


## Trust in crisis

Conspiracy mentality, lack of trust and religiosity predicted conspiracy beliefs about COVID-19 in a Norwegian sample

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Crisis are associated with a 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 have looked at several COVID-specific conspiracy theories and their relation to a number of other factors, 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 findings, we found no effect of gender or age.

### 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 30 January 2021, believers in conspiracy theories blocked access to the Dodger Stadium in Los Angeles for hours, halting the mass vaccination that the stadium had been repurposed for (Ecarma 2021). Conspiracy theories that attributed COVID-19 to radiation from 5G mobile-phone networks resulted in attacks

on both 5G masts and people working on them (Temperton 2020; Jolley and Paterson 2020).

The present article analyses the relationship between conspiracy theories, religion, meaning in life, COVID-related 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-related stress and meaning in life. These are therefore included as part of our analysis.

As the literature on conspiracy beliefs and its predictors are likely to be least familiar to the reader, we will address this first, before moving on to the relation to religion and the COVID-19 situation. We follow the general structure of quantitative analyses (IMRAD), but to assist readers, we will interpret and discuss 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 *et al.* 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 coronavirus pandemic warrants it, we will also check some of the established findings on conspiracy beliefs before we move on to religion-related relations.

### Conspiracy beliefs and their predictors

‘Conspiracy theories’, ‘conspiracy beliefs’ and ‘conspiracy narratives’ are usually synonyms, with ‘conspiracy theory’ being the main term used for ‘beliefs’ in which covert, sinister, organized conspirators are thought to be behind troubling situations. Epistemologically, such ‘theories’ tend to be treated as scientifically unwarranted and group empirically 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 *et al.* 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 *et al.* 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 in-group (Douglas *et al.* 2017). Conspiracy beliefs seem rarely to succeed in fulfilling these needs, not 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 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 *et al.* 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 level of individual differences include higher scores on schizotypal traits (Barron *et al.* 2014), narcissism (Cichocka *et al.* 2016), Machiavellianism (Douglas and Sutton 2011), and psychopathy (March and Springer 2019). At the cognitive level, predictors include over-identification of agency and patterns (van Prooijen *et al.* 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 *et al.* 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 refers to more than the fact that some conspiracy theories lean left, and others lean right. Some are focused on highly specific events, such as the deaths of John F. Kennedy or Princess Diana. Others centre on large-scale events or systems, with the target of the conspiracy presented as not merely one’s in-group, 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 *et al.* 2020) differentiates between conspiracy theory as content and as form. The content dimension – for example 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 in-group accepts them (Cookson *et al.* 2021) and if the targets belong to groups that we are already sceptical of (Imhoff and Bruder 2014; Wood and Gray 2019). The ‘form’ dimension – for example 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), a tendency towards 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 finding is that they generally serve to increase polarization and decrease interpersonal trust (Sutton and Douglas 2020); they demotivate people concerning democratic participation, but increase the acceptance of violence as a political tool (Imhoff *et al.* 2020) and increase intergroup hatred (Jolley *et al.* 2020).

### 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 into the secular realm, tied to secularization, and proposed as a replacement theodicy (Popper 2002/1963). In a similar vein, they have been seen to be 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 *et al.* 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, ‘Manichaeism’ dualism, fundamentalism, and paranormal beliefs are traits that not only cohere well; they are also, separately, correlated with higher scores on conspiracy beliefs (Dyrendal *et al.* 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 defence in the form of collective, motivated cognition (Cichočka *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 *et al.* 2021).<sup>1</sup>

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). As religion is another supplier of the same needs, they can work in tandem, they can be competitors, or they can be independent of each other. The weight of the evidence indicates that they are in general more likely to be correlated (Oliver and Wood 2014, 2018); however, most of the evidence supporting this is from regions and populations (e.g. American Evangelicals) where adherents of the type of religion in question tend to hold broader paranormal and dualistic beliefs than those generally encountered among 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 *et al.* 2020). Relevant here is the difference between conspiracy mentality and situation-specific conspiracy beliefs (Stojanov and Halberstadt 2020);

1 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.

controlled studies that have been passed by ethics boards are hopefully not comparable 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 under-researched issues here. First, we neither know, nor have good theoretical reasons to decide, whether crises are likely, in the short run, to increase the prevalence of conspiracy beliefs. Another way of dealing with crisis is to place more trust in authorities (Kye and Hwang 2020) in order to alleviate feelings of distress. While those most likely to adopt to conspiracy beliefs may heighten their conspiracy mindset at an early stage, even larger portions of a population may cope by submitting to expertise and/or the political authorities. Second, there is the relationship to religion to consider. People in crisis situations, such as the COVID-19 pandemic, seem to be more likely to experience a loss of meaning in life (de Jong *et al.* 2020; Schnell and Krampe 2020), and the role of religion in managing the emotional and social fallout of a crisis seems more clear-cut, as a traditional route for handling the crisis and loss of meaning.

While not a primary focus of behavioural research during COVID, some results related to religion exist. In a Turkish setting, positive religious coping was tied to reporting more meaning in life, less loneliness, and less negative coping mechanisms (Yıldırım *et al.* 2021). However, ‘negative’ religious coping mechanisms gave the opposite result. This is not surprising, as negative religious coping comprises techniques of demonization, and discontent with others and 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 does imply something about which relationship to expect.

The research on COVID-specific conspiracy theories finds such beliefs, as expected, associated with lower trust (van Mulukom *et al.* 2020), greater mental distress and anxiety (Leibowitz *et al.* 2021), lower levels of concern for closely related others and higher ones 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 to recommended, protective health behaviour (Biddlestone *et al.* 2020), including less intention to be vaccinated (Bertin *et al.* 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 a means of ‘positive coping’. The few studies to date that do look at both conspiracy theories and religion in light of COVID-19 are, however, mixed in their results. 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 levels of COVID-specific conspiracy beliefs (Alper *et al.* 2020). In a Western setting, Talia Leibowitz and her co-authors (2021) found that greater religiosity and spirituality were associated with higher specific and general conspiracy beliefs (including COVID-related) among US and Canadian respondents. A greater degree of conspiracy beliefs was associated with higher anxiety, an association that became stronger in follow-up studies. These studies, however, did not did not analyse how religion affected anxiety levels.

## 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 make some predictions based on extant research. When we do so in these cases, it is to stress where the weight of current evidence seems to lie before we check what our data show.

Two such predictions concern simple relations that have been confidently announced in the popular press based on limited extant research: 1) men should be more prone to COVID-specific conspiracy beliefs than women (Cassese *et al.* 2020), 2) younger respondents should be more prone than older (Duplaga 2020). Such correlations (between gender/age and conspiracy beliefs) are typically weak and vary between specific theories, any resulting findings may 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-related conspiracy beliefs.

Other relationships are more robust, and we predict them with confidence. Willingness to trust should predict lower levels of conspiracy belief and lower levels of conspiracy mentality – especially in situations where trust in authority is 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 concerning conspiracy beliefs: that belief in

one predicts belief in others (Goertzel 1994). The precise reasons why this is so 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 *et al.* 2012; Imhoff and Lamberty 2020). Our survey included such contradictory COVID-related items and we expect them to be clearly related; indeed, this is a condition for our COVID-related conspiracy beliefs scale (below).

Negative emotions, 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 twelve-item version of the ‘Positive and Negative Affect Scale’ (Schnell 2020; Watson *et al.* 1988) – seven items of negative affects (upset, shame, hostility, nervousness, fear, guilt, loneliness) and five items of positive ones (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-related conspiracy beliefs and conspiracy mentality should both be negatively correlated with meaning is thus contradicted by some existing 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 relationship 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 may be socio-cultural variations in the relationship between conspiracy beliefs and religiosity. They also vary between specific theories and different types of religion. We expect our recruitment strategy to favour respondents with high levels of education and liberal religion. They would be less likely to hold the kind of ‘Manichaeian’ 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-related conspiracy beliefs – that they correlate positively – to generalize to our respondents. This is partly because trust in 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 levels of belief in conspiracy theories. However, it is not clear that this increased trust, if it holds, will overcome the general effect of, for example, intuitive thinking styles generally associated with religiosity.

## Methods

### Collection

The survey was conducted using the University of Oslo's online tool <nett-skjema.no> from 7 May to 7 June 2020. It asked how people experienced and adapted to the coronavirus 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, and denominations 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 suited to the purpose of producing a rich source of material for in-depth insight that may help generate further research.

A large part of the questionnaire related to the experience and management of the coronavirus 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 lockdown imposed in the spring of 2020. A total of 36 questions about experiences relating to the coronavirus 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. The time needed to complete the whole questionnaire was approximately 12 minutes.

### Participants

We received 1,225 complete answers from predominantly female (73.2%) 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% were single, 10% divorced and two per cent widows or widowers. Almost all (80%) 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). 7% belonged to other Christian denominations (about the same as official statistics), 4% belonged to a Muslim congregation (off. stat. 3%), and 7% were members of the Norwegian Humanist Association (off. stat. 2%). 22% stated that they were non-affiliated, 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 for at least four years.

A large proportion of the study population worked in the healthcare system (27%) or the education sector (19%). 6% worked in religious or philosophical communities or in non-profit organizations, and 5% in the cultural sector. 12% were retired, and six per cent were students. 6% were disabled or on extended sick leave. The others were spread over a number of different industries such as trade, hotels and tourism, transport, and municipal services. 4% were temporarily laid off as a result of the pandemic. A relatively high proportion

(44%) performed their work from home because of the coronavirus situation.

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

## Measures

We assembled the different items of the surveys in order to derive scores according to a series of categories.

### Trust

The survey had nine items with questions relating to trust. 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 item relating to 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 various other organizations and social media, tentatively called 'trust in volunteer organizations', was just below the conventional cut-off point for acceptable reliability at 0.69. Both scales are scored as participant mean of all four and five items.

2 Using social media as a 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.

### Religiosity

The survey used eight items measuring religiosity and spirituality from Tatjana 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 constructed 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 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 eight items.

### Conspiracy mentality

The survey used a five-item measure of 'conspiracy mentality' – which predicts a general propensity to draw on conspiracy theories in explaining events (Bruder *et al.* 2013) – that has previously been validated for Norway (Dyrendal 2020a; Dyrendal *et al.* 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 *et al.* 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: 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-related 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 the 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 affects*

The effect of emotions was measured by mean scores on the items of PANAS positive and PANAS negative affects. The negative affects 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 affects 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 see such expressed feelings of stress as related to conspiracy beliefs, and even more to COVID-specific conspiracy beliefs, but existing research is divided. While some find a clear correlation (Taylor *et al.* 2020), others do not (Georgiou *et al.* 2020). The scale has seven items, expressing fear of the pandemic, irritation, fear over living conditions, etc. It loaded on two factors and had acceptable reliability ( $\alpha=0.72$ ).

## **Results**

As we can see in Table 1, very few of our respondents reported experiencing a 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-related conspiracy beliefs were closely and positively correlated. The only insignificant correlation was between the reverse-phrased item and ‘Gaias’ 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-related conspiracy beliefs and age, and an independent samples t-test showed no significant differences in COVID-related 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 to negative affect and crisis of meaning.

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

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

**Table 2.** Linear regression with COVID conspiracy beliefs as dependent variable (n=1225)

Independent variables	B (S.E)	Standardized Beta	T
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  $R^2 = .31$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

**Table 3.** Linear regression with religiosity as dependent variable (n= 1225)

Independent variables	B (S.E)	Standardized Beta	T
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  $R^2 = .52$ , \* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$ .

## 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-related conspiracy theories. One should not read much into this, as one probably should not expect these results to be replicated unless samples and

items are similar. Items matter. When we looked at the COVID-related conspiracy items *separately* we did see some significant differences between men and women on two items (5G and ‘Gaias revenge’), but while women scored higher, the differences were very small.

COVID-specific conspiracy beliefs were only tenuously associated with emotion measures such as COVID-related 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-related 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 find, as expected, 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 Manichaeism 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 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 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 relationship, 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-related 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 of specific conspiracy beliefs.

### Limitations

Our respondents were a highly educated convenience sample recruited via snowballing from a network of researchers, many of whom are connected to health care and to a church-related psychology of religion. The findings from this group of respondents should therefore be seen as a set of possible relations for possible further investigation, and while surprising, one should not think it will generalize to a broader public. The

3 The convention for a small effect is  $r$  of 0.1–0.3.

distribution 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.

## Conclusion

Conspiracy mentality, lack of trust, and religiosity were the only direct contributors to COVID-specific conspiracy beliefs. Self-reported COVID-related 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 what degree the societal levels of conspiracy mentality are influenced by crises should be studied more closely. ■



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