structure of quantitative analyses (IMRAD), but to assist the readers, we will interpret and discuss a bit as we go. Previous ventures in studying conspiracy beliefs in Norway show little reason to expect that Norwegians will deviate much in mechanisms or direction of relations with regard to conspiracy beliefs when compared with other Western countries (Dyrendal, Kennair, and Bendixen 2021). Nevertheless, since research into the situation with COVID-19 is an ongoing affair, we will first test some of the general findings on COVID-specific conspiracy beliefs. Since the special situation of the early phase of the corona pandemic warrants it, we will also check some of the established findings on conspiracy beliefs before we move on to religion-related relations.

### **1.1. Conspiracy beliefs and their predictors**

Conspiracy theory, conspiracy beliefs and conspiracy narratives are usually synonyms, with “conspiracy theory” being the main concept used for “beliefs” that covert, sinister, organized conspirators are behind troubling situations. Epistemically, they tend to be treated as scientifically unwarranted and group nicely with other such beliefs (Stone et al. 2018), and they tend to break with criteria for sound reasoning and sound treatment of data (Butter 2020; Uscinski and Parent 2014).

From a religious studies perspective, conspiracy beliefs are usually seen as serving the function of theodicy: they explain evil by blaming a certain set of actors for intentionally causing the experienced problems. Conspiracy theories are thus “simplistic”, although not necessarily simple, explanations of evil, in that they lead back to the intentional actions of coalitions of other humans (Barkun 2003; Dyrendal, Robertson, and Asprem 2018). At the social level, they may serve as apocalyptic mythologies, delineating right and wrong,

sketching a path towards relief from evils while presenting social ideals in the shape of the values and targets the alleged conspiracy is attacking.

Being tied to the purpose of explaining evil, conspiracy beliefs are thought to be activated especially in situations of crisis, anomie, and powerlessness (van Prooijen 2018; van Prooijen, Klein, and Dordevic 2020). These situations may exacerbate emotions such as fear, anxiety, anger, and distrust. The “epistemic” quest for explanation is as such only one of the uses of conspiracy beliefs. While powerful actors and manipulators may use such theories cynically, conspiracy theories are used by common people in everyday situations for three overarching purposes: epistemic – attempts to gain knowledge; existential – attempts to feel safer; and social – attempts to feel good about one’s ingroup (Douglas, Sutton, and Cichocka 2017). Conspiracy beliefs seem rarely to succeed in fulfilling these needs, even at the subjective level (ibid.). Some research finds them instead to be associated with increased social isolation, depression, substance abuse, and feelings of powerlessness (Freeman and Bentall 2017). At the emotional level, conspiracy beliefs are often positively related to the very emotions situations that they are “supposed” to address: distrust is robustly associated with conspiracy beliefs (Sutton and Douglas 2020), anxiety and depression are often associated (Douglas, Cichocka, and Sutton 2020; van Prooijen 2018), and lately, anger has been more in focus (Bowes et al. 2020; Jolley and Paterson 2020) as related to the violent outcome of conspiracy beliefs.

Common psychological underpinnings on the individual differences level include higher scores on schizotypal traits (Barron et al. 2014), narcissism (Cichocka, Marchlewska, and Golec de Zavala 2016), Machiavellianism (Douglas and Sutton 2011), and psychopathy (March and Springer 2019). At the cognitive level, predictors include overidentification of agency and patterns (van Prooijen, Douglas, and De Inocencio 2018; Douglas et al. 2016), anthropomorphism (Brotherton and French 2015), and teleological thinking (Wagner-Egger et al. 2018). They are further associated with reliance on intuition rather than rational inquiry to get facts (Swami et al. 2014), with increased tolerance for incoherence, logical inconsistency and self-contradictions (Lewandowsky, Cook, and Lloyd 2018), and with less concern with the factual bases for claims, and with thinking that facts are political constructions (Garrett and Weeks 2017).

While conspiracy thinking forms a coherent, seemingly unified “mentality” (Bruder et al. 2013), specific conspiracy beliefs differ, both in content and form. Content is more than that some conspiracy theories lean left, and others lean right. Some are focused on highly specific events, such as the deaths of JFK or princess Diana. Others center on large-scale events or systems, with the target of the conspiracy presented as not merely one’s ingroup, but its most innocent representatives and sacred values (Barkun 2003). The former tends to be more attentive to details (being narrower in scope) than the latter, and the two types may not draw equally on the motivations and individual differences observed when looking generally at conspiracy beliefs. Recent theorizing (Sternisko, Cichocka, and van Bavel 2020) differentiates between conspiracy theory as content and as form. The content-dimension – e.g. who are blamed, and what is identified as the problem – may draw more on characteristics

tied to group identification. We are more likely to believe in conspiracy theories if we think our ingroup accepts them (Cookson et al. 2021) and if the targets belong to groups that we are already skeptical of (Imhoff and Bruder 2014; Wood and Gray 2019). The “form”-dimension – e.g. how conspiracy theories are organized like “games” of meaning-making, revealing hidden patterns behind events – may activate more along lines of individual differences related to the need for uniqueness (Imhoff and Lamberty 2017), tendency to magical thinking (Barron et al. 2018), or fantasy-proneness (Stone et al. 2018).

The dynamics of conspiracy beliefs are likely to vary somewhat depending on their targets and their collective grounding. However, the overarching findings is that they generally serve to increase polarization and decrease interpersonal trust (Sutton and Douglas 2020); they demotivate people for democratic participation but increase the acceptance for violence as political tools (Imhoff, Dieterle, and Lamberty 2020) and increase intergroup hatred (Jolley, Meleady, and Douglas 2020).

## 1.2. Conspiracy theory, religion, and COVID-19

How does any of this relate to religion?

If we start at the most general level, there are multiple ways to look at the relation between conspiracy theories and religion. Conspiracy theories have, for instance, been proposed as a continuation of religious thought in the secular realm, tied to secularization and proposed as a replacement theodicy (Popper 2002). In a similar vein, they have been seen as a result of specific religious frames and narratives (i.e. *apokalypsis*), and therefore thought to be more tied to some forms of religion than others (Robertson and Dyrendal 2019). In the practical world of consequences and intergroup relations, they have been tied to interreligious hatred as ways of constructing and demonizing outgroups (Dyrendal, Robertson, and Asprem 2018). In practice, specific conspiracy beliefs can be anywhere from positively to negatively correlated to specific instances of religion (Dyrendal 2020b).

Some ways of doing religion do seem to be more generally associated with conspiracy beliefs. Apocalypticism, “Manichean” dualism, fundamentalism, and paranormal beliefs are traits that not only go well with each other; they are also separately correlated with higher scores on conspiracy beliefs (Dyrendal, Kennair, and Lewis 2017; Oliver and Wood 2018). Some of this is probably more tied to conspiracy theories as part of internal culture (Asprem and Dyrendal 2018), with group defense in the form of collective, motivated cognition (Cichocka et al. 2015; Kreko 2015) a more proximate mechanism. Other explanations for the association may be tied more closely to individual level differences in intuitive and associative “magical” thinking (Barron et al. 2018; Dyrendal, Kennair, and Bendixen 2021).<sup>1</sup>

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<sup>1</sup> It seems likely that the variance in conspiracy beliefs in more individualistic religion with looser social ties will be more determined by individual-level differences, and thus the “form”-dimension of conspiracy narratives.

For our purposes here, the central concern is the role of conspiracy beliefs and religion in the face of crisis. Both are thought to serve as theodicy in response to suffering. Conspiracy theories have often been proposed as a response to feeling a lack of control, where postulating conspiracy is meant to restore feelings of meaning and agency (van Prooijen and Acker 2015; Stojanov and Halberstadt 2020). Religion being another supplier of the same needs, they can work in tandem, they can be competitors, and they can be independent of each other. The weight of the evidence indicate that they are in general more likely to be correlated (Oliver and Wood 2014; 2018). However, most of the evidence for that position is from regions and populations (e.g. American Evangelicals) where adherents of the type of religion involved are more prone to broader paranormal and dualistic beliefs than what we generally expect from Nordic believers.

There is also the matter of what role crisis management in the form of “need for control” plays in conspiracy beliefs. Studies are inconsistent (Douglas, Cichocka, and Sutton 2020). One thing is the difference between conspiracy mentality and situation-specific conspiracy beliefs (Stojanov and Halberstadt 2020), controlled studies that passed ethics boards can hopefully not compare to a crisis like COVID-19 (van Prooijen and Acker 2015). The current situation could therefore provide a reasonable, further test of the association.

There are, however, many understudied issues here. First, we neither know nor have good theoretical reasons to decide whether crises should, in the short run, increase conspiracy beliefs. Another mechanism for dealing with crisis, is to increase trust in authorities (Kye and Hwang 2020) to alleviate feelings of distress. While those most prone to conspiracy beliefs may heighten their conspiracy mindset already at an early stage, even larger portions of the populations may cope by submitting to expertise and/or the reigning political authorities. Second, there is the relation to religion to consider. People in crisis-situations, as we see in the COVID-pandemic, seem to be more likely to feel a loss of meaning in life (de Jong, Ziegler, and Schippers 2020; Schnell and Krampe 2020), and the role of religion in managing the emotional and social fallout of crisis seems more clear-cut, as a traditional route for handling crisis and loss of meaning.

While not a primary focus of behavioral research during COVID, some results related to religion exist. In a Turkish setting, positive religious coping was tied to more meaning in life, less loneliness, and less negative coping mechanisms (Yıldırım et al. 2021). However, “negative” religious coping mechanisms had the opposite result. This is not surprising, as negative religious coping comprises techniques of demonization, discontent with others and with the object of worship, while positive religious coping goes in the other direction. Some of these feelings – distrust, social discontent, demonization – are tied to conspiracy beliefs. While the Turkish study did not explicitly include conspiracy theorizing in any role, it therefore implies something about which relation to expect.

The research on COVID-conspiracy theories find such beliefs, as expected, associated with lower trust (van Mulukom et al. 2021), greater mental distress and anxiety (Leibowitz et al. 2021), lower concern for close others and higher for oneself (Teovanovic et al. 2020), and

support for violence (Jolley and Paterson 2020; Imhoff and Lamberty 2020). Most COVID-related studies also find conspiracy belief to correlate with lower conformity with recommended, protective health-behavior (Biddlestone, Green, and Douglas 2020), including less intention to vaccinate (Bertin, Nera, and Delouvée 2020). It may therefore seem likely that conspiracy beliefs would be associated with “negative coping mechanisms” and thus go in the opposite direction of religion as “positive coping”. The few studies to date that do look at both conspiracy theories and religion in light of COVID-19 are, however, mixed. Data from Korea indicate that while Christianity negatively impacted conspiracy beliefs, higher religiosity *across* religious identities was positively correlated (Kim and Kim 2021). A study from Turkey also found that increased religiosity predicted higher COVID-conspiracy beliefs (Alper, Bayrak, and Yilmaz, 2020). In a Western setting, Leibowitz et al. (2021) found that greater religiosity and spirituality was associated with higher specific (including COVID-related) and general conspiracy beliefs among U.S. and Canadian respondents. Greater conspiracy beliefs were associated with higher anxiety, an association that became stronger in follow-up. They did not analyze how religion affected anxiety levels.

## 2. Goals and predictions

Since there are few good empirical and theoretical reasons to issue robust predictions, most of our investigation here is exploratory. This also goes for some, but not all, of the topics where we do issue some predictions based on extant research. When we do issue predictions in these cases, it is to stress where the weight of current evidence seems to lie before we check what our data shows.

Two such predictions concern simple relations that have been confidently announced in popular press based on limited extant research: 1) men should be more prone to COVID conspiracy beliefs than women (Cassese, Farhart, and Miller 2020), 2) younger respondents should be more prone than older (Duplaga 2020). As effect sizes concerning such relationships are typically small and vary between specific theories, this general finding could relate to specific versions of conspiracy theories. We will therefore test them specifically against the conspiracy items of the survey separately rather than use the scale of COVID-conspiracy beliefs.

Other relationships are more robust, and we predict them with confidence. Trust should predict lower conspiracy beliefs and lower conspiracy mentality – especially should trust in authority be clearly negatively related to conspiracy mentality, given that the measure is constructed around suspicion towards those in power (Imhoff and Bruder 2014).

Another robust expectation may seem surprising to the uninitiated: we expect that all COVID-related conspiracy beliefs in our measure, even those that are clearly in opposition to each other, will be positively correlated. This in fact goes back to one of the best-established findings of conspiracy beliefs: that belief in one, predicts belief in others (Goertzel 1994). The precise reasons why are debated, but this is one of the reasons why we have concepts like

“conspiracist mindset” or “conspiracy mentality”, and previous research into conspiracy beliefs has repeatedly shown that even contradictory conspiracy beliefs are positively correlated (Wood, Douglas, and Sutton 2012; Imhoff and Lamberty 2020). Our survey included such contradictory COVID-items and we expect them to be clearly related; indeed, this is a condition for our COVID-conspiracy beliefs scale (below).

Negative affections, such as feelings of anxiety, depression, and anger should all be positively associated with conspiracy beliefs and conspiracy mentality. However, the survey primarily used a 12-item version of the “Positive and Negative Affect Scale” (Schnell 2020; Watson, Clark, and Tellegan 1988) – 7 items of negative affections (upset, ashamed, hostile, nervous, afraid, guilty, lonely) and 5 items of positive (active, inspired, alert, dedicated, attentive). It is less clear that this range of self-reported feelings considered together should have any effect either way, but it seems more likely that the negative emotions would correlate positively with conspiracy mentality and specific COVID-related conspiracy beliefs than not, while the positive self-reports could be more related to religiosity. It seems *prima facie* unlikely that the positive emotions would be correlated with conspiracy beliefs.

Even if negative emotions outside the usual range of measures should be correlated with conspiracy beliefs, it is less clear whether this means that the expressed feelings of meaningfulness or crisis of meaning must follow. Results are few. There may be no effect of conspiracy beliefs on expressed meaning in life (Bakracheva 2019), whereas the *search* for meaning may possibly be positively correlated (Graeupner and Coman 2017). Most conspiracy believers may find some meaning, not desperation in their beliefs, and it may be that the grasping at those feelings of meaning is one of the reasons why conspiracy beliefs are hard to shake (van Prooijen and Acker 2015). The simple assumption that COVID-conspiracy beliefs and conspiracy mentality should both be negatively correlated with meaning, is thus contradicted by some extant results and the postulated role of conspiracy thinking as attempts at creating meaning. We think the results are too few and not sufficiently grounded to predict a result, but the relation is sufficiently interesting and related to the field of religion to explore further.

In contrast, and especially with the measure of religiosity we are using (more on this below), we would expect religiosity to be positively associated with meaning in life, and negatively with anger, anxiety, and depression.

As noted above, there can be socio-cultural variations in the relation between conspiracy beliefs and religiosity. They also vary between specific theories and different types of religion. We expect our recruitment strategy to favor respondents with high education and liberal religion. They would be less likely to hold the kind of “Manichean” and apocalyptic beliefs that reliably predict conspiracy beliefs among North American believers (Oliver and Wood 2014). We will therefore not necessarily expect that the findings of Leibowitz et al. (2021) on religion and COVID-conspiracy beliefs – that they correlate positively – to generalize to our respondents. This is partly because trust towards other people and central institutions should be clearly negatively associated with conspiracy beliefs. We have reason to

believe that *liberal* religion is positively associated with trust (Daniels and von der Ruhr 2010), and given the way we recruited participants, we would therefore expect religion in our measure to be positively associated with trust. This *should* on its own predict lower beliefs in conspiracy theories. However, it is not clear that this increased trust, if it holds, will overcome the general effect of e.g. intuitive thinking styles generally associated with religiosity.

### 3. Methods

#### 3.1. Collection

The survey was conducted via the University of Oslo's online tool "nettskjema.no" from 7 May - 7 June 2020. It asked how people experienced and adapted to the corona crisis, as well as about beliefs, attitudes and emotional experiences. Information about the study was posted on various websites and announced through social media. Several organizations, municipalities, denominations etc., were informed about the study and encouraged to participate. The data collection ("snowball sampling") does not provide a basis for the study to be representative at national level, but it is suitable when the purpose is to produce a rich material that can provide in-depth insight and thus contribute to generating further research.

A large part of the questionnaire related to the experience and management of the corona crisis, is, as mentioned above, taken from a collaborative study conducted in Austria and Germany (Schnell and Krampe 2020). Other questions were based on media reports about what people did during the closure in the spring of 2020. A total of 36 statements about experiences with the corona crisis were asked. The questionnaire also included several questions about psychological conditions, religiosity, and attitudes, as well as open-ended questions about people's experiences. Processing time for the whole questionnaire was approximately 12 minutes.

#### 3.2 Participants

We received 1225 complete answers from predominantly female (73.2 percent) respondents. The age of the participants ranged from 19 to 89 years, evenly distributed over the entire age range and with an average of 50.2 years for all, 49.8 years for women and 51.6 years for men.

Seven out of ten were married (53%) or cohabiting (17%), 16 per cent were single, ten per cent divorced and two per cent widows or widowers. Almost all (80 percent) had children. Just over half, 58% belonged to the Church of Norway, which is lower than in official statistics for the Norwegian population (69%, Statistics Norway). Seven percent belonged to other Christian denominations (about the same as official statistics), four percent belonged to a Muslim congregation (off. stat. 3%), and seven percent were members of the Norwegian Humanist Association (off. stat. 2%). 22 per cent stated that they were not members anywhere, which is slightly higher than in the Norwegian population (approx. 15-18%).

The level of education was high, with 67% having completed education at university or college with at least 4 years or more.



A large proportion of the study population worked in the health care system (27%) or the education sector (19%). Six per cent worked in religious or philosophical communities or in non-profit organizations and five per cent in the cultural sector. Twelve percent were retired, and six percent were students. Six percent were disabled or on longer sick leave. The others were spread over a number of different industries such as trade, hotels and tourism, transport, municipal services and more. Four percent were temporarily laid off due to the pandemic. Relatively many (44%) performed their work from home office due to the corona virus situation.

#### *Ethics.*

The study was approved by the ombudsman for privacy in Inland Hospital, trust case number 134000/2020.

### **3.3. Measures**

We assembled the different items into main category scores.

#### *Trust*

The survey had nine trust items. Factor analysis revealed that they loaded on two factors. After inspection of the items and their correlations, we divided the trust issues into two scales: one related to trust in official institutions (government, parliament, health institutions, and health authorities), and one on trust in a variety of organizations of civil society (political parties, religious organizations, environmentalist organizations, cultural institutions), which also included an odd item of trust in social media.<sup>2</sup>

Trust in official institutions showed good reliability as measured by Cronbach's alpha ( $\alpha = 0.83$ ), while trust in the diversity of other organizations and social media, tentatively called "trust in volunteer organizations" was just below conventional cutting point for acceptable reliability at 0.69. Both scales are scored as participant mean of all four and five items.

#### *Religiosity*

The survey used eight items measuring religiosity and spirituality from Schnell's (2020) sources of meaning and meaning in life-measure, scored on a range from 0 to 5. The items have previously been validated for a Norwegian sample (Sørensen et al. 2018).

At inspection, the items seemed to be mostly construed around the same type of empirical religion – a general expression of "liberal", non-confessional religiosity, but with two items deviating. Factor analysis confirmed that the items loaded on two factors. These were not the same as Schnell's constructs of religion and spirituality. Six items were highly intercorrelated, whereas two items relating to belief in a predetermined fate and teleological worldview made

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<sup>2</sup> Using social media as news source is usually positively correlated with conspiracy beliefs. This item may merely measure more general trust in one's own social network, since it does not ask for how it is used. It was unrelated to conspiracy beliefs.

up the other factor. A scale with only the six items not related explicitly to fate showed excellent internal reliability with a Cronbach's alpha of 0.94, which dropped to 0.89 when the two fate-items were included. Nevertheless, the scale was constructed on the mean of all 8 items.

### *Conspiracy mentality*

The survey used a 5-item measure of "conspiracy mentality" – which predicts a general propensity to draw on conspiracy theories in explaining events (Bruder et al. 2013) – that has been validated for Norway before (Dyrendal 2020a; Dyrendal, Kennair, and Bendixen 2021). The items loaded on one factor, and reliability was good at  $\alpha = 0.88$ . The scale was constructed using the mean score on all items, measured from 0 to 10.

### *Covid-conspiracy beliefs*

While conspiracy mentality predicts a large part of the variance of belief in most conspiracy theories, it is a very suboptimal surrogate for the specific conspiracy beliefs surrounding events. The survey gathered five items relating to specific conspiracy-related COVID-19 beliefs from international surveys (Biddlestone, Green, and Douglas 2020; Imhoff and Lamberty 2020). They were scored from 1 (lowest) to 7 (highest). One item was about the reality and importance of COVID-19, while the other five were about competing causes. Of these five, the first was a reverse-phrased item that used the reigning scientific hypothesis of an evolved virus as cause to anchor respondents outside conspiratorial explanations. A sixth item was "COVID-19 is Nature's own way of healing the world" and thus not truly a conspiracy theory. It is, however, underpinned by many of the same underlying emotional and cognitive factors as conspiracy beliefs and should therefore correlate highly.

Denying a natural explanation is an important element in arguing for design, but there are well-known problems with reverse-phrased items (cf. Schnell 2009, p.484). Although factor analysis showed that all six items loaded on a single factor, we decided to construct and run the scale-related analyses of COVID-conspiracy theories on only the mean score of the four specific conspiracy theories for clarity of purpose and simplicity of interpretation. The scale showed good reliability ( $\alpha = 0.82$ ).

### *Meaningfulness*

Meaningfulness, "a fundamental sense of meaning, based on an appraisal of one's life as coherent, significant, directed, and belonging" (Schnell 2009) was taken from Schnell's (2020) sources of meaning-measure. It consisted of five items, scored on a scale from 0 to 5. The items loaded on two factors. One was related to life satisfaction in a more everyday way ("I think what I do is important"), while the other related to a larger, "religious" frame of reference ("I think my life has a deeper meaning"). The scale was constructed on mean score of all items and showed good reliability ( $\alpha = 0.79$ ).

Crisis of meaning is from the same measure but is not simply the opposite of meaningfulness. Where the former is partly unconsciously experienced, crises of meaning are experienced more consciously, and they are transient, in that they trigger a search for meaning that may

alleviate the crisis. Sample items include “I feel that my life is meaningless” and “I experience my life as empty”. The items loaded on one factor. The scale was constructed from the mean score on all items and showed excellent reliability ( $\alpha = 0.9$ ).

#### *Emotions: PANAS Positive and Negative Affections*

The effect of emotions was measured by mean scores on the items of PANAS positive and PANAS negative affections. The negative affections scale loaded on two factors, but these were closely enough correlated that we see no good reason to separate them, and thus used all seven items in one scale with good reliability ( $\alpha = 0.82$ ). The positive affections loaded on one factor and had identical reliability ( $\alpha = 0.82$ ).

#### *Covid-related feelings of stress*

The survey asked about feelings of stress related specifically to COVID-19. Common wisdom would have such expressed feelings of stress be related to conspiracy beliefs, even more to COVID-specific conspiracy beliefs, but extant research is divided. While some find a clear correlation (Taylor et al. 2020), others do not (Georgiou, Delfabbro, and Balzan 2020). The scale has seven items, expressing fear of the pandemic, irritation, fear for living conditions, etc. It loaded on two factors and had acceptable reliability ( $\alpha = 0.72$ ).

## **4. Results**

As we can see in table 1, very few of our respondents reported experiencing crisis of meaning, and scores on conspiracy mentality and COVID-specific conspiracy beliefs were very low. The level of trust in authorities was high, as was trust in volunteer organizations. The reported levels of positive affect were relatively high, whereas reports of negative affect were relatively low. The level of religiosity was moderate.

Scores on COVID-conspiracy beliefs were closely and positively correlated. The only insignificant correlation was between the reverse-phrased item and “Gaia’s revenge”. The items involved in our scale correlated in the range of 0.43-0.79, and the contradictory theories correlated at high levels ( $r > 0.5$ ).

We found no correlation between COVID-conspiracy beliefs and age, and an independent samples t-test showed no significant differences in COVID-conspiracy beliefs between men and women. Similarly, those reporting least anxiety and depression did not differ in conspiracy beliefs from those who reported most. Conspiracy beliefs relating to COVID were best predicted by conspiracy mentality and diminished trust in authorities, followed by religiosity and diminished trust in volunteer organizations. Other effects were very small.

Religiosity was most strongly correlated with experiencing meaningfulness, then close to moderately with trust in volunteer organizations. There was a small, negative correlation between religiosity and reporting COVID-related stress. Apart from the above-mentioned relations, conspiracy mentality was tied negative affect and crisis of meaning.

**Table 1**

*Zero-order (Pearson's r) correlation between the variables used in the analyses.*

Variable	M	(SD)	1	2	3	4	5	6	7	8	9
1. Covid-CT	1.4	(.78)									
2. ConMent	1.8	(1.95)	.53***								
3. Religiosity	1.98	(1.45)	.22***	.16***							
4. Covid stress	1.58	(.88)	.08***	.18***	-.11***						
5. TrustAuth	3.35	(.5)	-.37***	-.51***	-.07*	-.18***					
6. TrustVol	2.5	(.5)	-.17***	-.34***	.26***	-.08**	.42***				
7. PANAS-NA	1.8	(.69)	.09***	.18***	.01	.62***	-.12***	-.00			
8. PANAS-PA	3.3	(.77)	-.02	-.05	.09**	-.42***	.11***	.12***	-.27***		
9. Meaning	3.35	(1.11)	.07**	-.00	.64***	-.29***	.09***	.33***	-.15***	.40***	
10. Crisis of meaning	0.59	(.93)	.08**	.158***	-.01**	.51***	-.11***	-.04	.52***	-.41***	-.37***

*Note* Abbreviations: 1. Covid conspiracy beliefs. 2. Conspiracy Mentality. 5. Trust in authorities. 6. Trust in volunteer organizations. \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

When entered into a regression, there were only three measures that contributed to COVID-conspiracy beliefs on their own. Conspiracy mentality and religiosity both contributed positively, while trust in authorities contributed negatively.

**Table 2.**

*Linear regression with COVID-conspiracy beliefs as dependent variable (n=1225)*

<i>Independent variables</i>	<i>B (S.E)</i>	<i>B</i>	<i>T</i>
Conspiracy mentality	.18 (.01)	.44	14.99***
Religiosity	.08 (.02)	.16	4.58***
COVID Stress	-.00 (.03)	-.00	-.10
Trust in authorities	-.21 (.05)	-.13	-4.49***
Trust in volunteer orgs	-.01 (.11)	-.01	-.11
PANAS Negative Affect	-.02 (.04)	-.02	-.48
PANAS Positive Affect	-.01 (.03)	.01	.28
Meaningfulness	.02 (.03)	-.02	.15
Crisis of meaning	.00 (.03)	.01	.15

*Note.* Adjusted  $R^2 = .31$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

For religiosity, the situation was different. Every measure but negative affect still contributed significantly, even if it was in a very small way. Meaningfulness is most strongly associated, and when controlled for other factors, crisis of meaning is also positively associated.

**Table 3.**

*Linear regression with religiosity as dependent variable (n= 1225)*

<i>Independent variables</i>	<i>B (S.E)</i>	<i>B</i>	<i>T</i>
Conspiracy mentality	.06 (.02)	.09	2.28**
COVID Conspiracy beliefs	.20 (.04)	.11	4.58***
COVID Stress	-.18 (.05)	-.00	-.11***
Trust in authorities	-.23 (.07)	-.08	-3.21**
Trust in volunteer orgs	.35 (.07)	-.12	5.05***
PANAS Negative Affect	-.02 (.06)	-.01	-.40
PANAS Positive Affect	-.28 (.04)	-.15	-6.26***
Meaningfulness	.92 (.03)	.71	28.89***
Crisis of meaning	.35 (.04)	.23	8.63***

Note. Adjusted R<sup>2</sup>= .52, \**p* < .05, \*\**p* < .01, \*\*\**p* < .001

## 5. Discussion

Conspiracy mentality emerged as the best predictor of belief in conspiracy theories about COVID-19. This is as we would expect; like the negative relation to trust, this is in line with results on almost all types of conspiracy beliefs (Imhoff and Bruder 2014). We could not replicate extant results on gender and age regarding who believes more in COVID-conspiracy theories. One should not read much into this, as one probably should not expect these results to replicate unless samples and items are similar. Items matter. When we looked at the COVID-conspiracy items *separately* we did see some significant differences between men and women on two items (5G and “Gaia’s revenge”), but while women scored higher, the differences were very small.

COVID-specific conspiracy beliefs were only tenuously associated with emotion-measures like COVID-stress, PANAS negative affect, or crisis of meaning. Conspiracy mentality was however clearly tied to all three, albeit the effect was small.<sup>3</sup> Any effect of these “stressors” on COVID-specific conspiracy beliefs was indirect.

Religiosity was weakly negatively tied to COVID-stress. It was as expected strongly tied to reporting meaningfulness. We see from the regression that it was also tied to the search for meaning in general, as crisis of meaning becomes positively associated. Religiosity also turned out to be one of the few measures significantly associated with COVID-specific conspiracy beliefs. Although the relation is weak, this is only to some extent what we would expect. We notice that among the positive correlates of religiosity we, as expected, find trust, but it is limited to trust in “volunteer organizations”. The correlation to trust in authorities, the strongest negative predictor of conspiracy beliefs, is instead very weakly negative. This leaves the underlying cognitive traits that tend to predict both conspiracy beliefs and religion. Our measure of religiosity lacks items covering Manichean and apocalyptic beliefs, but it does include others that are highly consonant with thinking styles associated with conspiracy beliefs. The item asking about seeing intentional meaning behind events is one of them, belief in miracles another. Items expressing belief that there are hidden realities behind what is

<sup>3</sup> Convention for a small effect is *r* of 0.1-0.3.

known to us can be interpreted by some respondents in ways that are very close to general conspiracy beliefs, and teleological thinking, the second factor we found in the measure, is also a known to be clearly associated. Looking more closely by separating the factors, we found that the two items on teleological thinking had the strongest positive effect on conspiracy beliefs. However, when we exclude those from the measure of religiosity, the relation was still positive and significant even in the regression.

The research community has long tied conspiracy beliefs to threatening and stressful situations. Reported stress and other, related factors played no substantial role in predicting conspiracy beliefs among our respondents. However, our respondents reported neither high stress from COVID-19 nor much belief in conspiracy theories, and the relationship between them was negligible, whereas stress and negative affect was somewhat more highly related to conspiracy mentality. There is a possibility that this reflects more general issues. It currently seems that conspiracy *mentality* is a fairly stable orientation and that it may be less influenced by situational effects than previously suspected. Since conspiracy mentality is the central predictor of specific beliefs and other measures are more highly correlated with conspiracy mentality, it is perhaps not all that surprising that while we do see an effect of COVID stress and negative affect on COVID-specific conspiracy theories, it is very small, and when controlled for other factors, there is no direct effect. Further research needs to look at crisis and conspiracy beliefs longitudinally, with representative population samples, and study levels of conspiracy mentality as well as of levels specific conspiracy beliefs.

### **5.1. Limitations**

Our respondents were a highly educated convenience sample recruited via snowballing from a network of researchers, many of whom are tied to healthcare and to church-related psychology of religion. The findings from this group of respondents should therefore be seen as a set of possible relations to possibly be investigated further, and when surprising, one should not think it will generalize to a larger public. The distributions on conspiracy mentality is, for instance, normally distributed in a representative sample of Norwegians (Dyrendal 2020a), but it was very right-skewed in this sample. Some results are, however, as one would expect, and some of the results on questions we thought open may further highlight which dynamics seem to be more important.

### **6. Conclusion**

Conspiracy mentality, lack of trust, and religiosity were the only direct contributors to COVID-specific conspiracy beliefs. Self-reported COVID stress and emotive factors that could be related did not directly influence levels of conspiracy beliefs, and their indirect contribution was very small. Whether, how, and to which degree the societal levels of conspiracy mentality is influenced by crises should be studied more closely.

### **7. References**

Alper, Sinan, Fatih Bayrak, and Onurkan Yilmaz. 2020. 'Psychological correlates of COVID-19 conspiracy beliefs and preventive measures: Evidence from Turkey.' *Current Psychology* <https://doi.org/10.1007/s12144-020-00903-0>

Asprem, Egil, and Asbjørn Dyrendal. 2018. 'Close Companions? Esotericism and Conspiracy Theories'. In *Handbook of Conspiracy Theory and Contemporary Religion*, eds. Asbjørn Dyrendal, David G. Robertson, and Egil Asprem (Leiden: Brill), pp. 207-233.

Bakracheva, Margarita. 2019. 'Coping Effects on Life Meaning, Basic Psychological Needs and Well-Being.' *Psychology*, 10: 1375-1395. doi: [10.4236/psych.2019.1010090](https://doi.org/10.4236/psych.2019.1010090).

Barkun, Michael. 2003. *A Culture of Conspiracy: Apocalyptic Visions in Contemporary America*. (Berkeley, CA: University of California Press.)

Barron, David, Kevin D. Morgan, Tony Towell, Boris Altemeyer, and Viren Swami. (2014). 'Associations between schizotypy and conspiracist ideation.' *Personality and Individual Differences*, 70, 156–159.

Barron, David, Adrian Furnham, Laura Weis, Kevin D. Morgan, Tony Towell, and Viren Swami. 2018. 'The relationship between schizotypal facets and conspiracist beliefs via cognitive processes.' *Psychiatry Research*, 259, 15–20.

Bertin Paul, Kenzo Nera, and Sylvain Delouvée. 2020. 'Conspiracy Beliefs, Rejection of Vaccination, and Support for hydroxychloroquine: A Conceptual Replication-Extension in the COVID-19 Pandemic Context.' *Frontiers in Psychology* 11: 2471, <https://www.frontiersin.org/article/10.3389/fpsyg.2020.565128>

Biddlestone Mikey, Ricky Green, and Karen M. Douglas. 2020. 'Cultural orientation, power, belief in conspiracy theories, and intentions to reduce the spread of COVID-19.' *British Journal of Social Psychology* 59:663–73. doi: [10.1111/bjso.12397](https://doi.org/10.1111/bjso.12397)

Bowes, Shauna M., Thomas H. Costello, Winky Ma, and Scott O. Lilienfeld. 2020. 'Looking under the tinfoil hat: Clarifying the personological and psychopathological correlates of conspiracy beliefs.' *Journal of Personality*. <https://doi.org/10.1111/jopy.12588>

Brotherton, Robert, and Christopher C. French. 2015. 'Intention Seekers: Conspiracist Ideation and Biased Attributions of Intentionality.' *PLoS ONE*, 10 (5), p. e0124125, [10.1371/journal.pone.0124125](https://doi.org/10.1371/journal.pone.0124125)

Bruder, Martin, Peter Haffke, Nicky Neave, Nina Nouripanah, and Roland Imhoff. 2013. 'Measuring individual differences in generic beliefs in conspiracy theories across cultures: Conspiracy Mentality Questionnaire.' *Frontiers in Psychology*, 4, 225

Butter, Michael. 2020. *The Nature of Conspiracy Theories*. (Cambridge: Polity Press.)

Cassese, Erin C., Christina E. Farhart, and Joanne M. Miller. 2020. 'Gender Differences in COVID-19 Conspiracy Theory Beliefs.' *Politics & Gender*, 16(4): 1009-1018. doi:10.1017/S1743923X20000409

Cichocka, Aleksandra, Marta Marchlewska, and Agnieszka Golec de Zavala. 2016. 'Does Self-Love or Self-Hate Predict Conspiracy Beliefs? Narcissism, Self-Esteem, and the Endorsement of Conspiracy Theories.' *Social Psychological and Personality Science*. 2016;7(2):157-166. doi:[10.1177/1948550615616170](https://doi.org/10.1177/1948550615616170)

Cookson, Darel, Daniel Jolley, Robert C. Dempsey, and Rachel Povey. 2021. "'If they believe, then so shall I": Perceived beliefs of the in-group predict conspiracy theory belief.' *Group Processes and Intergroup Relations*

Daniels, Joseph P. and Marc von der Ruhr. 2010. 'Trust in Others: Does Religion Matter?' *Review of Social Economy*, 68:2, 163-186 Doi: [10.1080/00346760902968447](https://doi.org/10.1080/00346760902968447)

de Jong, Elisabeth M., Niklas Ziegler, and Michaela C. Schippers. 2020. 'From Shattered Goals to Meaning in Life: Life Crafting in Times of the COVID-19 Pandemic.' *Frontiers in psychology*, 11, 577708. <https://doi.org/10.3389/fpsyg.2020.577708>

Douglas, Karen M., Aleksandra Cichocka, and Robbie M. Sutton. 2020. 'Motivations, emotion, and belief in conspiracy theories.' In *Routledge Handbook of Conspiracy Theories*, eds. Michael Butter and Peter Knight (London: Routledge), Pp. 181-191

Douglas, Karen M. and Robbie M. Sutton. 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: 544-552. <https://doi.org/10.1111/j.2044-8309.2010.02018.x>

Douglas, Karen M., Robbie M. Sutton, and Aleksandra Cichocka. 2017. 'The Psychology of Conspiracy Theories.' *Current Directions in Psychology* 26(6): 538-542, doi:10.1177/0963721417718261

Douglas, Karen M., Robbie M. Sutton, Mitchell J. Callan, Rael J. Dawtry, and Annelie J. Harvey. 2016. 'Someone is pulling the strings: hypersensitive agency detection and belief in conspiracy theories.' *Thinking & Reasoning*, 22(1): 57-77, doi: [10.1080/13546783.2015.1051586](https://doi.org/10.1080/13546783.2015.1051586)

Duplaga, Mariusz. 2020. 'The Determinants of Conspiracy Beliefs Related to the COVID-19 Pandemic in a Nationally Representative Sample of Internet Users.' *International Journal of Environmental Research and Public Health* 17, 7818, <https://doi.org/10.3390/ijerph17217818>

Dyrendal, Asbjørn. 2020a. 'Conspiracy Beliefs about Jews and Muslims in Norway.' In *The Shifting Boundaries of Prejudice. Antisemitism and Islamophobia in Contemporary Norway*,



eds. Christhard Hoffmann and Vibeke Moe (Oslo: Scandinavian University Press), Pp. 187-210

Dyrendal, Asbjørn. 2020b. Conspiracy theory and religion. In *Routledge Handbook of Conspiracy Theories*, eds. Michael Butter and Peter Knight (London: Routledge), Pp. 371-383

Dyrendal, Asbjørn, Leif Edward Ottesen Kennair, and Mons Bendixen. 2021. 'Predictors of belief in conspiracy theory: The role of individual differences in schizotypal traits, paranormal beliefs, social dominance orientation, right wing authoritarianism and conspiracy mentality.' *Personality and Individual Differences*. Vol.173, <https://doi.org/10.1016/j.paid.2021.110645>

Dyrendal, Asbjørn, Leif Edward Ottesen Kennair, and James R. Lewis. 'The Role of Conspiracy Mentality and Paranormal Beliefs in Predicting Conspiracy Beliefs Among Neopagans.' *International Journal for the Study of New Religions* 8(1): 73-97

Dyrendal, Asbjørn, David G. Robertson, and Egil Asprem (eds.). 2018. *Handbook of Conspiracy Theory and Contemporary Religion*. Leiden: Brill.

Ecarma, Caleb. 2021. 'COVID Anti-Vaxxers Are Taking Their Wild Conspiracies Into the Real World.' *Vanity Fair*, Feb. 1, 2021. <https://www.vanityfair.com/news/2021/02/covid-anti-vaxxers-conspiracies-los-angeles>

Freeman, Daniel, and Robert P. Bentall. 2017. 'The concomitants of conspiracy concerns.' *Social Psychiatry and Psychiatric Epidemiology* 52: 595–604, <https://doi.org/10.1007/s00127-017-1354-4>

Garrett, R. Kelly, and Brian E. Weeks. 2017. 'Epistemic beliefs' role in promoting misperceptions and conspiracist ideation.' *PLoS ONE* 12(9): e0184733. <https://doi.org/10.1371/journal.pone.0184733>

Georgiou, Neophytos, Paul Delfabbro, and Ryan Balzan. 2020. 'COVID-19-related conspiracy beliefs and their relationship with perceived stress and pre-existing conspiracy beliefs.' *Personality and Individual Differences* 166. <https://doi.org/10.1016/j.paid.2020.110201>

Goertzel, Ted. 1994. 'Belief in conspiracy theories.' *Political Psychology*, 15(4): 731–742, <http://dx.doi.org/10.2307/3791630>.

Graeupner, Damaris, and Alin Coman. 2017. 'The dark side of meaning-making: How social exclusion leads to superstitious thinking.' *Journal of Experimental Social Psychology* 69: 218-222, <http://dx.doi.org/10.1016/j.jesp.2016.10.003>

Hornsey, Matthew J., Cassandra M. Chapman, Belen Alvarez, Sarah Bentley, Bruno Gabriel, Salvador Casara, Charlie R. Crimston, Octavia Ionescu, Henning Krug, Hema Preya Selvanathan, Niklas K. Steffens, and Jolanda Jetten. 2021. 'To what extent are conspiracy theorists concerned for self versus others? A COVID-19 test case.' *European Journal of Social Psychology*. doi:10.1002/EJSP.2737

Imhoff, Roland, and Martin Bruder. 2014. Speaking (Un-)Truth to Power: Conspiracy Mentality as a Generalised Political Attitude. *European Journal of Personality* 28: 25–43

Imhoff, Roland, Lea Dieterle, and Pia K. Lamberty. 2020. 'Resolving the Puzzle of Conspiracy Worldview and Political Activism: Belief in Secret Plots Decreases Normative but Increases Nonnormative Political Engagement.' *Social Psychological and Personality Science*. 12(1):71-79. doi:[10.1177/1948550619896491](https://doi.org/10.1177/1948550619896491)

Imhoff, Roland, and Pia K. Lamberty. 2017. 'Too special to be duped: Need for uniqueness motivates conspiracy beliefs.' *European Journal of Social Psychology*, 47: 724– 734. doi: 10.1002/ejsp.2265.

Imhoff, Roland, and Pia K. Lamberty. 2020. 'A Bioweapon or a Hoax? The Link Between Distinct Conspiracy Beliefs About the Coronavirus Disease (COVID-19) Outbreak and Pandemic Behavior.' *Social Psychological and Personality Science*. 11(8):1110-1118. doi:[10.1177/1948550620934692](https://doi.org/10.1177/1948550620934692)

Jolley, Daniel, Rose Meleady, and Karen M. Douglas. 2020. 'Exposure to intergroup conspiracy theories promotes prejudice which spreads across groups.' *British Journal of Psychology*, 111: 17-35. <https://doi.org/10.1111/bjop.12385>

Jolley, Daniel, and Jenny L. Paterson. 2020. 'Pylons ablaze: Examining the role of 5G COVID-19 conspiracy beliefs and support for violence.' *British Journal of Social Psychology*, 59: 628-640. <https://doi.org/10.1111/bjso.12394>

Jovančević, Ana and Nebojša Milićević. 2020. 'Optimism-pessimism, conspiracy theories and general trust as factors contributing to COVID-19 related behavior – A cross-cultural study.' *Personality and Individual Differences*, 167: 110216

Kim, Seoyong, and Sunhee Kim. 2021. 'Searching for General Model of Conspiracy Theories and Its Implication for Public Health Policy: Analysis of the Impacts of Political, Psychological, Structural Factors on Conspiracy Beliefs about the COVID-19 Pandemic.' *International Journal of Environmental Research and Public Health* 18 (1): 266. <https://doi.org/10.3390/ijerph18010266>

Kreko, Peter. 2015. 'Conspiracy Theory as Collective Motivated Cognition.' In *The Psychology of Conspiracy*, eds. Michal Bilewicz, Aleksandra Cichočka, and Wiktor Soral (London: Routledge), 62-75.

Kye, Bongoh, and Sun-Jae Hwang. 2020. 'Social trust in the midst of pandemic crisis: Implications from COVID-19 of South Korea.' *Research in Social Stratification and Mobility* Vol. 68. <https://doi.org/10.1016/j.rssm.2020.100523>.

Lamberty, Pia K. and David Leiser. 2019. "Sometimes you just have to go in" – The link between conspiracy beliefs and political action.' *PsyarXiv*, <https://doi.org/10.31234/osf.io/bdrxc>

Leibovitz, Talia, Amanda L Shamblaw, Rachel Rumas, and Michael W. Best. 2021. 'COVID-19 conspiracy beliefs: Relations with anxiety, quality of life, and schemas.' *Personality and Individual Differences* 175: 110704, <https://doi.org/10.1016/j.paid.2021.110704>.

Lewandowsky, Stephan, John Cook, and Elisabeth Lloyd. 2018. 'The 'Alice in Wonderland' mechanics of the rejection of (climate) science: simulating coherence by conspiracism.' *Synthese* 195: 175–196. <https://doi.org/10.1007/s11229-016-1198-6>

March, Evita, and Jordan Springer. 2019. 'Belief in conspiracy theories: The predictive role of schizotypy, Machiavellianism, and primary psychopathy.' *PLoS ONE* 14(12): e0225964. <https://doi.org/10.1371/journal.pone.0225964>

Oliver, J.Eric, and Wood, Thomas J. 2014. 'Conspiracy Theories and the Paranoid Style(s) of Mass Opinion.' *American Journal of Political Science* 58: 952-966. <https://doi.org/10.1111/ajps.12084>

Oliver, J.Eric, and Thomas J. Wood. 2018. *Enchanted America. How intuition and reason divide our politics*. (London: University of Chicago Press)

Popper, Karl R. (2002 [1963]) *The Open Society and Its Enemies*. 4<sup>th</sup> rev ed. (Princeton, NJ: Princeton University Press)

Robertson, David G. and Asbjørn Dyrendal. 'Conspiracy Theories and Religion: Superstition, Seekership, and Salvation.' in *Conspiracy Theories and the People Who Believe Them*, ed. Joseph M. Uscinski (New York: Oxford University Press), pp.411-421

Schnell, Tatjana. 2009. 'The Sources of Meaning and Meaning in Life Questionnaire (SoMe): Relations to demographics and well-being.' *The Journal of Positive Psychology* 4(6): 483–499

Schnell, Tatjana. 2020. *Psychology of meaning in life*. London: Routledge.

Schnell, Tatjana, and Henning Krampe. 2020. 'Meaning in Life and Self-Control Buffer Stress in Times of COVID-19: Moderating and Mediating Effects with Regard to Mental Distress.' *Frontiers in Psychiatry* 11: 983, doi:10.3389/fpsy.2020.582352

Sternisko, Anni, Aleksandra Cichočka, and Jay J. Van Bavel. 2020. 'The dark side of social movements: Social identity, non-conformity, and the lure of conspiracy theories.' *Current Opinion in Psychology* 35:1-6, <https://doi.org/10.1016/j.copsyc.2020.02.007>

Stojanov, Ana, and Jamin Halberstadt. 2020. 'Does lack of control lead to conspiracy beliefs? A meta-analysis.' *European Journal of Social Psychology*. 50(5): 955– 968. <https://doi.org/10.1002/ejsp.2690>

Stone, Anna, Mark R. McDermott, Aisha Abdi, Brittanie Cornwell, Zsafia Matyas, Ruby Reed, and Rebecca Watt. 2018. 'Development and validation of the multi-dimensional questionnaire of scientifically unsubstantiated beliefs.' *Personality and Individual Differences* 128: 146-156

Sutton, Robbie M., and Karen M. Douglas. 2020. 'Conspiracy theories and the conspiracy mindset: implications for political ideology'. *Current Opinion in Behavioral Sciences* 34: 118-122

Swami, Viren, Martin Voracek, Stefan Stieger, Ulrich S. Tran, and Adrian Furnham. 2014. 'Analytic thinking reduces belief in conspiracy theories.' *Cognition* 133: 572-585.

Sørensen, Torgeir, Peter la Cour, Lars Johan Danbolt, Hans Stifoss-Hanssen, Lars Lien, Valerie DeMarinis, Heidi Frølund Pedersen, and Tatjana Schnell (2018). 'The Sources of Meaning and Meaning in Life Questionnaire in the Norwegian Context: Relations to Mental Health, Quality of Life, and Self-Efficacy.' *The International Journal for the Psychology of Religion*, doi:10.1080/10508619.2018.1547614

Taylor, Steven, Caeleigh A. Landry, Michelle M. Paluszek, Thomas A. Fergus, Dean McKay, and Gordon J. G. Asmundson. 2020. 'COVID stress syndrome: Concept, structure, and correlates.' *Depression and Anxiety*. 37:706-714, <https://doi.org/10.1002/da.23071>

Temperton, James. 2020. 'The Rise and Spread of a 5G Coronavirus Conspiracy Theory.' *Wired*, Sep.4 2020. <https://www.wired.com/story/the-rise-and-spread-of-a-5g-coronavirus-conspiracy-theory/>

Teovanović, Predrag, Petar Lukić, Zorana Zupan, Aleksandra Lazić, Milica Ninković, and Iris Žeželj. 2020. 'Irrational Beliefs Differentially Predict Adherence to Guidelines and Pseudoscientific Practices During the COVID-19 Pandemic.' *Applied Cognitive Psychology*. doi: 10.1002/acp.3770

Uscinski, Joseph E. and Joseph M. Parent. 2014. *American Conspiracy Theories* (New York: Oxford University Press).

Van Mulukom, Valerie, Lotte J. Pummerer, Sinan Alper, Hui (Max) Bai, Vladimíra Čavojová, Jessica Farias, Cameron S. Kay, Ljiljana B. Lazarevic, Emilio J. C. Lobato, Gaëlle

Marinthe, Irena Pavela Banai, Jakub Šrol, and Iris Žeželj. 'A dual-inheritance model of COVID-19 conspiracy beliefs: a systematic review.' Preprint. <https://psyarxiv.com/u8yah/>

Van Prooijen, Jan-Willem. 2018. *The psychology of conspiracy theories*. (London: Routledge)

Van Prooijen, Jan-Willem, and Michele Acker. 2015. 'The Influence of Control on Belief in Conspiracy Theories: Conceptual and Applied Extensions.' *Applied Cognitive Psychology* 29: 753–761. doi: 10.1002/acp.3161.

Van Prooijen, Jan-Willem, Karen M. Douglas, and Clara De Inocencio. 2018. Connecting the dots: Illusory pattern perception predicts belief in conspiracies and the supernatural. *European Journal of Social Psychology*, 48: 320–335. <https://doi.org/10.1002/ejsp.2331>.

Van Prooijen, Jan-Willem, Olivier Klein, and Jasna M. Dordevic. 2020. 'Social-cognitive mechanisms underlying beliefs in conspiracy theories.' In *Routledge Handbook of Conspiracy Theories*, eds. Michael Butter and Peter Knight (London: Routledge), Pp. 168-179

Wagner-Egger, Pascal, Sylvain Delouvée, Nicolas Gauvrit, Sebastian Dieguez, 'Creationism and conspiracism share a common teleological bias.' 2018. *Current Biology* 28:16, R867-R868

Watson, David, Lee A. Clark, and Auke Tellegen. 1988. 'Development and validation of brief measures of positive and negative affect: The PANAS scales.' *Journal of Personality and Social Psychology* 54(6): 1063-1070. <http://dx.doi.org/10.1037/0022-3514.54.6.1063>

Wood, Michael J., and Karen M. Douglas. 2019. 'Are Conspiracy Theories a Surrogate for God?' In *Handbook of Conspiracy Theory and Contemporary Religion*, eds. Asbjørn Dyrendal, David G. Robertson and Egil Asprem (Leiden: Brill), pp. 87–105.

Wood Michael J., Karen M. Douglas, and Robbie M. Sutton. 2012. 'Dead and Alive: Beliefs in Contradictory Conspiracy Theories.' *Social Psychological and Personality Science*. 3(6):767-773. doi:[10.1177/1948550611434786](https://doi.org/10.1177/1948550611434786)

Wood, Michael J, and Debra Gray. 2019. 'Right-wing authoritarianism as a predictor of pro-establishment versus antiestablishment conspiracy theories.' *Personality and Individual Differences* 138:633-636, <https://doi.org/10.1016/j.paid.2018.09.036>

Yıldırım, Murat, Muhammed Kızılgöç, İsmail Seçer, Fuat Karabulut, Abdullah Dacı, Muhammed Enes Vural, Nurun Nisa Bayram, and Murat Çinici. 2021. 'Meaning in Life, Religious Coping, and Loneliness During the Coronavirus Health Crisis in Turkey.' *Journal of Religion and Health*. <https://doi.org/10.1007/s10943-020-01173-7>