Harvard Kennedy School Misinformation Review[1]
October 2025, Volume 6, Issue 5

DOI: https://doi.org/10.37016/mr-2020-188
Website: https://misinforeview.hks.harvard.edu/

Research Article

Not so different after all? Antecedents of believing in misinformation and conspiracy theories on COVID-19

Misinformation and conspiracy theories are often grouped together, but do people believe in them for the same reasons? This study examines how these conceptually distinct forms of deceptive content are processed and believed using the COVID-19 pandemic as context. Surprisingly, despite their theoretical differences, belief in both is predicted by similar psychological factors—particularly conspiracy mentality and the perception that truth is politically constructed—suggesting that underlying distrust in institutions may outweigh differences in types of deceptive content in shaping susceptibility.

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How to cite: Wintterlin, F. (2025). Not so different after all? Antecedents of believing in misinformation and conspiracy theories on COVID-19. *Harvard Kennedy School (HKS) Misinformation Review*, *6*(5).
Received: July 2nd, 2025. Accepted: October 1st, 2025. Published: October 30th, 2025.

Research questions

- Are beliefs in misinformation and conspiracy theories on COVID-19 driven by different epistemic, ideological, and social factors?
- Is believing in different kinds of deceptive content associated with a different usage of media for accessing news?

Essay summary

- The research questions were answered using a representative cross-sectional survey in Germany (March 2024, *N* = 2,953). The sample was stratified by age, gender, and region.
- Measures included belief in conspiracy theories and misinformation on COVID-19; cognitive, personality, and intergroup-related predictors (intuitive thinking, attitude that truth is political, actively open-minded thinking, political orientation, social dominance orientation, conspiracy mentality); media use (legacy, alternative, and social); and control variables (gender, age, education, religiosity, trust in media, science, and politics).
- We found that having a conspiratorial mindset and believing that truth is shaped by politics are strong predictors of belief in conspiracy theories and misinformation. Both reflect a general distrust of the connection between politics and knowledge.

[1] *A publication of the Shorenstein Center on Media, Politics and Public Policy at Harvard University, John F. Kennedy School of Government.*

- The levels of intuitive and actively open-minded thinking were not connected to believing deceptive content.
- Future research should place greater emphasis than before on interventions aimed at reducing distrust in institutions and enhancing understanding of how knowledge is produced in democratic societies.

Implications

In today's media landscape, deceptive information poses a major societal challenge, shaping cognition and behavior (e.g., Allen et al., 2024; Van Der Linden, 2022). Deceptive information can take various forms of false or inaccurate content, spread either intentionally or unintentionally, such as fake news, misinformation, disinformation, propaganda, pseudoscience, and conspiracy theories (Chen et al., 2023; Zeng, 2021).

Much of the existing research has focused on distinguishing types of deceptive information based on the intent of the creators—specifically, whether false information is disseminated deliberately or due to a lack of knowledge about its veracity. This has led to the common distinction between disinformation and misinformation. Misinformation departs from ground truths (Adams et al., 2023) and includes false claims refuted by evidence (Barua et al., 2020, p. 2), but without deceptive intent (Wardle & Derakhshan, 2017). In contrast, disinformation refers to "information that is false and deliberately created to harm a person, social group, organization or country" (Wardle & Derakhshan, 2017, p. 20). Thus, this distinction primarily concerns the authors of the information and their intentions.

However, for recipients, this intent to deceive may not play any role—or may not be immediately discernible. Instead, a second dimension becomes important: the factuality of the information (Möller et al., 2020; Stubenvoll, 2022; Tandoc et al., 2018), that is, its epistemic foundation or the epistemic justification it provides. In terms of this dimension, different types of deceptive content can also be distinguished, and initial attempts have been made to classify them along a continuum ranging from factually accurate to partially false to completely fabricated (Möller et al., 2020). However, this continuum primarily refers to the truthfulness of the content rather than the broader epistemic approach behind it.

The present study investigates whether deceptive content with different epistemic approaches is believed by different groups of people. The focus is not solely on the factuality of the information but on the type of epistemic justifications offered by the content. Specifically, it examines whether individuals respond differently to deceptive content that provides comprehensive, difficult-to-falsify explanations for events compared to content that consists of isolated, more easily verifiable claims.

To compare different types of deceptive content, this study focuses on misinformation and conspiracy theories. While these two concepts are often treated separately in the literature, their boundaries are not always clear-cut. Nevertheless, important distinctions exist, and these may give rise to different explanatory patterns.

In terms of epistemic foundations, conspiracy theories generally have a broader scope than misinformation (Egelhofer & Lecheler, 2019; Wimmer, 2025). While misinformation typically refers to single false claims, conspiracy theories explain events through broader, overarching narratives. At the same time, individual pieces of misinformation can be integral parts of conspiracy theories, which makes their relationship more entangled than neatly distinct (Egelhofer & Lecheler, 2019). When it comes to facticity, conspiracy theories are less clearly false than misinformation, as some conspiracy theories—such as the Watergate scandal—have been proven true (Peters, 2021; Schatto-Eckrodt & Frischlich, 2024). Moreover, conspiracy theories often draw on correct information but reframe it within a different epistemic justification context (Wimmer, 2025). Thus, conspiracy theories rely on a mix of correct and

false information, whereas misinformation is, by definition, false and "unsupported by the best available evidence" (Flynn et al., 2017, p. 129).

These differences in epistemic justification strategies suggest that the two types of deceptive content may appeal to different groups of people. Understanding these distinctions can help determine whether a universal approach to countering deceptive content is feasible or whether tailored interventions are necessary for different audiences. However, both types of deceptive content also conceptually share similarities. While research has examined factors driving belief in such content—like message features, social influences, and individual traits (e.g., Douglas et al., 2019; Pennycook & Rand, 2021)—the field still lacks a thorough comparison of the distinct psychological bases of beliefs in deceptive content (Douglas & Sutton, 2023; Lobato et al., 2014). The current study, therefore, aims to identify similarities and differences between conspiracy theories and misinformation believers as two types of deceptive content.

The context chosen for this study is the COVID-19 pandemic. It generated what has been described as an "infodemic"—a flood of deceptive content spreading rapidly across media channels (Wardle & Derakhshan, 2017). The pandemic provides a particularly suitable setting for investigating the factors that contribute to belief in conspiracy theories and misinformation for several reasons. First, during this period, many people were exposed to deceptive information (van der Linden, 2022), increasing the likelihood that a sample would include believers in both types of content. Second, the (mis)information people received from various sources about COVID-19 had direct consequences for everyday behavior (Barua et al., 2020), making it especially important to study the factors shaping such beliefs.

Factors associated with conspiracy theory and misinformation beliefs

When examining factors associated with belief in conspiracy theories and misinformation, this study places particular emphasis on epistemic attitudes and factors, building on the different epistemic offerings of these two types of content. Accordingly, relevant belief predictors relate to how individuals evaluate evidence, understand truth, and position themselves socially (Hornsey et al., 2022).

At the individual level, cognitive styles are crucial. Intuitive thinking—favoring quick, heuristic-based judgments—heightens susceptibility to both conspiracy theories and misinformation beliefs, though more strongly for conspiracy theories due to the simplified explanations this type of content offers (Epstein et al., 1996; Garrett & Weeks, 2017; Newton et al., 2023). Misinformation beliefs also rise when intuitive thinkers neglect accuracy and sources (Bronstein et al., 2018). While "faith in intuition" increases belief in both types of content, actively open-minded thinking, such as willingness to consider new evidence, acts as a protective factor (Roozenbeek et al., 2022). As a third cognitive factor, the belief that truth is politically constructed links to both conspiracy theories and misinformation beliefs, particularly during politicized events like COVID-19 (Zhou et al., 2024).

At the intergroup level, political ideology plays a key role. Conspiracy theory beliefs are more common among ideological extremes (Imhoff et al., 2022), especially on the right, due to traits such as ambiguity intolerance and a need for order (Van Der Linden et al., 2021). Misinformation beliefs are also influenced by partisan alignment, with conservatives somewhat more prone to belief (Nyhan & Reifler, 2010). Conspiracy theory beliefs are further associated with social dominance orientation (Dyrendal et al., 2021) and conspiracy mentality—the tendency to view societal outcomes as driven by malevolent elites (Imhoff & Bruder, 2014). This mindset strongly predicts conspiracy theory beliefs (Wood et al., 2012) and, to a lesser degree, misinformation beliefs (Landrum & Olshansky, 2019).

Media use and conspiracy theory and misinformation beliefs

Research on media use and misperceptions suggests that belief in conspiracy theories and misinformation is linked to higher social media (Schäfer et al., 2022; Wu et al., 2023; Ziegele et al., 2022 and alternative

media (Weeks et al., 2023; Ziegele et al., 2022) use. While some findings suggest reduced legacy media use among conspiracy theory believers (De León et al., 2024; Meirick, 2023), others report mixed results (Schäfer et al., 2022).

Contribution and implications

Although there are some interventions against deceptive content that target specific types, such as conspiracy theories (Costello et al., 2024) and misinformation, there remains a lack of research connecting the underlying drivers of belief in deceptive content with interventions aimed at reducing these beliefs (Ziemer & Rothmund, 2022). Based on the results of this study, I outline which interventions may help counter belief in misinformation, conspiracy theories, or both, and propose future directions for studying their effectiveness.

Many interventions against deceptive content aim to strengthen individuals' competence in evaluating information and processing it accurately (Ziemer & Rothmund, 2022). Techniques such as prebunking, media literacy training, and inoculation help individuals recognize deceptive information and assess its accuracy before exposure (Van Der Linden, 2022). Debunking focuses on correcting false information after exposure (e.g., Van Erkel et al., 2024). However, this focus on the correctness of information might not be effective for all kinds of deceptive content. For instance, prior research suggests that accuracy-focused interventions may reduce misinformation beliefs but not conspiracy beliefs, which are more strongly influenced by needs for certainty and explanatory frameworks (Mari et al., 2022; Miller et al., 2016).

This study found that intuitive thinking does not significantly predict belief in either conspiracy beliefs or misinformation. Therefore, accuracy-focused interventions that foster analytical thinking, such as inoculation or accuracy nudges, may not help reduce belief in deceptive content.

Across both types of belief, however, the strongest predictors identified in this study are a general conspiracy mentality and the belief that "truth is political." Both attitudes reflect distrust in the relationship between politics and knowledge, undermining science and shared facts. These attitudes were more pronounced among conspiracy theory believers. People holding such beliefs reject the epistemic justifications offered by established institutions such as science or politics and instead seek alternative explanations that provide different interpretive frameworks. This aligns with the finding that alternative media use is positively associated with belief in both types of deceptive content, alongside lower levels of trust in science, politics, and mainstream media. Collectively, these patterns suggest that these individuals are distancing themselves from shared knowledge foundations. Thus, simply emphasizing the accuracy of information may not be sufficient to change their views.

Instead, interventions such as self-affirmation strategies, which target motivated reasoning, are needed—though these remain underexplored (Ziemer & Rothmund, 2022). For conspiracy theory believers in particular, interventions promoting a deeper understanding of the interplay between science and politics may be especially promising. The pronounced perception of facts as politically constructed and the suspicion of hidden networks controlling knowledge production point to the need for political and media literacy programs. Additionally, efforts should be made to strengthen their ability to critically evaluate media sources. Encouragingly, these individuals can still be engaged through traditional information dissemination methods. For future research, it will be essential to further investigate interventions that target group-based identities.

This study has several limitations. Its cross-sectional design prevents causal inference, and the reliance on self-reported media use may introduce bias. Additionally, we used dichotomous indicators for conspiracy theory and misinformation beliefs because our focus was on whether participants endorsed any such beliefs, rather than the extent or number of items they endorsed. This approach simplifies the classification of believers and non-believers and does not account for potential differences among

believers.[2] Moreover, the German context—characterized by relatively high institutional trust and low polarization—may limit generalizability. In more polarized countries, group-related attitudes and motivated reasoning may play an even greater role. The focus on COVID-19 also presents constraints. While this topic became highly politicized, it exhibited different belief patterns compared to other often-studied controversial issues, such as climate change or migration. In the case of COVID-19, traditional political divisions were replaced by a strong polarization between those who trust and those who distrust the system (Nielsen & Petersen, 2025). This may explain the strong predictive power of conspiracy mentality and the belief that truth is political, which could play a less prominent role in other domains. Additionally, focusing on a single topic to measure conspiracy theory and misinformation beliefs likely increases the similarity of explanatory factors. This focus on one specific topic does not reflect the actual belief systems of individuals who endorse deceptive information. For example, research has shown that belief in a particular conspiracy theory is often strongly correlated with belief in other, entirely different conspiracy theories (Wood et al., 2012), and that different types of conspiracy theories can be distinguished (Mahl et al., 2021). Thus, the present study may underestimate differences between conspiracy theory believers and misinformation believers by restricting the focus to a single topic. If belief in conspiracy theories and misinformation is instead understood as broader constructs and operationalized through beliefs across different domains, the predictors may diverge more clearly.

The limitations of the cross-sectional design are especially relevant regarding the relationship between media use and beliefs in conspiracy theories or misinformation. It is plausible that these represent a spiral process, where attitudes and media use mutually reinforce one another (Valenzuela et al., 2024), although initial evidence on COVID-19 suggests an exposure effect on attitudes (Adam et al., 2025). Future research should therefore investigate these dynamics using longitudinal and behavioral data across different contexts and belief structures.

In summary, this study revealed only minor differences between individuals who believe in misinformation and those who endorse conspiracy theories. Both belief types are fueled by a general conspiracy mentality, the view that truth is political, and alternative media use.

Findings

Finding 1: Believers in conspiracy theories and misinformation tend to think in more conspiratorial ways and are more likely to view truth as something shaped by political interests.

The first research question asks about the factors why people believe in conspiracy theories and misinformation and how they differ in their contribution to explain these two beliefs. Based on logistic regression models distinguishing people who believe in conspiracy theories, those who believe in misinformation, and nonbelievers in either (see Figure 1), we found that the level of conspiracy mentality and the attitude that truth is political is higher among believers of both kinds of deceptive information ($p < .001$). Conspiracy mentality was the strongest predictor of both beliefs: a one-point increase was associated with a 1.30- (conspiracy theories) and a 1.20- (misinformation) point increase in the odds of believing in conspiracy theories and misinformation (see Tables A1 and A2 in the Appendix for the unstandardized coefficients and the full model details). A one-point increase in the attitude that truth is political was associated with a 1.33 and 1.20 increase in the odds of believing in conspiracy theories and misinformation, respectively.

[2] However, the results remain robust when applying alternative thresholds, such as classifying individuals as believers only if they endorsed two or more conspiracy theories or misinformation items, rather than using a single item as the threshold.

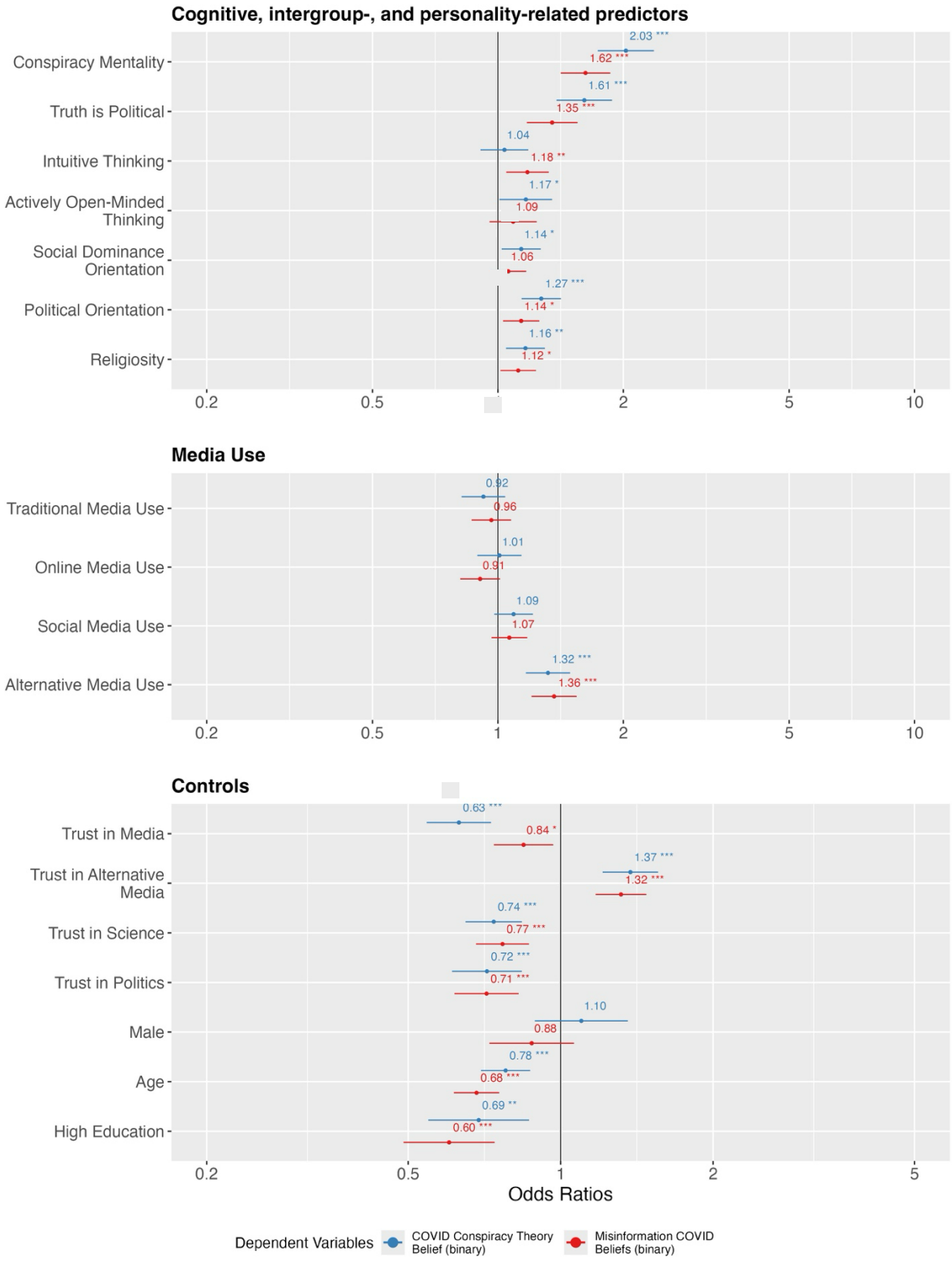

Figure 1. Predictors of conspiracy theory and misinformation beliefs. *Display of standardized odds ratio coefficients for logistic regressions with conspiracy theories, respectively, misinformation beliefs as dependent variable.*

The level of intuitive thinking seems to be higher for misinformation believers; however, this was not confirmed by a regression model using Bonferroni-adjusted p-values (see Table A2 in the Appendix). There were no significant differences regarding actively open-minded thinking between believers and nonbelievers.[3]

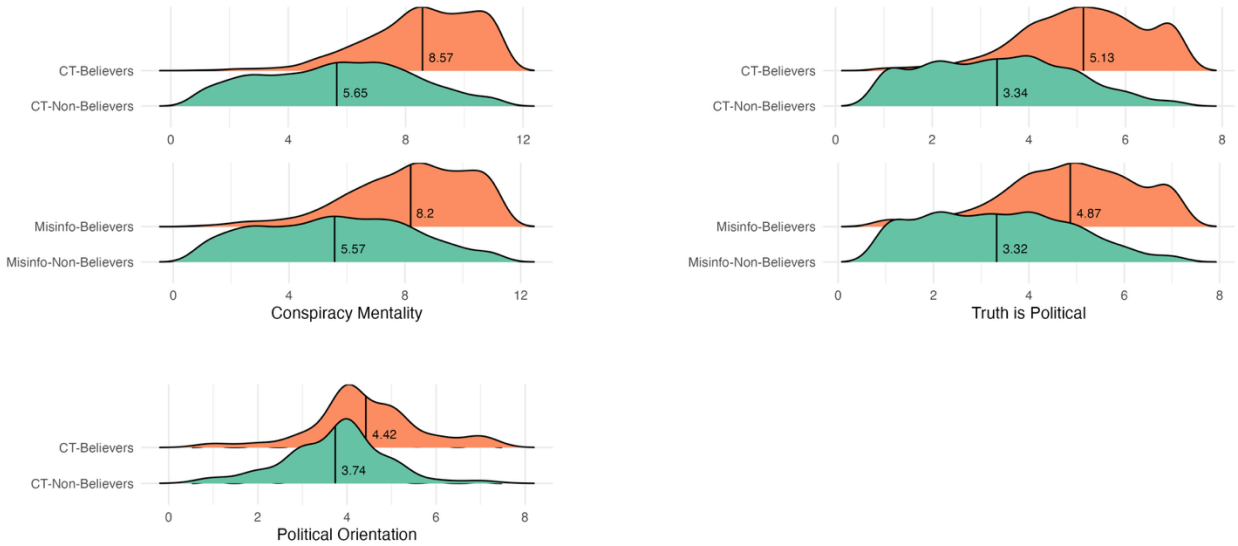

Figure 2. **Epistemic, ideological, and social predictors ~~to~~ of belief in conspiracy theories and misinformation.** *The figure shows density plots of believers vs. non-believers for the predictors identified as significant in the logistic regression model.*

The largest difference that we observed between believers and non-believers is their level of conspiracy mentality (see Figure 2). People with a conspiracist mindset are more likely to believe in both kinds of deceptive information. In addition, epistemic factors, such as the attitude that truth is political, are higher among believers than nonbelievers, especially in the case of conspiracy theories. These differences are partly due to the high share of people who say that truth is political. On an 8-point scale for accepting claims saying that truth is political, 30.6% of the conspiracy theory believers and 26.6% of the misinformation believers rank on average on the last two points of the scale.

Finding 2: Believers in conspiracy theories and misinformation often turn to alternative media as a source of news.

With regard to media use (RQ2), people who use many alternative media outlets are more likely to believe in conspiracy theories and misinformation. The other predictors related to media use were not significantly associated with conspiracy theory beliefs or misinformation beliefs. Looking at the controls

[3] The findings of the logistic regression are robust to continuous operationalizations of conspiracy theory and misinformation beliefs (see Tables A3 and A4 in the Appendix). Most predictors that were significant in the logistic regression model—indicating whether individuals believe in at least one conspiracy theory or piece of misinformation—also significantly predict the number of such beliefs in the linear regression model. However, some differences emerge: actively open-minded thinking and religiosity significantly predict the number of conspiracy theories endorsed in the linear regression model but were not significant in the logistic regression model. Intuitive thinking and political orientation are only significant in the linear regression model for misinformation theory beliefs and do not significantly predict if people believe in misinformation in the logistic regression model. However, the effect sizes of these predictors that were significant in the linear but not the logistic model were too small to be meaningfully interpreted.

(see Figure A1 in the Appendix for visualization of the descriptive differences), trust in science[4] and politics[5] are lower among both believers. Trust in media is lower among conspiracy theory believers,[6] and trust in alternative media is higher for misinformation and conspiracy theory believers.[7] Older respondents are less likely to believe in misinformation as well as conspiracy theories.[8] Education is lower among misinformation and conspiracy theory believers than among nonbelievers.[9]

Taken together, if we look at the odds ratios, all factors contributing to belief in deceptive content, except intuitive thinking, are more strongly connected to conspiracy theory beliefs than to misinformation beliefs. This holds true if z-standardization is used, which is the only way to compare predictor strength across models in logistic regression analysis (Mood, 2010). Specifically, conspiracy mentality and the attitude that truth is political are more strongly connected to belief in conspiracy theories.

Methods

Data

The hypotheses were tested using a cross-sectional survey in Germany conducted by a professional research company in March 2024 through computer-assisted web-based interviews. The sample was stratified by age, gender, and region: 50.2% of participants were female, and 49.8% were male, with an average age of 44.7 years (*SD* = 16.4, range 18–69). Education levels varied, with 58.7% having completed general or secondary school, 15.2% high school, and 25.1% a university degree, reflecting the general population. The median net income was slightly above the German average (Statistisches Bundesamt Deutschland, 2017), at €2,600–3,599. For data cleaning, cases with more than 30% missing values (*n* = 28) and those displaying straightlining[10] (*n* = 14) were removed, resulting in a final sample of 2,962 respondents. Missing data were handled through multiple imputations.[11]

Measurements

The wording of the items, the descriptives, and the correlations of the constructs are included in the Appendix (Tables B1 and B2).

Belief in conspiracy theories: To measure beliefs in conspiracy theories, we included a pretested scale with five COVID-19-related conspiracy theories (Best et al., 2023; Enders et al., 2020; Stubenvoll, 2022). The respondents indicated whether they believed each statement was true or false or if they were unsure. The scale follows the recommendation of Clifford et al. (2019) to avoid false positives created through

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[4] CT: $M\ (SD)_{believers} = 3.59\ (1.86)$, $M\ (SD)_{non\text{-}bel.} = 5.19\ (1.47)$, $p < .001$; Misinformation: $M\ (SD)_{believers} = 3.82\ (1.86)$, $M\ (SD)_{non\text{-}bel.} = 5.22\ (1.49)$, $p < .001$

[5] CT: $M\ (SD)_{believers} = 2.99\ (1.45)$, $M\ (SD)_{non\text{-}bel.} = 4.26\ (1.29)$, $p < .01$; Misinformation: $M\ (SD)_{believers} = 3.16\ (1.46)$; $M\ (SD)_{non\text{-}bel.} = 4.29\ (1.30)$, $p < .001$

[6] CT: $M\ (SD)_{believers} = 3.68\ (1.66)$, $M\ (SD)_{non\text{-}bel.} = 5.00\ (1.22)$, $p < .001$

[7] CT: $M\ (SD)_{believers} = 3.33\ (1.45)$, $M\ (SD)_{non\text{-}bel.} = 2.73\ (1.15)$, $p < .001$; Misinformation: $M\ (SD)_{believers} = 3.28\ (1.42)$, $M\ (SD)_{nonbel.} = 2.69\ (1.14)$, $p < .001$

[8] CT: $M\ (SD)_{believers} = 42.95\ (13.74)$, $M\ (SD)_{non\text{-}bel.} = 45.75\ (14.86)$, $p < .001$; Misinformation: $M\ (SD)_{believers} = 42.6\ (14.1)$, $M\ (SD)_{nonbel.} = 46.5\ (14.6)$, $p < .001$

[9] CT: 47.3% of non-believers and 30.2% of believers have high education; Misinformation: 49.1% of nonbelievers and 31.0% of believers having high education, $p < .001$

[10] Defined as people with an intra-individual response variability (IRV) under 1.26 (following Curran, 2016; Hong et al., 2020).

[11] Overall, 1.03 % of the values in the dataset were missing; however, the share of missings differed largely between variables. The number of missings for political orientation, and trust in science were above the ignorable threshold (5%, see Kline 1998). Based on a test established by Jamshidian and Jalal (2010), the null-hypotheses that missing values were completely at random was not rejected. Missing values were therefore imputed using the mice package (Buuren & Groothuis-Oudshoorn, 2011).

other scales, such as agreement or confrontation with people with opposing statements. In the pretest, all items showed sufficient communalities and factor loadings and were kept for the main study. The scale showed sufficient internal consistency (α = .73). For the analyses, the items were dummy-coded (1 = *true*, 0 = *false or unsure*) and summarized in an index indicating whether people scored higher than 0 on any of the items (1 = *conspiracy theory believer*, 0 = *conspiracy theory nonbeliever*).[12]

Belief in misinformation: To measure belief in misinformation, we used a pretested scale with five statements on prevalent COVID-19 misinformation, asking the respondents to indicate whether each was true or false or if they were unsure. In pretesting, we tested 11 items from previous studies (Altay et al., 2023; Arechar et al., 2023; Stubenvoll, 2022) and excluded those with low communalities or factor loadings (Carpenter, 2018). The final scale demonstrated good internal consistency (α = .75). For analysis, items were dummy-coded (1 = *true*, 0 = *false or unsure*) and summarized into an index, classifying those with any "true" responses as misinformation believers (1) and others as nonbelievers (0).

In our sample, 41.05% (n = 1,216) believed in at least one *conspiracy theory* and 48.65% (n = 1,441) believed in misinformation on COVID-19. There were 1,007 respondents who believed in both conspiracy theory and misinformation.

Epistemic beliefs: Preference for intuitive thinking and actively open-minded thinking were measured using established scales (Newton et al., 2023) with six items each. The attitude that truth is political was measured using a 4-item scale (Garrett & Weeks, 2017). All scales asked the respondents on a 7-point scale how much they agreed with a statement (1 = *strongly disagree*, 7 = *strongly agree*).

Group-based factors: Political orientation was measured on a 7-point scale (1 = *left-wing*, 7 = *right-wing*). Social dominance orientation was measured on an 11-point scale, asking the respondents to indicate their agreement (1 = *do not agree at all*, 11 = *agree totally*) with four statements on the legitimacy of groups dominating others (Pratto et al., 2013).

Trust: Trust in science was measured with one item on a 5-point scale, asking the respondents how much they trust scientists to act in the public's best interests (Cologna et al., 2024). Trust in politics was assessed using five items on a 7-point scale, asking how much the respondents trust institutions such as parliament, courts, police, political parties, and politicians (European Social Survey European Research Infrastructure (ESS ERIC, 2024). Trust in media was measured with a 10-item, 7-point scale, covering TV, newspapers, radio, online news, blogs, social networks, video platforms, and messengers (ESS ERIC, 2024). Principal component analysis[13] indicated two factors: trust in traditional media (α = .93; e.g., newspapers and TV) and alternative media (α = .91; e.g., blogs and social media).

Media use: To measure media use, we used a channel-based measurement and asked the respondents which news sources they used in the previous week (following Newman et al., 2023). We listed TV, news TV, radio, newspapers, magazines, their online representations, social media, and messenger. Principal component analysis indicated three factors:[14] online (α = .63), traditional (α = .57), and social media (α = .57) use. They were included as mean indices in the analyses.

Alternative media use: Based on the wording of the question in the digital news report (Newman et al., 2018), alternative media use was measured by asking the respondents which of the listed providers they used to access news in the previous week. The list of news providers was designed to capture a wide range from left-leaning (Junge Welt, Nachdenkseiten) to right-leaning (Junge Freiheit, Deutsche Wirtschaftsnachrichten), as well as elite-critical (KenFM, Rubikon) and foreign-based (RT, Epoch Times) outlets and channels of single persons in messaging apps (Attila Hildmann, Boris Reitschuster). The

[12] We chose to use dichotomous rather than continuous indices for both misinformation and conspiracy theory beliefs because our focus was not on the number of items participants endorsed, but on whether they believed in any of them.

[13] The data met criteria for principal component analysis (KMO = .90, Bartlett's χ^2 [9] = 274.63, $p < .001$).

[14] The data were suitable for principal component analyses with a Kaiser–Meyer–Olkin measure near 1.00 and a significant Barlett's test of sphericity indicating sufficient correlations among the variables (KMO = .76, Bartletts' χ^2 [10] = 701.76, $p < .001$).

selection was guided by theoretical considerations of different types of alternative media (Schwaiger, 2022) and the reach of the outlets (Hölig & Hasebrink, 2020). Principal component analysis[15] indicated one factor that was computed as a sum index.

Control variables: Gender (1 = *male*, 0 = *others*) and education (1 = *high school or higher*) were recoded for analysis. Age was included as a numeric variable. Conspiracy mentality was measured using an 11-point scale (Bruder et al., 2013), asking how much the respondents agree with the statements (1 = *strongly disagree*, 11 = *strongly agree*). Religious beliefs were shown to influence beliefs about misinformation (Bronstein et al., 2018) and were measured on a 10-point scale, asking the respondents to indicate how much guidance religion or spirituality offers the respondents in everyday life.

Statistical approach

We preregistered the hypotheses as part of a larger project on misinformation and media use https://aspredicted.org/7f65-h6fc.pdf.

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Acknowledgements
I want to thank Julia Metag for her collaboration and support throughout the larger project on conspiracy beliefs and media use.

Funding
This research was supported by the Department of Communication, University of Münster, Germany.

Competing interests
The author declares no competing interests.

Ethics
The research was approved by the Institutional Review Board (IRB) for Research Projects of the Department of Communication at the University of Münster.

Data availability
All materials needed to replicate this study are available via the Harvard Dataverse: https://doi.org/10.7910/DVN/FNTC1J.

Appendix A: Regression results

Table A1. *Binary logistic regression predicting belief in conspiracy theories.*

Predictors	**Log-Odds**	***SE***	**y-Standardized Coefficients**	**Odds Ratios**	**CI**
(Intercept)	-3.10 ***	0.55	-1.47	0.05 ***	0.02, 0.13
Conspiracy Mentality	0.26 ***	0.03	0.12	1.30 ***	1.23, 1.38
Truth is Political	0.29 ***	0.05	0.13	1.33 ***	1.21, 1.47
Intuitive Thinking	0.03	0.06	0.01	1.03	0.92, 1.15
Actively Open-Minded Thinking	0.10	0.05	0.05	1.10	1.00, 1.22
Social Dominance Orientation	0.15	0.06	0.07	1.16	1.03, 1.32
Political Orientation	0.20**	0.05	0.09	1.22**	1.10, 1.35
Traditional Media Use	-0.06	0.05	-0.03	0.94	0.86, 1.03
Online Media Use	0.01	0.05	0.00	1.01	0.91, 1.12
Social Media Use	0.11	0.07	0.05	1.11	0.98, 1.27
Alternative Media Use	0.19 ***	0.05	0.09	1.21 ***	1.10, 1.32
Trust in Media	-0.30 ***	0.05	-0.14	0.74 ***	0.67, 0.82
Trust in Alternative Media	0.24***	0.05	0.11	1.27***	1.15, 1.41
Trust in Science	-0.17 ***	0.04	-0.08	0.85 ***	0.79, 0.91
Trust in Politics	-0.22 ***	0.06	-0.10	0.80 ***	0.72, 0.89
Male	0.09	0.11	0.04	1.10	0.88, 1.36
Age	-0.02***	0.00	-0.01	0.98***	0.97, 0.99
High Education	-0.37*	0.12	-0.17	0.69*	0.55, 0.87
Religiosity	0.08	0.03	0.04	1.08	1.02, 1.14
Observations	2962				
AIC	2475.02				
log-Likelihood	-1218.51				

*Note: * p < .05 ** p < .01 *** p < .001; $\chi 2(18) = 1573.84$, p < .001, R2 (Nagelkerke) = .56. Heteroscedasticity-consistent standard errors using the sandwich-package in R (Zeileis et al., 2020). Bonferroni-adjusted p-values to account for multiple comparisons.*

Table A2. *Binary logistic regression predicting belief in misinformation.*

Predictors	**Log-Odds**	***SE***	**y-Standardized Coefficients**	**Odds Ratios**	**CI**
(Intercept)	-1.17	0.50	-0.55	0.31	0.12, 0.82
Conspiracy Mentality	0.18 ***	0.03	0.09	1.20 ***	1.14, 1.26
Truth is Political	0.18 **	0.04	0.08	1.20 **	1.10, 1.30
Intuitive Thinking	0.13	0.05	0.06	1.14	1.04, 1.26
Actively Open-Minded Thinking	0.05	0.04	0.03	1.06	0.97, 1.15
Social Dominance Orientation	0.07	0.06	0.03	1.07	0.95, 1.20
Political Orientation	0.11	0.04	0.05	1.11	1.02, 1.21
Traditional Media Use	-0.03	0.04	-0.01	0.97	0.89, 1.06
Online Media Use	-0.08	0.05	-0.04	0.92	0.84, 1.01
Social Media Use	0.08	0.06	0.04	1.09	0.96, 1.22
Alternative Media Use	0.21 ***	0.05	0.10	1.23 ***	1.14, 1.35
Trust in Media	-0.11	0.05	-0.05	0.90	0.82, 0.98
Trust in Alternative Media	0.21 ***	0.05	0.10	1.23 ***	1.11, 1.37
Trust in Science	-0.15 **	0.03	-0.07	0.86 **	0.81, 0.93
Trust in Politics	-0.23 ***	0.05	-0.11	0.80 ***	0.72, 0.88
Male	-0.13	0.10	-0.06	0.88	0.72, 1.07
Age	-0.03 ***	0.00	-0.01	0.97 ***	0.97, 0.98
High Education	-0.51 ***	0.11	-0.24	0.60 ***	0.49, 0.74
Religiosity	0.06	0.03	0.03	1.06	1.01, 1.11
Observations	2962				
AIC	2915.952				
log-Likelihood	-1438.976				

*Note: *p < .05 ** p < .01 *** p < .001, χ2(18) = 1226.09, p < .001, R2 (Nagelkerke) = .45. Heteroscedasticity-consistent standard errors using the sandwich-package in R (Zeileis et al., 2020). Bonferroni-adjusted p-values to account for multiple comparisons.*

Table A3. *Linear regression predicting count of believing in conspiracy theories.*

Predictors	**Estimates**	**std. Beta**	**CI**	**standardized CI**
(Intercept)	0.08	0.02	-0.24, 0.40	-0.03, 0.07
Conspiracy Mentality	0.07 ***	0.17	0.05, 0.09	0.13, 0.21
Truth is Political	0.08 ***	0.12	0.05, 0.11	0.08, 0.17
Intuitive Thinking	0.00	0.00	-0.03, 0.03	-0.04, 0.03
Actively Open-Minded Thinking	0.03*	0.04	0.00, 0.06	0.00, 0.08
Social Dominance Orientation	0.03	0.03	-0.01, 0.07	-0.00, 0.06
Political Orientation	0.06 ***	0.07	0.03, 0.09	0.04, 0.10
Traditional Media Use	0.01	0.01	-0.03, 0.02	-0.04, 0.03
Online Media Use	0.00	0.00	-0.03, 0.03	-0.03, 0.04
Social Media Use	0.01	0.01	-0.03, 0.05	-0.03, 0.04
Alternative Media Use	0.12 ***	0.16	0.09, 0.14	0.13, 0.19
Trust in Media	-0.08 ***	-0.12	-0.11, -0.05	-0.16, -0.08
Trust in Alternative Media	0.08 ***	0.09	0.05, 0.10	0.06, 0.13
Trust in Science	-0.09 ***	-0.15	-0.11, -0.07	-0.19, -0.11
Trust in Politics	-0.02	-0.03	-0.05, 0.01	-0.07, 0.02
Male	0.05	0.04	-0.02, 0.11	-0.02, 0.10
Age	-0.01 ***	-0.07	-0.01, -0.00	-0.10, -0.04
High Education	-0.11 **	-0.10	-0.18, -0.04	-0.16, -0.03
Religiosity	0.04 ***	0.08	0.02, 0.06	0.05, 0.10
Observations	2963			
R^2 / R^2 adjusted	0.399 / 0.395			

*Note: *p < .05 ** p < .01 *** p < .001*

Table A4. *Linear regression predicting count of believing in misinformation.*

Predictors	**Estimates**	**std. Beta**	**CI**	**standardized CI**
(Intercept)	0.86 ***	0.09	0.44, 1.28	0.04, 0.14
Conspiracy Mentality	0.07 ***	0.14	0.05, 0.10	0.09, 0.18
Truth is Political	0.12 ***	0.14	0.08, 0.16	0.09, 0.18
Intuitive Thinking	0.06 **	0.05	0.02, 0.11	0.02, 0.09
Actively Open-Minded Thinking	0.01	0.01	-0.03, 0.05	-0.03, 0.05
Social Dominance Orientation	0.02	0.01	-0.04, 0.07	-0.02, 0.04
Political Orientation	0.06 ***	0.05	0.03, 0.10	0.02, 0.08
Traditional Media Use	-0.01	-0.01	-0.04, 0.03	-0.04, 0.03
Online Media Use	-0.01	-0.01	-0.05, 0.03	-0.04, 0.03
Social Media Use	0.00	0.00	-0.06, 0.05	-0.03, 0.03
Alternative Media Use	0.15 ***	0.15	0.11, 0.18	0.12, 0.18
Trust in Media	-0.13 ***	-0.14	-0.17, -0.09	-0.18, -0.10
Trust in Alternative Media	0.11 ***	0.10	0.07, 0.15	0.06, 0.14
Trust in Science	-0.11 ***	-0.14	-0.14, -0.08	-0.17, -0.10
Trust in Politics	-0.06 **	-0.07	-0.11, -0.02	-0.11, -0.02
Male	-0.08	-0.05	-0.16, 0.01	-0.11, 0.01
Age	-0.01 ***	-0.10	-0.01, -0.01	-0.13, -0.07
High Education	-0.22 ***	-0.15	-0.31, -0.13	-0.22, -0.09
Religiosity	0.03	0.03	-0.00, 0.05	-0.00, 0.06
Observations	2963			
R^2 / R^2 adjusted	0.404 / 0.400			

*Note: *p < .05 ** p < .01 *** p < .001*

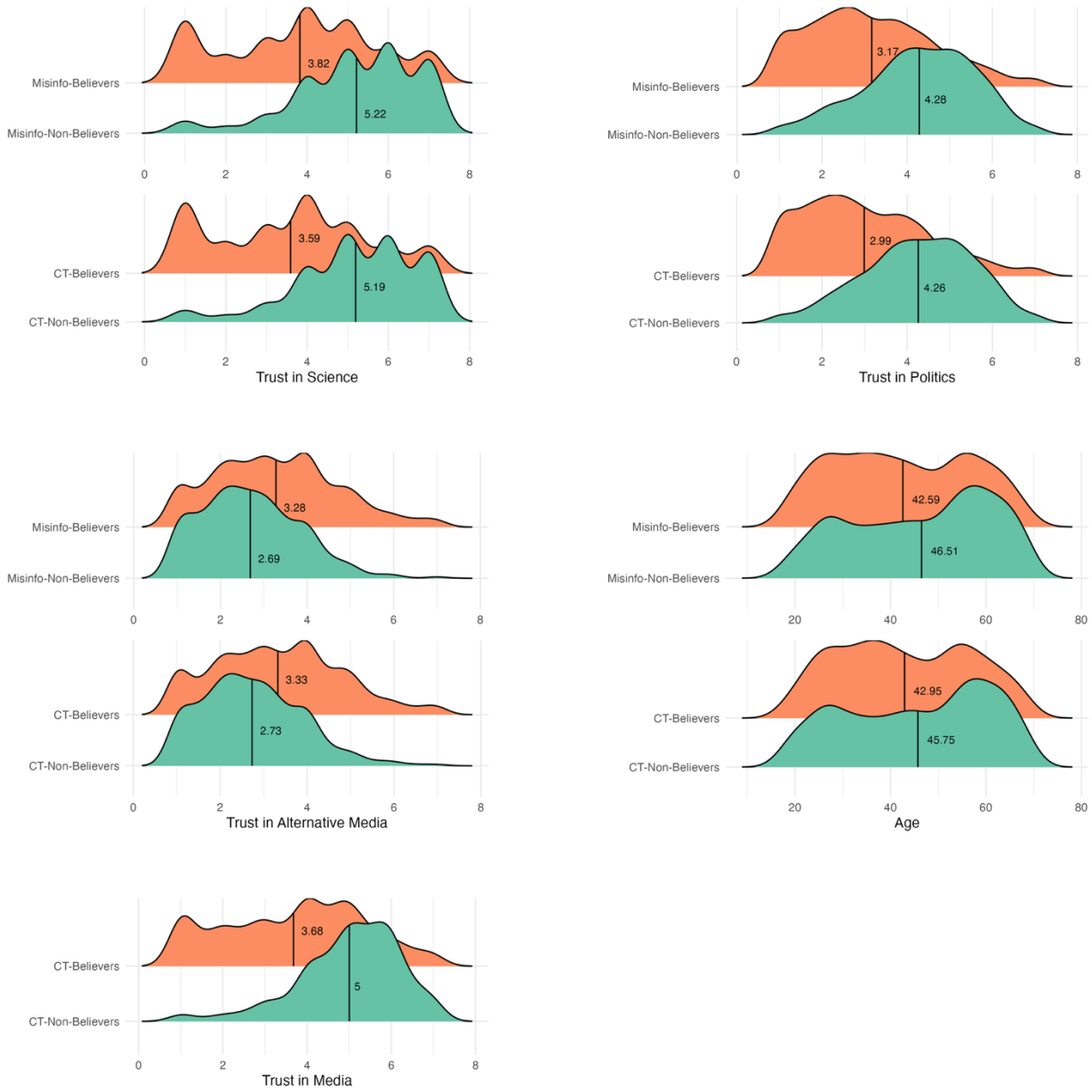

Figure A1. Differences between believers and non-believers regarding trust in institutions and age.

Appendix B: Descriptives and item wording

Table B1a. *Descriptives and correlations.*

variable	mean	sd	min	max	% of the sample	COVID Misinformation Belief (binary)	COVID Conspiracy Theory Belief (continuous)	COVID Misinformation Belief (continuous)	Truth is political	Intuitive Thinking	Actively Open-Minded Thinking	Conspiracy Mentality
COVID Consp. Belief (binary)					41.0	0.57 ***	0.81 ***	0.62 ***	0.53 ***	0.25 ***	0.37 ***	0.53 ***
COVID Misinfo Belief (binary)					48.6		0.53 ***	0.78 ***	0.46 ***	0.27 ***	0.35 ***	0.49 ***
COVID Consp. Belief (cont.)	0.74	1.09	0	5				0.69 ***	0.5 ***	0.24 ***	0.37 ***	0.51 ***
COVID Misinfo Belief (cont.)	1.11	1.46	0	5					0.51 ***	0.28 ***	0.36 ***	0.51 ***
Truth is political	4.07	1.66	1	7						0.41 ***	0.57 ***	0.7 ***
Intuitive Thinking	5.01	1.23	1	7							0.55 ***	0.4 ***
Actively Open-Minded Thinking	3.79	1.55	1	7								0.5 ***

Table B1b. *Descriptives and correlations.*

variable	mean	sd	min	max	% of the sample	Social Dominance Orientation	Political Orientation	Religiosity	Traditional Media Use	Online Media Use	Social Media Use	Alternative Media Use
COVID Consp. Belief (binary)					41.0	0.21 ***	0.28 ***	0.10 ***	-0.11 ***	-0.05 *	0.13 ***	0.23 ***
COVID Misinfo Belief (binary)					48.6		0.53 ***	0.78 ***	0.46 ***	0.27 ***	0.35 ***	0.49 ***
COVID Consp. Belief (cont.)	0.74	1.09	0	5		0.21 ***	0.27 ***	0.16 ***	-0.06 **	-0.01	0.13 ***	0.3 ***
COVID Misinfo Belief (cont.)	1.11	1.46	0	5		0.18 ***	0.25 ***	0.1 ***	-0.1 ***	-0.05 **	0.13 ***	0.26 ***
Truth is political	4.07	1.66	1	7		0.28 ***	0.31 ***	0.09 ***	-0.06 ***	-0.08 ***	0.10 ***	0.21 ***
Intuitive Thinking	5.01	1.23	1	7		0.11 ***	0.14 ***	0.06 **	-0.06 **	-0.16 ***	0.03	0.05 **
Actively Open-Minded Thinking	3.79	1.55	1	7		0.27 ***	0.25 ***	0.14 ***	-0.01	-0.09 ***	0.02	0.16 ***
Conspiracy Mentality	6.85	2.69	1	11		0.23 ***	0.27 ***	0.11 ***	-0.12 ***	-0.12 ***	0.12 ***	0.20 ***
Social Dominance Orientation	5.53	0.85	1	9			0.24 ***	0.09 ***	0.02	0.02	0.03	0.14 ***

variable	mean	sd	min	max	% of the sample	Social Dominance Orientation	Political Orientation	Religiosity	Traditional Media Use	Online Media Use	Social Media Use	Alternative Media Use
Political Orientation	4.02	1.22	1	7				0.02	0.03	0	0	0.14 ***
Religiosity	2.89	1.98	1	7					0.12 ***	0.10 ***	0.07 ***	0.22 ***
Traditional Media Use	1.82	1.3	0	5						0.4 ***	0.05 *	0.23 ***
Online Media Use	1.02	1.2	0	4							0.22 ***	0.3 ***
Social Media Use	0.87	0.82	0	2								0.17 ***

Table B2. *Item wording.*

Variable	**Question wording**	**Item wording**	**Scale**
Age	How old are you?		
Gender	Gender: How do you identify?	1. Male 2. Female 3. Non-binary	Single Choice
Education	What is your highest level of general education?	1. No diploma 2. Lower secondary school diploma (Haupt-/Volksschulabschluss) 3. Intermediate school certificate, Realschulabschluss, or technical school diploma (Fachschulreife) 4. Polytechnical Secondary School diploma (8th/10th grade) 5. Advanced technical college entrance qualification (Fachhochschulreife), or graduation from a technical secondary school 6. High school diploma (Abitur), general or subject-specific higher education entrance qualification 7. University diploma (Fach-/Hochschulstudium) 8. Other school-leaving qualification	Single Choice
Political Trust	How much do you trust…	1. The Bundestag (Government) 2. The courts 3. The police 4. Political parties 5. Politicians	1 – 7
Trust in Media	How much do you trust…	1. News on public broadcasting 2. News on private broadcasting 3. News in daily/weekly newspapers 4. News in television reporting 5. News on portal pages of internet providers (e.g., t-Online, Web.de) 6. News in webblogs/ forums 7. News on social networks 8. News on alternative news pages 9. News on video platforms 10. News in messengers	1 – 7

Variable	**Question wording**	**Item wording**	**Scale**
Media Use	Which of the following news sources did you use last week, if any? Please select all that apply.	1. TV news or programs such as Tagesschau, heute, or RTL aktuell 2. 24-hour news channels such as n-tv, ZDF Infokanal, or WELT 3. Radio news or programs such as NDR2-Nachrichten, FFH-Nachrichten, or Deutschlandfunk 4. Printed newspapers such as FAZ or Bild-Zeitung 5. Printed magazines such as Der Spiegel, Stern, or Focus 6. Websites/ Apps of newspapers such as faz.net or Bild.de 7. Websites/ Apps of news magazines such as Spiegel.de, stern.de, or FOCUS Online 8. Websites/ Apps of TV or radio stations such as tagesschau.de or ARD.de, heute.de, ZDF.de, or rtl.de 9. Websites/ Apps of other news sources such as gmx.de, t-online.de, web.de 10. Social Media such as Facebook, Twitter, or YouTube 11. Messenger such as WhatsApp or Telegram	Multiple Choice
Alternative media use	In recent years, several online news sites have emerged, whose content is often shared via social media. Which of the following providers did you use for accessing news in the past week? Please select all that apply.	1. RT Deutsch 2. Epoch Times 3. PI News 4. Sputnik 5. Compact 6. Junge Freiheit 7. Deutsche Wirtschaftsnachrichten 8. Tichys Einblick 9. Journalistenwatch 10. Achgut 11. KenFM 12. Rubikon 13. Junge Welt 14. Nachdenkseiten 15. Indymedia 16. Kontrast 17. Alternative channels of individuals in messaging apps (e.g., Attila Hildmann, Boris Reitschuster, Oliver Janich, Querdenken, Michael Wendler, etc.) 18. Other (open field) 19. None of the above	Multiple Choice

Variable	**Question wording**	**Item wording**	**Scale**
Belief in CT	We will now show you a series of statements. Please tell us for each statement whether you believe it to be true or false.	1. 5G technology is being used deliberately to spread the coronavirus. 2. The coronavirus is being used to install tracking devices inside our bodies. 3. Bill Gates is behind the coronavirus pandemic. 4. The government deliberately instilled fear in the population during the COVID-19 crisis to enforce massive restrictions on fundamental rights. 5. The coronavirus is a bioweapon that was deliberately engineered to harm people.	Single Choice
Belief in Misinformation (false statements)	We will now show you a series of statements. Please tell us for each statement whether you believe it to be true or false.	1. Wearing a mask causes one to inhale harmful amounts of CO2. 2. RNA vaccines being developed against the novel coronavirus are changing the human genome in the long term. 3. The number of Covid-19 deaths is the same as in the 2017-18 winter flu season. 4. The unreliability of Covid-19 tests is demonstrated by the fact that even a glass of Coca Cola can test positive for Covid-19. 5. Covid vaccines have increased the number of miscarriages in Germany.	Single Choice
Social Dominance Orientation (SDO)	There are many different groups in the world: ethnic and religious groups, nationalities, political groups, and gender identities. How much do you support or oppose the following ideas about groups in general?	1. We must consider all groups when setting priorities. 2. We should not push for group equality. 3. Group equality should be our ideal. 4. Superior groups should dominate inferior groups.	1 – 11
Conspiracy Mentality	Please tell us how much you agree or disagree with the following statements. I believe that...	1. Many very important things happen in the world that the public is never informed about. 2. Politicians usually do not disclose the true motives behind their decisions. 3. Government agencies closely monitor all citizens. 4. Events that do not seem to be connected at first glance are often the result of secret activities. 5. There are secret organizations that have a significant influence on political decisions.	1 – 11
Trust in Scientists	How much trust do you have that scientists act in the best interest of the public?		1 – 7

Variable	**Question wording**	**Item wording**	**Scale**
Political Orientation	When it comes to categorizing political viewpoints, people often refer to "left" and "right." How would you rate your own political position if 1 means "very left" and 7 means "very right"?		1 – 7
Religiosity	Regardless of whether you belong to a particular religious community, how much guidance do religion and/or spirituality provide you in your daily life?		1 – 7
Epistemic Beliefs	Please tell us how much you agree or disagree with the following statements.	1. Facts are dictated by those in power. 2. What counts as truth is defined by power. 3. Scientific conclusions are shaped by politics. 4. “Facts” depend on their political context. 5. I like to rely on my intuitive impressions. 6. I believe in trusting my hunches. 7. When I make decisions, I tend to rely on my intuition. 8. Using my ""gut-feelings"" usually works well for me in figuring out problems in my life. 9. Intuition is the best guide in making decisions. 10. I often go by my instincts when deciding on a course of action. 11. It is important to be loyal to your beliefs even when evidence is brought to bear against them. 12. Whether something feels true is more important than evidence. 13. Just because evidence conflicts with my current beliefs does not mean my beliefs are wrong. 14. There may be evidence that goes against what you believe but that does not mean you have to change your beliefs. 15. Even if there is concrete evidence against what you believe to be true, it is OK to maintain cherished beliefs. 16. Regardless of the topic, what you believe to be true is more important than evidence against your beliefs.	1 – 7