

Propagating COVID-19 Conspiracy Theories: The Influence of Right-Wing Sources

SAGE Open
April-June 2024: 1–11
© The Author(s) 2024
DOI: 10.1177/21582440241258026
journals.sagepub.com/home/sgo


Wenting Yu¹, Zhicong Chen², Xiang Meng³, and Qing Yan⁴

Abstract

Although the growing literature on coronavirus disease 2019 (COVID-19) conspiracy theories has highlighted the role of digital media in fomenting beliefs, few studies have examined the influence of the fast-rising far-right media platforms. This study examines and compares the role of conservative media and far-right websites in propagating COVID-19 conspiracy theories and explores an underlying sociopsychological mechanism of political identity. The results of an online survey ($N = 702$) in the United States indicated that people exposed to conservative media and far-right websites were more likely to endorse COVID-19 conspiracy theories, but the impact of conservative media exposure was more prominent. Additionally, the positive relations between conservative media/far-right websites exposure and conspiracy beliefs were stronger among liberal-leaning individuals than conservative-leaning individuals. Counter-attitudinal exposure is often regarded as a crucial element of political deliberation and a solution to opinion polarization. Our findings cautioned, however, that counter-attitudinal exposure would also help propagate conspiracy theories.

Keywords

conspiracy theories, COVID-19, far-right, media use, political identity

Introduction

The global pandemic of Coronavirus disease 2019 (COVID-19) has triggered an “infodemic,” which was identified by the World Health Organization (2020) as “too much information including false or misleading information in digital and physical environments during a disease outbreak.” In particular, a relatively small but vocal number of conspiracy theories about COVID-19 have been disseminated virally on the Internet. The widespread dissemination of the COVID-19 conspiracy theories has elicited erroneous perceptions and fostered extreme attitudes toward the pandemic (Chen et al., 2021). For instance, one conspiracy theory posits that COVID-19 was intentionally created in a laboratory in China, sparking global debates and numerous controversies (Maxmen & Mallapaty, 2021). Scientists have strongly condemned the conspiracy theories, as they generate fear, rumors, and prejudice that undermine global cooperation in combating the virus (Cohen, 2020). To combat the “infodemic,” mainstream social media platforms, such as Facebook and Instagram, have made considerable efforts to remove over 20 million posts containing false

information about COVID-19 by August 2021 since the beginning of the pandemic (Wong, 2021).

Understanding how people learn about and believe in COVID-19 conspiracy theories is essential for public health researchers and policymakers to make sense of

¹Department of Chinese and Bilingual Studies, The Hong Kong Polytechnic University, Hong Kong SAR, China

²School of Journalism and Communication, Nanjing University, Nanjing, Jiangsu, China

³Department of English and Communication, The Hong Kong Polytechnic University, Hong Kong SAR, China

⁴School of Journalism and Communication, Jinan University, Guangzhou, Guangdong, China

Corresponding Authors:

Zhicong Chen, School of Journalism and Communication, Nanjing University, 163 Xianlin Road, Nanjing, Jiangsu, China.
Email: zcchen@nju.edu.cn

Xiang Meng, Department of English and Communication, The Hong Kong Polytechnic University, Hong Kong SAR, China.
Email: xiangmeng210@gmail.com

Data Availability Statement included at the end of the article



Creative Commons CC BY: This article is distributed under the terms of the Creative Commons Attribution 4.0 License (<https://creativecommons.org/licenses/by/4.0/>) which permits any use, reproduction and distribution of

the work without further permission provided the original work is attributed as specified on the SAGE and Open Access pages (<https://us.sagepub.com/en-us/nam/open-access-at-sage>).

public opinion and promote a more scientific understanding of COVID-19 among the public. Research on conspiracy beliefs is crucial for gaining a deeper understanding of the potential mechanisms influencing the communication and spread of conspiracy theories, especially across various media platforms. Because beliefs in conspiracy theories usually originate from people's need for an explanation, they are quite difficult to be corrected (Leman & Cinnirella, 2013). Belief in conspiracy theories is usually associated with a lack of confidence in policies addressing the pandemic, which will further influence people's risky health behaviors (Earnshaw et al., 2020; Enders et al., 2020). Previous studies have shown that people who believe in COVID-19 conspiracy theories are more likely to refuse to social distance, wear a mask, or get vaccinated (Earnshaw et al., 2020; Enders et al., 2020).

Right-wing sources have been alleged to be responsible for the dissemination of conspiracy theories, particularly amid the COVID-19 pandemic (Stecula & Pickup, 2021). However, existing investigations mostly focus on the effect of mainstream conservative news media on beliefs in COVID-19 conspiracy theories (Romer & Jamieson, 2021; Stecula & Pickup, 2021), overlooking the rising power of far-right media platforms. In recent years, far-right media platforms, represented by several anonymous imageboard websites, such as *4chan* and *8kun*, have become popular venues for political discussions on extreme ideologies (e.g., white supremacy and right-wing nationalism). As alternative information sources, these imageboard websites have turned into well-recognized online communities. During the COVID-19 pandemic, there has been increasing discussion on conspiracy theories on these platforms (Zeng & Schäfer, 2021). In contrast to the conservative ideology, far-right politics, or right-wing extremism, encompasses a range of political perspectives characterized by radical conservatism, ultranationalism, and authoritarianism, often accompanied by nativist tendencies. With technical protection of user privacy, the far-right websites are characterized by the absence of marked user identity and history, and ephemeral communications not stored by any archives (Nissenbaum & Shifman, 2017). These features, compared with those of other information sources, may enable far-right websites to play a distinctive role in propagating COVID-19 conspiracy theories, which is worthy of further investigation. This study aimed to examine and compare the effects of both conservative news media and far-right websites on conspiracy beliefs and how those relationships would be moderated by political identity.

Some groups in the world perceived the COVID-19 pandemic as conspiratorial and even elitist. The findings of this research in the United States further substantiate

this perception, notably through the influence of social media propaganda originating from right-wing sources. In the following sections, we first reviewed the role of right-wing sources in influencing people's beliefs in conspiracy theories. Two hypotheses concerned with the effects of exposure to conservative media and far-right websites on conspiracy beliefs were supported. Furthermore, political identity was identified as an important factor that could potentially moderate the effects of both conservative media and far-right websites. In particular, we focused on the impact of counter-attitudinal exposure (or cross-cutting exposure) on conspiracy beliefs for liberal-leaning and conservative-leaning people, respectively. A national survey with over 700 respondents was conducted to test the research hypotheses and answer the research question using ordinary linear square (OLS) regression models. Subsequently, the findings and implications are discussed further.

Exposure to Right-Wing Sources and Beliefs in Conspiracy Theories

The classical knowledge paradigm notes that individuals can gain knowledge through news media exposure and thus will be less likely to believe conspiracy theories. However, partisan bias in news media and the changing media landscape are striking this notion (Iyengar & Hahn, 2009; Stroud, 2011). Increasing partisan bias drives news media to release unverified news stories for political propaganda (Tsftati et al., 2020). Meanwhile, the digitalization of journalism has placed more emphasis on timeliness and clicks in media institutions, which has prompted news coverage without thorough investigation and verification beforehand (Giglietto, 2019). In addition, news media sometimes discuss or debunk unverified news stories based on their news values (Tsftati et al., 2020), while people's belief in conspiracy theories can be increased due to repetitive exposure to those news reports (Corneille et al., 2020).

Moreover, according to the sociopsychological models of conspiracy beliefs, people are subjective to conspiratorial information as it later satisfies people's epistemic and existential motives (Douglas et al., 2017). Epistemically speaking, conspiracy theories are attractive to the public because they meet people's need for cognitive closure and help reduce the feeling of uncertainty (Douglas et al., 2017; Marchlewska et al., 2018; van Prooijen & Jostmann, 2013). Those needs tend to be stronger especially when a large-scale and significant event occurs with related official explanations being absent (Marchlewska et al., 2018), just like the case of the COVID-19 pandemic. In addition, people turn to conspiracy theories because they can satisfy people's

existential motives, such as the desire for control and security. Specifically, conspiracy theories, as alternative causal explanations, can serve people's need to feel safe and secure, and a sense of control of their environment, by offering them chances to reject official narratives (Douglas et al., 2017; Goertzel, 1994). Therefore, conspiracy theories would become more alluring when people feel powerless and lose control of the current situation (Abalakina-Paap et al., 1999; van Prooijen & Acker, 2015), just as they actually do when they confronting the unprecedented COVID-19 pandemic. Given the prevalence of COVID-19 conspiracy theories in conservative media (Jamieson & Albarracín, 2020; Motta et al., 2020; Romer & Jamieson, 2021; Stecula & Pickup, 2021), heavier use of those media outlets is expected to enhance people's beliefs in those conspiracy theories.

Empirical evidence also supports this theoretical expectation. For instance, Stecula and Pickup (2021) reported that conservative media consumption is positively correlated with conspiracy beliefs about COVID-19, leading to less preventive behaviors suggested by public health officials. Similarly, drawing on a two-wave panel survey of American adults, Romer and Jamieson (2021) found that the use of conservative media can predict an increase in COVID-19 conspiracy beliefs. Based on the above discussion, this study hypothesized a positive correlation between exposure to conservative news media and conspiracy beliefs about COVID-19.

H1: Exposure to conservative news media is positively related to conspiracy beliefs about COVID-19.

Exposure to platforms of user-generated content, which is sometimes considered as less legitimate media due to the varied quality of information, has a strong correlation with conspiracy beliefs. For instance, exposure to social media is found to be a significant predictor of beliefs in conspiracy theories (Enders et al., 2023; Xiao et al., 2021). Few studies, however, have investigated the increasing power of far-right websites in disseminating conspiracy theories. Far-right websites (e.g., *4chan*) are relatively marginal but have salient influences and loyal supporters—far-right extremists. Far-right extremists use these websites to create and spread conspiracy theories to maintain their benefits (Allyn, 2021; Dawson, 2021). For example, imageboard *8kun* has been a camp for supporters of QAnon, who are usually strong supporters of Donald Trump. While far-right websites have been infamous for producing and disseminating conspiracy theories to support Republicans, especially Trump (Dawson, 2021), empirical evidence about its implications for public perceptions is still lacking. Following the same logic of prior reasoning about

conservative media, it is likely that people using the far-right media for news consumption tend to believe in the COVID-19 conspiracy theories as they later also satisfy their epistemic and existential motives. Thus, this study presumes a positive relationship between exposure to far-right websites and COVID-19 conspiracy beliefs.

H2: Exposure to far-right websites is positively related to conspiracy beliefs about COVID-19.

Political Identity and Beliefs in Conspiracy Theories

Political identity has been identified as a strong predictor of beliefs in falsehood. Individuals usually endorse misperceptions that are aligned with their in-group interests (Lewandowsky et al., 2012). One specific explanation for partisan bias in false beliefs is motivated reasoning, or people's biased processing of information, which refers to the phenomenon that people tend to believe opinions that match their established worldviews (Kunda, 1990). Motivated reasoning leads to a preference for choosing a side instead of seeking truth (Schaffner & Roche, 2016; Vegetti & Mancosu, 2020; Weeks & Garrett, 2014). For instance, based on two surveys of American adults, Miller et al. (2016) found that both conservatives and liberals tend to believe in ideologically consistent conspiracy theories (i.e., conspiracies putting the ideological opponents in a bad light), indicating the presence of ideologically motivated conspiracy endorsement. Although the COVID-19 conspiracy theories examined in this study do not include explicit discrediting of the liberals, they mostly serve the interest of the Republican Party by implying that the pandemic is conspiratorial.

These observations also resonate with conspiracy theories literature. Scholars contend that people are attracted to conspiracy theories that can meet their social motives such as the desire to uphold a good in-group image (Douglas et al., 2017). In the context of the COVID-19 pandemic, conspiratorial narratives suggesting a Chinese origin or an intentionally covered-up origin of the pandemic (as we examined in this study) may help gloss over Trump's incompetent response to the pandemic outbreak, thus increasing beliefs in those conspiracy theories among more conservative-leaning people.

In addition, studies found that people who are more conservative-leaning are generally more inclined to endorse false information and conspiracy theories (Bailey et al., 2021; Calvillo et al., 2021; Chadwick & Vaccari, 2019; Min, 2021). The ideology asymmetry perspective suggests that conservatives are more likely to spread falsehood due to their shared characteristics, namely higher

levels of dogmatism, rigidity, intolerance of ambiguity, and need for cognitive closure, as compared with liberals; moreover, conservatives tend to prioritize values of conformity and tradition and possess a strong desire to share reality with like-minded others (Jost, 2017; Jost et al., 2018). Based on previous studies, this study hypothesizes the following:

H3: Individuals who are conservative-leaning are more likely to believe conspiracy theories about COVID-19, compared with individuals who are liberal-leaning.

The Moderating Effect of Political Identity

Apart from the main effects of right-wing sources use and political identity, these two factors may also interact with each other in affecting one's beliefs in conspiracy theories. However, previous studies have rarely examined this moderating effect and two sets of competing propositions actually exist.

The first set of propositions suggests that the use of right-wing sources, including conservative media and far-right websites, might have a stronger effect on conspiracy beliefs among those who are more conservative-leaning. There is a school of thought that exposure to proattitudinal sources strengthens one's preexisting attitudes and thus leads to opinion extremity and polarization (Garrett et al., 2014). Proattitudinal exposure can increase one's own and oppositional opinion repertoires, especially among those who engage in selective exposure (H. T. Chen et al., 2020). Thus, the use of right-wing sources by conservatives (namely proattitudinal exposure) is likely to enhance their beliefs in conspiracy theories. Furthermore, researcher also demonstrated that political discussion with like-minded others can increase one's conspiracy beliefs in conjunction with political identity (Min, 2021). Given the close link between information consumption and political discussion (Gil de Zúñiga et al., 2019), consuming right-wing sources for conservative-leaning people can generate more homogeneous discussion that interacts with political identity. Moreover, conservative-leaning people, compared with those who are liberal-leaning, are found to be less disposed to reflective and analytic thinking (Hibbing, 2014; Jost, 2017; Talhelm et al., 2015), making them more susceptible to pandemic-related misleading content from right-wing sources. Overall, the above discussion implies that for conservative-leaning people, greater use of politically concordant sources (i.e., right-wing sources) would present a larger impact on their conspiracy beliefs compared with their liberal-leaning counterparts.

However, it is also theoretically possible that the impact of right-wing sources' use on conspiracy beliefs is

larger among people who are liberal-leaning. First, exposure to counter-attitudinal sources can inform people of the rationales for opposing viewpoints and thus increase their support for the other side (Cao, 2020; Mutz, 2002). Survey results indicated that the use of counterparty sources attenuates attitude polarization, by motivating active engagement with and cognitively elaborating on the counter-attitudinal information (Garrett et al., 2014; H. T. Chen et al., 2022). The influence of counter-attitudinal exposure on opinion change, albeit deemed conducive to political deliberation, may also generate false beliefs when it involves misinformation or disinformation endorsed by the other side, which is particularly concerning given that the popularity of social media enables massive production of and engagement with misleading information. Moreover, studies based on affective intelligence theory illustrated that anxiety and fear elicited by a pressing unknown threat, like COVID-19, can prompt people to conduct wide-ranging information searches and become less reliant on preexisting political dispositions in forming their responses to the threat (Marcus, Neuman, & MacKuen, 2000; Marcus, Valentino, et al., 2019; Vasilopoulos et al., 2023). In other words, the effect of right-wing sources' exposure on beliefs in COVID-19 conspiracy theories can be stronger among those who are liberal-leaning.

Considering the existence of competing propositions, this study raised the following research question:

RQ1: Does political identity moderate the impacts of exposure to conservative media (RQ1a) and far-right websites (RQ1b) on beliefs in conspiracy theories about COVID-19?

Method

Data Collection

A national representative survey ($N = 702$) was conducted in the United States from November 28 to 30, 2020. Data collection was outsourced to a survey company, Lucid, which has panels in major countries in the world. The response rate was 79%. The survey aimed at people aged between 18 and 65 years. Quota sampling in terms of gender and age was executed with Census data as a reference (U.S. Census Bureau, 2019). Respondents who did not fit our criteria were filtered out. Those aged below 18 or above 65 years and those who reported they were not currently living in the United States were filtered out.

At the end, 853 respondents completed the survey. We further exclude responses of low quality. We embedded two attention-check questions in the survey, asking respondents to choose specific options following the instructions in the question. Those who failed to pass the

attention checks were filtered out from the survey. Those who finished the survey within an extremely short response time (i.e., < 5 min) were excluded from the samples after the completion of the survey. The final sample has 702 valid cases. The final sample included 23.1% aged between 18 and 29 years ($n = 162$), 22.3% aged between 30 and 39 years ($n = 157$), 20.3% aged between 40 and 49 years ($n = 142$), and the remaining 34.3% aged between 50 and 65 years ($n = 241$). More than half of the respondents were female ($n = 358$, 51.0%), and the rest were male. The sample was representative of the U.S. population in terms of gender and age (see Table 1).

Measures

Beliefs in COVID-19 Conspiracy Theories. This study measured beliefs in two COVID-19 conspiracy theories, namely “The spread of COVID-19 is engineered in a lab in China” and “Data displayed on the World Bank’s World Integrated Trade Solution website in September 2020 proved that dozens of nations imported or exported items labeled “COVID-19 Test Kits” in 2018—more than a year before the pandemic occurred and before COVID-19 even had a name.” Respondents were asked to rate how likely the two statements are true on a six-point Likert scale, from 1 (*extremely unlikely*) to 6 (*extremely likely*). The mean score of the two items was calculated to be the index of beliefs in COVID-19 conspiracy theories (Spearman–Brown coefficient = 0.68, $M = 3.70$, $SD = 1.96$).

Exposure to Far-Right Websites. Exposure to far-right websites was measured by how frequently the respondents use *4chan* and *8kun*, the two popular far-right websites, on a seven-point Likert scale, from 1 (*never*) to 7 (*all the time*). The average of these two items forms the index of exposure to far-right websites (Spearman–Brown coefficient = 0.96, $M = 2.20$, $SD = 2.19$).

Exposure to Conservative Media. Exposure to conservative media was measured by how frequently the respondents use the five popular right-leaning media, namely *Fox News*, *Wall Street Journal*, *New York Post*, *Breitbart*, and *The Blaze*. Respondents were asked to rate the frequency of using these media on a seven-point Likert scale, where 1 means *never* and 7 means *all the time*. The items were averaged for each respondent as an indicator of exposure to conservative media ($\alpha = .90$, $M = 3.09$, $SD = 1.75$).

Political Identity. To measure political identity, respondents were asked to rate themselves from 1 (*extremely*

Table 1. The Sample Profile.

Variable	Sample (%)	U.S. Census (%) (2019)
Male	49.0	49.2
Female	51.0	50.8
Aged 18 to 29 years	23.1	24.6
Aged 30 to 39 years	22.3	21.7
Aged 40 to 49 years	20.3	20.2
Aged 50 to 65 years	34.3	33.5

liberal) to 10 (*extremely conservative*) ($M = 5.28$, $SD = 3.03$).

Control Variables. The analysis controls for the effects of age, gender, income, education, and marriage. For age, respondents were asked to input their age ($M = 42.05$, $SD = 13.87$). More than half of the respondents were female ($n = 358$, 51.0%) and the rest were males. Respondents were asked to choose the highest degree they have achieved among five options, namely 12th grade or below (coded as “1”), no high school diploma (coded as “2”), high school graduate/diploma or equivalent (coded as “3”), some college but no degree (coded as “4”), bachelor’s degree (coded as “5”), and postgraduate degree (coded as “6”). The mean score of education is 4.03 ($SD = 1.59$). Respondents were asked to report their yearly income among 26 ranges, namely from under \$5,000 (coded as “1”) to \$250,000 or more (coded as “26”). The average income lies in “12.50” ($SD = 8.11$), which is between the range of \$55,000 to \$59,999 (coded as “12”) and \$60,000 to \$64,999 (coded as “13”). More than half of the respondents were married ($n = 365$, 52.0%).

This study examined the effect of right-wing media exposure on conspiracy beliefs, and thus, media exposure to the opposite side (i.e., exposure to liberal media) should be under control. Exposure to liberal media was measured by how frequently the respondents use the five popular left-leaning media, namely *NBC News*, *CBS*, *CNN*, *The New York Times*, and *Buzzfeed*. Respondents were asked to rate the frequency of using these media on a seven-point Likert scale, where 1 means *never* and 7 means *all the time*. The items were averaged for each respondent as an indicator of exposure to liberal media ($\alpha = .90$, $M = 3.73$, $SD = 1.73$).

Analysis

To analyze the data, a series of OLS linear regression analyses were performed. We first tested a model with

Table 2. Predicting COVID-19 Conspiracy Beliefs.

	Conspiracy beliefs (N = 702)							
	<i>b</i>	<i>p</i> -Value	<i>b</i>	<i>p</i> -Value	<i>b</i>	<i>p</i> -Value	<i>b</i>	<i>p</i> -Value
Age	-.18	***	-.03	.37	-.03	.47	-.03	.49
Gender	.02	.66	-.05	.13	-.05	.11	-.05	.11
Marriage	.16	***	.02	.66	-.01	.89	.00	1.00
Education	-.12	**	-.16	***	-.15	***	-.16	***
Income	.07	.18	-.00	.98	.00	.943	.00	.93
Liberal media exposure			-.21	***	-.16	**	-.15	**
Conservative media exposure			.47	***	.67	***	.44	***
Far-right websites exposure			.23	***	.25	***	.47	***
Political identity			.20	***	.49	***	.36	***
Political identity \times conservative media exposure					-.43	***		
Political identity \times far-right websites exposure							-.33	***
R^2/R^2 adjusted	.092/.085		.315/.307		.338/.328		.334/.324	

** $p < .01$. *** $p < .001$.

control variables as a base model and then added key independent variables, namely far-right website use, conservative media use, and political identity. Then we explored the moderation effects by including interaction terms in the regression equations.

Results

The results are shown in Table 2. We first examined the effects of control variables. People who were older were less likely to believe COVID-19 conspiracy theories ($b = -.18$, 95% CI $[-0.37, -0.02]$, $p < .001$). Those who were married ($b = .16$, [0.29, 0.95], $p < .001$) and less educated ($b = -.12$, $[-0.25, -0.03]$, $p < .01$) were more likely to believe COVID-19 conspiracy theories. When all the media exposure variables entered the model, exposure to liberal media had a significantly negative correlation with COVID-19 conspiracy beliefs ($b = -.16$, $[-0.35, -0.11]$, $p < .01$).

H1 hypothesized that exposure to conservative media had a positive relationship with conspiracy beliefs, which was supported by the data ($b = .47$, 95% CI $[0.39, 0.66]$, $p < .001$).

H2 posited that far-right websites exposure had a positive relationship with conspiracy beliefs, which was also supported by the data ($b = .23$, 95% CI $[0.13, 0.28]$, $p < .001$). It was noticeable that the effect size of conservative media exposure was more magnificent than that of far-right websites exposure.

H3 supported that political identity was positively correlated with conspiracy beliefs ($b = .20$, 95% CI $[0.08, 0.17]$, $p < .001$). Those who were more conservative were more likely to believe COVID-19 conspiracy theories.

RQ1a asked about the moderating effect of political identity on the relationship between conservative media

exposure and conspiracy beliefs among liberals. The results (Table 1 and Figure 1) showed that the interaction term of political identity and conservative media exposure displayed a significantly negative relationship with conspiracy beliefs ($b = -.43$, 95% CI $[-0.07, -0.03]$, $p < .001$), indicating that the relationship between exposure to conservative media and conspiracy beliefs was stronger among those more liberal-leaning. RQ1b was about the moderating effect of political identity on the relationship between far-right websites' exposure and conspiracy beliefs. As shown in Table 1 and Figure 2, the interaction term of political identity and far-right media exposure was negatively associated with conspiracy beliefs ($b = -.33$, $[-0.05, -0.02]$, $p < .001$), which indicated that the relationship between far-right websites exposure and conspiracy beliefs was stronger among those self-identified as more liberal-leaning.

Discussion and Conclusion

This study found that exposure to right-wing sources, either mainstream media or far-right websites, is associated with increased beliefs in COVID-19 conspiracy theories. The results particularly emphasized the importance of far-right websites in propagating conspiracy theories. Far-right websites are widely known and have been causing concern about their close connections with far-right ideology (Colley & Moore, 2022). Existing studies have shown that online discussions on *4chan*, an example of a far-right website, often involve highly toxic language and hate speech (Hine et al., 2017; Mittos et al., 2020). In particular, the contents on *4chan's* political board (/pol/) have shown strong far-right personalities and openly anti-semitic rhetoric, which are often delivered through internet memes. Similar findings have been made for

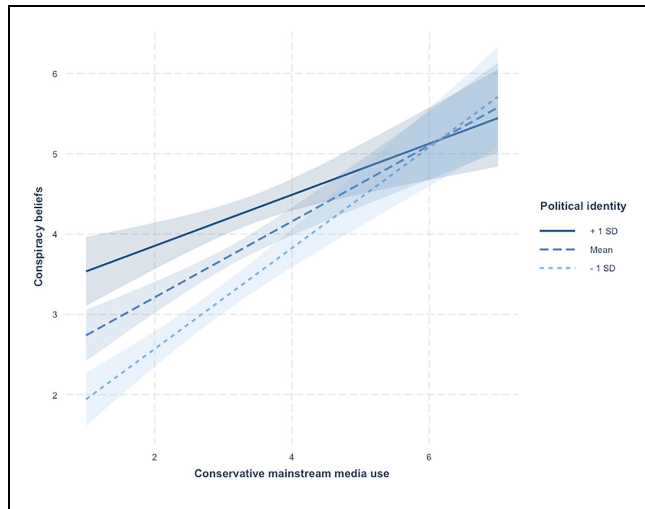


Figure 1. Interaction effect of conservative mainstream media use and political identity on COVID-19 conspiracy beliefs.

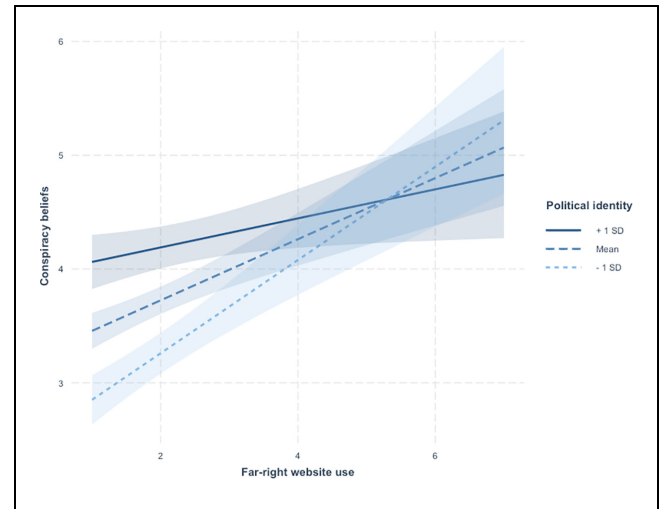


Figure 2. Interaction effect of far-right websites use and political identity on COVID-19 conspiracy beliefs.

another board (/b/) on *4chan*, as well as other imageboard platforms, such as *Overboard* (Ylä-Anttila et al., 2020) and *Danbooru* (Britt, 2019).

Right-wing extremists and those who support far-right views have exploited online platforms, such as the anonymous imageboard and *Reddit*, to enhance their collective identity and mobilize like-minded members to promote extreme discourses (Gaudette et al., 2021). Furthermore, existing studies showed that even if ordinary viewers are skeptical and suspicious when visiting websites, such exposure to alternative media sources may still trigger contests and confirmation of their original views (Ihlebaek & Holter, 2021). As the COVID-19 pandemic has been highly politicized in American society (Kerr et al., 2021), the rise of far-right websites and their potential influence in propagating conspiracy theories about public health should not be underestimated. Given the scarce academic attention on the impact of far-right websites on conspiracy beliefs, this study has filled the research gap by offering an empirical investigation of the relationship that advances our understanding of the social implications of far-right media.

Specifically, our findings of the positive relationships between right-wing media use (conservative/far-right media outlets) and COVID-19 conspiracy beliefs correspond with the motive-based theorization in conspiracy literature. Particularly, by fulfilling people's epistemic and existential motives (i.e., the need for cognitive closure and the desire for control and security), COVID-19 conspiracy theories spread on the right-wing media may raise conspiracy beliefs among the heavier right-wing media users, suggesting the presence of media effect. However, those findings can also be interpreted through the perspective of selective exposure. Simply put,

selective exposure refers to the behavior by which audiences selectively expose themselves to media outlets favoring their party line or ideology (Stroud, 2011). Therefore, it is possible that heavier users of right-wing media are people more supporting the Republicans and prone to those conspiracy theories in the first place (Romer & Jamieson, 2021), thus producing a positive link between right-wing media use and conspiracy beliefs. Nevertheless, scholars have cautioned that such a selection process does not occur in a vacuum and has been found to be exaggerated in certain instances (Eady et al., 2019; Kwak et al., 2022). Taken together, it is crucial to note that selective exposure and motivated reasoning are likely to influence the media effects.

In addition, our findings also illustrate that political identity still matters in conspiracy beliefs about the COVID-19 pandemic. The results show that conservative-leaning individuals are more likely to trust COVID-19 conspiracy theories than liberal-leaning individuals. The results coincide with our theorization based on motivated reasoning and the social motive explanation, that is, people are inclined to believe in conspiracy theories favoring the same ideological line and the in-group image. These findings unravel a significant role of partisan bias in an individual's health information processing, raising concerns as the differences in COVID-19 conspiracy beliefs between different parties may eventually lead to divided opinions on public health policy and preventive behaviors.

This study further demonstrates that exposure to right-wing sources, including conservative mainstream media and far-right websites, are associated with increased COVID-19 conspiracy beliefs among liberal-leaning individuals. The relation between right-wing sources exposure and COVID-19 conspiracy beliefs is

found to be greater among liberals than among conservatives. This finding supports our proposition that when confronting the impending threat of COVID-19, people tend to conduct a wide-ranging information search and become less dependent on their political ideology to formulate their responses to the crisis, thus making liberals more receptive to COVID-19 conspiracy theories transmitted by right-wing sources. Such reduced salience of preexisting political dispositions in forming people's attitudes and information-seeking behavior occurs because impending threats such as the COVID-19 pandemic would trigger uncertainty-related emotions like fear that can mitigate an individual's reliance on preexisting political dispositions in their decision-making (Vasilopoulos et al., 2023). Another reason for this finding is the ceiling effect illustrated in Figures 1 and 2. Particularly, the figures display that when holding exposure to right-wing sources at the lowest level, conservative-leaning individuals already express a relatively high level of conspiracy beliefs (which are much higher than the conspiracy beliefs of liberal-leaning individuals), thus leaving less room for the right-wing sources exposure to function (namely a ceiling effect).

For liberal-leaning people, even a small amount of exposure to counter-attitudinal sources has been found to correlate with a substantial increase in their beliefs in pandemic-related conspiracy theories, which potentially undermines collective efforts against the pandemic and the cause of public health. Public exposure to counter-attitudinal information sources has been deemed beneficial for a healthy democracy (Thompson, 2008) as it can promote understanding of the opposite side, foster tolerance and deliberation across party lines (Cao, 2020; Mutz, 2002), and reduce polarization and social division (Garrett et al., 2014; Stroud, 2010). Nonetheless, our findings uncover the potential dark side of counter-attitudinal exposure. In the current tumultuous media environment, consuming news information from politically uncongenial sources may also make people subject to low quality or even false content (intentionally or unintentionally) produced by the other side, cultivating problematic perceptions and beliefs that impede the formation of social consensus and the functioning of democracy.

The deleterious implications of counter-attitudinal exposure become particularly worrisome in the context of the COVID-19 pandemic. On the one hand, public discourse on the origin of the pandemic has been largely politicized before scientific conclusions could be made, which has provided sufficient leeway for politicians, such as the former U.S. President Donald Trump, to mobilize public opinion for their own ambitions (Hagström & Gustafsson, 2021). On the other hand, COVID-19 is a new disease that we do not fully understand. Therefore,

the need for an explanation triggered by this pressing existential threat likely makes COVID-19 conspiracy theories possess greater power than normal political misinformation or disinformation in changing public opinion, especially among those initially holding different worldviews.

The major contributions of this study are threefold. First, this study accentuates the importance of rising far-right websites, which are largely understudied in the existing literature, in combating COVID-19 conspiracy theories. Second, the findings highlight the role of generic right-wing sources, either the conservative media or far-right websites, in propagating conspiracy theories about COVID-19. Third, this study unravels the moderating mechanism of political identity underlying the aforementioned relationships. In particular, the role of right-wing sources in fomenting individuals' beliefs in COVID-19 conspiracy theories is found to be more magnified among liberal-leaning individuals than conservative-leaning ones. Overall, our results call for greater attention to the danger of COVID-19 conspiracy theories, particularly those transmitted from right-wing sources.

There are several limitations to this study. First, the study has a cross-sectional design that lacks the time dimension to observe the dynamics of conspiracy beliefs. Future studies may seek a longitudinal analysis to better understand the long-term effects of partisan exposure. Second, this study measured only general exposure to media outlets from conservative media and far-right websites. Future work may focus on media content for specific effects in the conspiracy persuasion process. Third, this study did not reveal the mechanisms behind the moderating effect. Future research could extend our model further. Fourth, this study only measured beliefs in two selected conspiracy theories. Future studies may replicate the study with different conspiracy theories. For further investigation, a thorough examination of the trend of conspiracy narratives would be more crucial and interesting. In addition to addressing the proven conspiracy tendencies through this research, that is, the belief that the COVID-19 pandemic is a conspiracy largely propagated by right-wing sources, future studies could try to offer a plausible explanation for the occurrence of this trend. This aspect would be more intriguing to extend the findings of this study.

Acknowledgments

None.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.


Funding


The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Fundamental Research Funds for Central Universities [23NJYH10].


Ethical Approval

The ethical approval of this study is given by the research committee at City University of Hong Kong.

ORCID iDs

Zhicong Chen  <https://orcid.org/0000-0003-0334-9454>

Xiang Meng  <https://orcid.org/0000-0002-9696-7181>

Qing Yan  <https://orcid.org/0000-0001-6809-8313>

Data Availability Statement

Data are available upon request.

References

- Abalakina-Paap, M., Stephan, W. G., Craig, T., & Gregory, W. L. (1999). Beliefs in conspiracies. *Political Psychology*, 20(3), 637–647. <https://doi.org/10.1111/0162-895X.00160>
- Allyn, B. (2021). “Lex luthor of the internet”: Meet the man keeping far-right websites alive. NPR. <https://www.npr.org/2021/02/08/965448572/meet-the-man-behind-epik-the-tech-firm-keeping-far-right-websites-alive>
- Bailey, A., Gregersen, T., & Roesner, F. (2021, August). *Interactions with potential mis/disinformation urls among us users on facebook, 2017-2019* [Conference session]. *Proceedings of the ACM SIGCOMM 2021 Workshop on Free and Open Communications on the Internet*. Association for Computing Machinery. <https://doi.org/10.1145/3473604.3474561>
- Britt, B. C. (2019). Content curation, evaluation, and refinement on a nonlinearly directed imageboard: Lessons from Danbooru. *Social Media + Society*, 5(4), 2056305119880020. <https://doi.org/10.1177/2056305119880020>
- Calvillo, D. P., Rutchick, A. M., & Garcia, R. J. (2021). Individual differences in belief in fake news about election fraud after the 2020 US election. *Behavioral Sciences*, 11(12), 175. <https://doi.org/10.3390/bs11120175>
- Cao, X. (2020). Revisiting the democratic implications of political discussion disagreement: With whom one disagrees matters. *Journal of Information Technology & Politics*, 17(3), 193–207. <https://doi.org/10.1080/19331681.2020.1751372>
- Chadwick, A., & Vaccari, C. (2019). *News sharing on UK social media: Misinformation, disinformation, and correction*. Online Civic Culture Centre. <https://www.lboro.ac.uk/research/online-civic-culture-centre/news-events/articles/o3c-1-survey-report-news-sharing-misinformation/>
- Chen, H. T., Guo, L., & Su, C. C. (2020). Network agenda setting, partisan selective exposure, and opinion repertoire: The effects of pro-and counter-attitudinal media in Hong Kong. *Journal of Communication*, 70(1), 35–59. <https://doi.org/10.1093/joc/jqz042>
- Chen, H. T., Kim, Y., & Chan, M. (2022). Just a glance, or more? Pathways from counter-attitudinal incidental exposure to attitude (de) polarization through response behaviors and cognitive elaboration. *Journal of Communication*, 72(1), 83–110. <https://doi.org/10.1093/joc/jqab046>
- Chen, Z., Meng, X., & Yu, W. (2021, July). *Depolarization in the rise of far-right platforms? A moderated mediation model on political identity, misinformation belief and voting behavior in the 2020 US Presidential Election* [Conference session]. 2021 International Association for Media and Communication Research Conference (IAMCR 2021): Rethinking Borders and Boundaries, Beijing, China.
- Cohen, J. (2020, February 19). Scientists “strongly condemn” rumors and conspiracy theories about origin of coronavirus outbreak. *Science*. <https://www.science.org/content/article/scientists-strongly-condemn-rumors-and-conspiracy-theories-about-origin-coronavirus>
- Colley, T., & Moore, M. (2022). The challenges of studying 4chan and the Alt-Right: “Come on in the water’s fine”. *New Media & Society*, 24(1), 5–30. <https://doi.org/10.1177/1461444820948803>
- Corneille, O., Mierop, A., & Unkelbach, C. (2020). Repetition increases both the perceived truth and fakeness of information: An ecological account. *Cognition*, 205, 104470. <https://doi.org/10.1016/j.cognition.2020.104470>
- Dawson, B. (2021). *Far-right lures recruits using COVID-19 conspiracy theories, alongside misogyny, anti-Semitism, and Islamophobia, says study*. Insider. <https://www.businessinsider.com/far-right-lures-recruits-telegram-using-covid-19-conspiracy-theories-2021-12>
- Douglas, K. M., Sutton, R. M., & Cichocka, A. (2017). The psychology of conspiracy theories. *Current Directions in Psychological Science*, 26(6), 538–542. <https://doi.org/10.1177/0963721417718261>
- Eady, G., Nagler, J., Guess, A., Zilinsky, J., & Tucker, J. A. (2019). How many people live in political bubbles on social media? Evidence from linked survey and Twitter data. *Sage Open*, 9(1), 2158244019832705. <https://doi.org/10.1177/2158244019832705>
- Earnshaw, V. A., Eaton, L. A., Kalichman, S. C., Brousseau, N. M., Hill, E. C., & Fox, A. B. (2020). COVID-19 conspiracy beliefs, health behaviors, and policy support. *Translational Behavioral Medicine*, 10(4), 850–856. <https://doi.org/10.1093/tbm/ibaa090>
- Enders, A. M., Uscinski, J. E., Klostad, C., & Stoler, J. (2020). The different forms of COVID-19 misinformation and their consequences. *The Harvard Kennedy School (HKS) Misinformation Review*. <https://doi.org/10.37016/mr-2020-48>
- Enders, A. M., Uscinski, J. E., Seelig, M. I., Klostad, C. A., Wuchty, S., Funchion, J. R., Murthi, M. N., Premaratne, K., & Stoler, J. (2023). The relationship between social media use and beliefs in conspiracy theories and misinformation. *Political Behavior*, 45(2), 781–804. <https://doi.org/10.1007/s11109-021-09734-6>
- Garrett, R. K., Gvirsman, S. D., Johnson, B. K., Tsifti, Y., Neo, R., & Dal, A. (2014). Implications of pro-and counter-attitudinal information exposure for affective polarization. *Human Communication Research*, 40(3), 309–332. <https://doi.org/10.1111/hcre.12028>

- Gaudette, T., Scrivens, R., Davies, G., & Frank, R. (2021). Upvoting extremism: Collective identity formation and the extreme right on Reddit. *New Media & Society*, 23(12), 3491–3508. <https://doi.org/10.1177/1461444820958123>
- Giglietto, F., Iannelli, L., Valeriani, A., & Rossi, L. (2019). “Fake news” is the invention of a liar: How false information circulates within the hybrid news system. *Current Sociology*, 67(4), 625–642. <https://doi.org/10.1177/0011392119837536>
- Gil de Zúñiga, H., Diehl, T., Huber, B., & Liu, J. H. (2019). The citizen communication mediation model across countries: A multilevel mediation model of news use and discussion on political participation. *Journal of Communication*, 69(2), 144–167. <https://doi.org/10.1093/joc/jqz002>
- Goertzel, T. (1994). Belief in conspiracy theories. *Political Psychology*, 15(4), 731–742. <https://doi.org/10.2307/3791630>
- Hagström, L., & Gustafsson, K. (2021). The limitations of strategic narratives: The Sino-American struggle over the meaning of COVID-19. *Contemporary Security Policy*, 42(4), 415–449. <https://doi.org/10.1080/13523260.2021.1984725>
- Hibbing, J. R., Smith, K. B., & Alford, J. R. (2014). Differences in negativity bias underlie variations in political ideology. *Behavioral and Brain Sciences*, 37(3), 297–307. <https://doi.org/10.1017/S0140525X13001192>
- Hine, G., Onaolapo, J., De Cristofaro, E., Kourtellis, N., Leontiadis, I., Samaras, R., Stringhini, G., & Blackburn, J. (2017). Kek, cucks, and god emperor trump: A measurement study of 4chan’s politically incorrect forum and its effects on the web. *Proceedings of the International AAAI Conference on Web and Social Media*, 11(1), 92–101. <https://doi.org/10.1609/icwsm.v11i1.14893>
- Ihlebak, K. A., & Holter, C. R. (2021). Hostile emotions: An exploratory study of far-right online commenters and their emotional connection to traditional and alternative news media. *Journalism*, 22(5), 1207–1222. <https://doi.org/10.1177/1464884920985726>
- Iyengar, S., & Hahn, K. S. (2009). Red media, blue media: Evidence of ideological selectivity in media use. *Journal of Communication*, 59(1), 19–39. <https://doi.org/10.1111/j.1460-2466.2008.01402.x>
- Jamieson, K. H., & Albarracín, D. (2020). The relation between media consumption and misinformation at the outset of the SARS-CoV-2 pandemic in the US. *Harvard Kennedy School (HKS) Misinformation Review*. <https://doi.org/10.37016/mr-2020-012>
- Jost, J. T. (2017). Ideological asymmetries and the essence of political psychology. *Political Psychology*, 38(2), 167–208. <https://doi.org/10.1111/pops.12407>
- Jost, J. T., van der Linden, S., Panagopoulos, C., & Hardin, C. D. (2018). Ideological asymmetries in conformity, desire for shared reality, and the spread of misinformation. *Current Opinion in Psychology*, 23, 77–83. <https://doi.org/10.1016/j.copsyc.2018.01.003>
- Kerr, J., Panagopoulos, C., & Van Der Linden, S. (2021). Political polarization on COVID-19 pandemic response in the United States. *Personality and Individual Differences*, 179, 110892. <https://doi.org/10.1016/j.paid.2021.110892>
- Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, 108(3), 480–498. <https://doi.org/10.1037/0033-2909.108.3.480>
- Kwak, N., Lane, D. S., Weeks, B. E., Kim, D. H., & Lee, S. S. (2022). Now we’re talking? Understanding the interplay between online selective and incidental exposure and their influence on online cross-cutting political discussion. *Social Science Computer Review*, 40(3), 579–597. <https://doi.org/10.1177/0894439320920790>
- Leman, P. J., & Cinnirella, M. (2013). Beliefs in conspiracy theories and the need for cognitive closure. *Frontiers in Psychology*, 4(378). <https://doi.org/10.3389/fpsyg.2013.00378>
- Lewandowsky, S., Ecker, U. K., Seifert, C. M., Schwarz, N., & Cook, J. (2012). Misinformation and its correction: Continued influence and successful debiasing. *Psychological Science in the Public Interest*, 13(3), 106–131. <https://doi.org/10.1177/1529100612451018>
- Marchlewska, M., Cichocka, A., & Kossowska, M. (2018). Addicted to answers: Need for cognitive closure and the endorsement of conspiracy beliefs. *European Journal of Social Psychology*, 48(2), 109–117. <https://doi.org/10.1002/ejsp.2308>
- Marcus, G. E., Neuman, W. R., & MacKuen, M. (2000). *Affective intelligence and political judgment*. University of Chicago Press.
- Marcus, G. E., Valentino, N. A., Vasilopoulos, P., & Foucault, M. (2019). Applying the theory of affective intelligence to support for authoritarian policies and parties. *Political Psychology*, 40, 109–139. <https://doi.org/10.1111/pops.12571>
- Maxmen, A., & Mallapaty, S. (2021). The COVID lab-leak hypothesis: What scientists do and don’t know. *Nature*, 594(7863), 313–315. <https://www.nature.com/articles/d41586-021-01529-3>
- Miller, J. M., Saunders, K. L., & Farhart, C. E. (2016). Conspiracy endorsement as motivated reasoning: The moderating roles of political knowledge and trust. *American Journal of Political Science*, 60(4), 824–844. <https://doi.org/10.1111/ajps.12234>
- Min, S. J. (2021). Who believes in conspiracy theories? Network diversity, political discussion, and conservative conspiracy theories on social media. *American Politics Research*, 49(5), 415–427. <https://doi.org/10.1177/1532673X211013526>
- Mittos, A., Zannettou, S., Blackburn, J., & De Cristofaro, E. (2020). “And we will fight for our race!” A measurement study of genetic testing conversations on Reddit and 4chan. *Proceedings of the International AAAI Conference on Web and Social Media*, 14(1), 452–463. <https://doi.org/10.1609/icwsm.v14i1.7314>
- Motta, M., Stecula, D., & Farhart, C. (2020). How right-leaning media coverage of COVID-19 facilitated the spread of misinformation in the early stages of the pandemic in the US. *Canadian Journal of Political Science/Revue canadienne de science politique*, 53(2), 335–342. <https://doi.org/10.1017/S0008423920000396>
- Mutz, D. C. (2002). Cross-cutting social networks: Testing democratic theory in practice. *American Political Science Review*, 96(1), 111–126. <https://doi.org/10.1017/S0003055402004264>

- Nissenbaum, A., & Shifman, L. (2017). Internet memes as contested cultural capital: The case of 4chan's/b/board. *New Media & Society*, 19(4), 483–501. <https://doi.org/10.1177/1461444815609313>
- Romer, D., & Jamieson, K. H. (2021). Patterns of media use, strength of belief in COVID-19 conspiracy theories, and the prevention of COVID-19 from March to July 2020 in the United States: Survey study. *Journal of Medical Internet Research*, 23(4), e25215. <https://doi.org/10.2196/25215>
- Schaffner, B. F., & Roche, C. (2016). Misinformation and motivated reasoning: Responses to economic news in a politicized environment. *Public Opinion Quarterly*, 81(1), 86–110. <https://doi.org/10.1093/poq/nfw043>
- Stecula, D. A., & Pickup, M. (2021). How populism and conservative media fuel conspiracy beliefs about COVID-19 and what it means for COVID-19 behaviors. *Research & Politics*, 8(1), 2053168021993979. <https://doi.org/10.1177/2053168021993979>
- Stroud, N. J. (2010). Polarization and partisan selective exposure. *Journal of communication*, 60(3), 556–576. <https://doi.org/10.1111/j.1460-2466.2010.01497.x>
- Stroud, N. J. (2011). *Niche news: The politics of news choice*. Oxford University Press.
- Talhelm, T., Haidt, J., Oishi, S., Zhang, X., Miao, F. F., & Chen, S. (2015). Liberals think more analytically (more “WEIRD”) than conservatives. *Personality and Social Psychology Bulletin*, 41(2), 250–267. <https://doi.org/10.1177/0146167214563672>
- Thompson, D. F. (2008). Deliberative democratic theory and empirical political science. *Annual Review of Political Science*, 11, 497–520. <https://doi.org/10.1146/annurev.polisci.11.081306.070555>
- Tsfati, Y., Boomgaarden, H. G., Strömbäck, J., Vliegenthart, R., Damstra, A., & Lindgren, E. (2020). Causes and consequences of mainstream media dissemination of fake news: Literature review and synthesis. *Annals of the International Communication Association*, 44(2), 157–173. <https://doi.org/10.1080/23808985.2020.1759443>
- U.S. Census Bureau. (2019). *Age and sex composition in the United States: 2019*. <https://www.census.gov/data/tables/2019/demo/age-and-sex/2019-age-sex-composition.html>
- van Prooijen, J. W., & Acker, M. (2015). The influence of control on belief in conspiracy theories: Conceptual and applied extensions. *Applied Cognitive Psychology*, 29(5), 753–761. <https://doi.org/10.1002/acp.3161>
- van Prooijen, J.-W., & Jostmann, N. B. (2013). Belief in conspiracy theories: The influence of uncertainty and perceived morality. *European Journal of Social Psychology*, 43(1), 109–115. <https://doi.org/10.1002/ejsp.1922>
- Vasilopoulos, P., McAvay, H., Brouard, S., & Foucault, M. (2023). Emotions, governmental trust and support for the restriction of civil liberties during the covid-19 pandemic. *European Journal of Political Research*, 62(2), 422–442. <https://doi.org/10.1111/1475-6765.12513>
- Vegetti, F., & Mancosu, M. (2020). The impact of political sophistication and motivated reasoning on misinformation. *Political Communication*, 37(5), 678–695. <https://doi.org/10.1080/10584609.2020.1744778>
- Weeks, B. E., & Garrett, R. K. (2014). Electoral consequences of political rumors: Motivated reasoning, candidate rumors, and vote choice during the 2008 US presidential election. *International Journal of Public Opinion Research*, 26(4), 401–422. <https://doi.org/10.1093/ijpor/edu005>
- Wong, Q. (2021). *Facebook removed more than 20 million posts for COVID-19 misinformation*. CNET. <https://www.cnet.com/tech/mobile/facebook-removed-more-than-20-million-posts-for-covid-19-misinformation/>
- World Health Organization. (2020). *Infodemic*. <https://www.who.int/health-topics/infodemic>
- Xiao, X., Borah, P., & Su, Y. (2021). The dangers of blind trust: Examining the interplay among social media news use, misinformation identification, and news trust on conspiracy beliefs. *Public Understanding of Science*, 30(8), 977–992. <https://doi.org/10.1177/0963662521998025>
- Ylä-Anttila, T., Eranti, V., & Hardwick, S. (2020). Going overboard: How ironic group style becomes political on an anonymous imageboard. *Social Media + Society*, 6(4), 2056305120969912. <https://doi.org/10.1177/2056305120969912>
- Zeng, J., & Schäfer, M. S. (2021). Conceptualizing “dark platforms”. Covid-19-related conspiracy theories on 8kun and Gab. *Digital Journalism*, 9(9), 1321–1343. <https://doi.org/10.1080/21670811.2021.1938165>