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Do conspiracy theories circulating in the media or their debunking affect people's trust in the media?

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Abstract

The COVID-19 pandemic has fostered an unprecedented number of conspiracy theories about the virus and the vaccine against the disease. Current research has tried to make sense of the effects of conspiracy narratives and debunking them in both mainstream and social media. However, the effect of such narratives or their debunking on media trust has not been investigated to date. By means of a 2×2 experimental design ($N = 945$) in Romania, we investigate how mainstream and social media content containing conspiracy theories about vaccination against COVID-19 and debunking them influence people's trust in both mainstream and social media. People's own beliefs in such narratives are used as moderators of these effects. Findings show that only the debunking content circulating in mainstream media decreases people's trust in both mainstream and social media, and only for people exhibiting high levels of belief in conspiracy theories, that is only when people are exposed to counter-attitudinal content. Implications for stakeholders are discussed.

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Keywords

conspiracy theories, debunking, mainstream media, media trust, social media

Résumé

La pandémie de Covid-19 a donné lieu à un nombre sans précédent de théories du complot sur le virus et le vaccin contre la maladie. Les recherches ont tenté de comprendre les effets des récits de conspiration et de les démystifier dans les médias grand public et sociaux. Toutefois, l'effet de ces récits ou de leur démystification sur la confiance dans les médias n'a pas encore été étudié. Au moyen d'un plan expérimental 2×2 (N = 945) en Roumanie, nous étudions comment les contenus des médias grand public et sociaux contenant des théories du complot sur la vaccination contre la Covid-19 et les démystifiant influencent la confiance des gens dans les médias grand public et sociaux. Les croyances des gens dans ces récits sont utilisées comme modérateurs de ces effets. Les résultats montrent que seul le contenu de démystification circulant dans les médias grand public diminue la confiance des gens dans les médias grand public et les médias sociaux, et uniquement pour les personnes ayant un niveau élevé de croyance dans les théories du complot, c'est-à-dire uniquement lorsque les gens sont exposés à un contenu contre-attitudinal. Les implications pour les parties prenantes sont discutées.

Mots-clés

confiance dans les médias, démystification, médias grand public, médias sociaux, théories du complot

Introduction

As previously documented, the COVID-19 pandemic has been surrounded by an impressive supply of dubious and conspiratorial media content circulating both online and offline. Large amounts of information about the virus, its risks and containment, vaccination and other protective measures were often found to be contradictory, incomplete, or downright false (Bond, 2020; European Council, 2021). In this context, most studies have explored the various effects that exposure to either reliable (i.e. factual) or problematic (i.e. misleading, conspiratorial) news messages can have on perceptions, attitudes, and behavior toward the correct life-saving measures people can take to reduce their risk, such as accepting a vaccine, among others (Jolley and Douglas, 2014; Loomba et al., 2021; Romer and Jamieson, 2021, etc.). However, far less research has been devoted to studying whether and to what extent the circulation of conspiracy stories undermines people's trust in the media (Jennings et al., 2021; Trent et al., 2022) and whether narratives that attempt to counter them might somehow foster a change in the (previously distorted) perception of a particular issue (Kvetanová et al., 2021), restoring trust in the media.

We argue that it is important to examine what might affect people's trust in the media, especially since media trust has been shown to be effective in regulating the negative

effects of the pandemic. Specifically, trust in both traditional and social media has been associated by prior research with information seeking tendencies, protective behavioral intentions, compliance with restrictions during the pandemic, and positive attitudes toward COVID-19 vaccination (Chou and Budenz, 2020; Mohammadi et al., 2020; Samal, 2021).

In this study, we aim to see whether conspiracy theories about vaccines and narratives that attempt to debunk such theories (i.e. to clarify the primarily false information presented by them) have an effect on people's trust in the media (both traditional media outlets and social networking sites – SNS). Investigating the relationship between media trust and specific media discourse related to COVID-19, such as conspiracy versus denial narratives, can provide a basis for understanding people's attitudes toward compliance with public authorities' pandemic recommendations and, in particular, toward vaccine refusal. In this sense, our findings could contribute to informed solutions that stakeholders responsible for designing and implementing collective protection measures for citizens can rely on in future crisis situations. We are also interested in studying whether and to what extent it matters how people receive information that counters conspiracy content (e.g. in the form of an online newspaper article which we used as a proxy for mainstream media) versus in the form of a Facebook post (which we used as a proxy for SNS). By mainstream or traditional media outlets we mean TV, radio and online newspapers, and by SNSs we mean social platforms such as Facebook and instant messaging platforms. In addition, we test whether people's beliefs about such conspiracy narratives moderate these effects.

We define conspiracy theories in line with Jolley and Douglas (2014) and conceive them as narratives that associate mysterious groups of people and secret plots with far-reaching events. Such narratives provide a 'proposed explanation of events' (Uscinski et al., 2020) that is typically based on the categorization of the Other – a secret, all-powerful group or groups of people who cover up information to suit their own interests (Jolley and Douglas, 2014) or pursue a malevolent purpose against the common good (Barkun, 2003).

Our research shows that conspiracy narratives do not necessarily lead to decreased trust in traditional media or SNS. However, news stories that debunk conspiracy narratives do appear to lead to lower levels of trust in both traditional media and SNS, but only when in the form of online news article and only for people holding conspiracy beliefs about the pandemic. This might imply that the effect could in fact be attributed not only to the counter conspiracy narratives, but also (or maybe mainly) to being exposed to counter-attitudinal content. We discuss these results and their various implications within the context of the COVID-19 pandemic.

Theoretical framework

Different effects for different types of media

The unidirectional flow of information from news media organizations, usually referred to as traditional or mainstream media, to audience members has left little room for participation in the creation or dispersal of information about politics or public affairs

(Chadha et al., 2012; Goode, 2009). This gradually changed due to the widespread use of the Internet and social media, providing citizens with new opportunities to actively engage in the process of user-generated content and citizen journalism, while offering real-time information sharing (Ardèvol-Abreu and Gil de Zúñiga, 2017).

The plethora of parallel news sources, the rise of the partisan media countering the traditional media as untrustworthy, and social networks providing multiple channels through which political and social figures can reach the public are just some of the many challenges facing traditional news media (Strömbäck et al., 2020; Van Aelst et al., 2017). During the pandemic, people relied heavily on the media for health-related information. Previous studies (Ali et al., 2020; Wu and Shen, 2022) indicated traditional media as the media people trusted the most during the COVID-19 public health crisis. COVID-related behaviors may differ depending on reliance on particular traditional media, with polarization of these media reflected in politically motivated messaging around the pandemic topic (Zhao et al., 2020), affecting perceived risk of infection and behavioral changes needed to mitigate the risk. In addition, social media has been shown to be effective in supporting behavior change (Strömbäck et al., 2020). At the broadest conceptual level, there is significant consensus that people turn to social media to acquire information and exchange opinions in crisis situations (Fawzi et al., 2021; Jolley et al., 2020).

In the process of shifting from social media used by citizens to obtain information and exchange views in crisis situations to public authorities that have to provide official guidance, public communication requirements must be firmly anchored in public trust in these institutions (Xu, 2018). Following these statements, the role of the media trust variable in the psychological and behavioral responses to the COVID-19 pandemic was highly documented (Jennings et al., 2021; Mohammadi et al., 2020; Strömbäck et al., 2020; Wu and Shen, 2022). Throughout this article, we look at the possible main effects and moderation effects for both mainstream media and social media, suspecting, as literature suggests, that there are notable differences between the two.

Media trust and infodemic-related conspiracy theories

Media trust, often used interchangeably with media credibility, defines the degree to which the media is perceived as trustworthy by the public (Tsfati, 2010; Vos et al., 2019). At both the individual and societal levels, trust in media reflects an individual's willingness to be vulnerable to media products as it is based on the expectation that they will perform, (1) satisfactorily for the individual and/or (2) in line with the dominant norms and values perceived in society (Fawzi et al., 2021).

Need for Cognition (NFC) and news engagement are two other variables that may influence media trust. NFC is a personality trait, described as a psychological construct (Dole and Sinatra, 1998) that measures motivation to process a message related to individual's need to stay informed (Su et al., 2021). News engagement reflects the means by which audiences consume and participate in the news for either personal or social purpose (Ha et al., 2018; Park et al., 2021). A conceptual model for the relationship between NFC, news engagement, and news trust constructed for social media platforms was developed (Kožuh and Čakš, 2021) examining the mediating effects of news engagement on the relationship between the NFC and news trust. According to the model, the lower

the NFC and the more prior knowledge social media users have about COVID-19, the more likely they think social media news includes all the essential facts about COVID-19 (Kožuh and Čakš, 2021).

In the pandemic context, certain factors can influence media trust and people's media trust behaviors, media polarization being one of them. Despite being accepted as a global public health crisis by healthcare professionals, the relevance of the topic has become part of an ongoing polarized debate, resulting in news coverage that promotes partisan narratives on COVID-19 (Zhao et al., 2020). In spite of an extensive literature investigating how certain variables could influence trust in the media, to date little attention has been paid to conspiratorial content circulating in both mainstream and social media.

Although most people perceive the news media as 'critical' or 'very important' to democracy, a high percentage find conspiratorial bias in news coverage increasingly problematic (Ardèvol-Abreu and Gil de Zúñiga, 2017; Gallup/Knight Foundation, 2020). Trust in both traditional and social media has been associated with information seeking tendency, protective behavioral intention and attitudes toward COVID-19 vaccination (Chou and Budenz, 2020; Samal, 2021). Despite the availability of anti-COVID-19 vaccines, population-wide support for vaccination remains quite difficult to obtain in many countries and therefore reluctance or refusal to vaccinate threatens to reverse the progress already made in the fight against vaccine-preventable diseases (Carrieri et al., 2019). The infodemic that has been woven around a number of conspiracy theories can have a negative effect on vaccine acceptance among individuals who widely spread vaccine hesitancy (Samal, 2021). From that COVID-19 was a hoax to the dichotomy that it was deliberately engineered, from that the pandemic reflects the malign actions of either the Chinese government or the pharmaceutical industry, or that COVID-19 is a pretext for a mass vaccination program to that the new coronavirus is caused by 5G electromagnetic radiation, since the start of the pandemic, a plethora of conspiracy theories have flourished around the world, being massively propagated on social media (Grimes, 2021).

While supporting unprecedented capacity of communication between individuals, social media has also been a major factor in the rise of fringe views that threaten public health (Wilson and Wiysonge, 2020). The social media ecosystem has been identified (Jennings et al., 2021; Nuzhath et al., 2020; Shin, 2022) as primarily responsible for dispersing disinformation and conspiracy theories. Despite the fact that they can often generate a sense of shared community, create the aggregate opportunity to question the credibility of governments, and inspire collective action and attempts at social change (positive effects) (Franks et al., 2017), conspiracy narratives can lead to feelings of powerlessness, uncertainty, anomie and distrust (Jolley et al., 2020) and can culminate, as during the current pandemic, in reduced vaccination intentions (Chou and Budenz, 2020; Jennings et al., 2021; Ullah et al., 2021). A growing body of research (Bertin et al., 2020; Jolley and Douglas, 2014; Yang et al., 2021) suggests that conspiracy theories that proliferate on social media can have negative consequences for vaccination intention and behavior. Regarding the relation between belief in conspiracy narratives and societally important attitudes, current research (Pummerer et al., 2022) has reached findings relevant to sustaining declines in institutional trust and support for governmental regulations among individuals who believe in and are confronted with COVID-19 conspiracy theories.

The many effects of conspiracy narratives on individuals vary widely, from distrust of experts and authorities to reduced willingness to engage in society's joint efforts to fight the pandemic through compliance with protective measures and acceptance of vaccination (Pummerer et al., 2022), from compulsive behaviors helping individuals to regain a sense of security and control (Arafat et al., 2020) to pseudoscientific preventive practices of using, for example, alternative remedies such as homeopathy or essential oils against the virus (Lobato et al., 2014; Teovanović et al., 2021); from exacerbated need-to-know to media skepticism (Su et al., 2021). However, current research has not investigated the extent to which these conspiracy narratives effects might actually either reduce or increase media trust, depending on whether or not people believe these narratives.

In this context, we aim at analyzing the relationship between conspiracy narratives about the COVID-19 vaccination and media trust. While previous studies show that trust in media can predict behaviors related to the health communication process (Lin and Bautista, 2016; Wu and Shen, 2022), in this study, we seek to see to what extent misleading content during a crisis could lead to decreasing or increasing levels of trust in both mainstream and social media:

RQ1. How do conspiracy narratives about vaccination circulating in the media influence people's trust in the media (both mainstream and social media)?

RQ2. How does the type of media outlet that foster conspiracy narratives about vaccination influence people's trust in the media (both mainstream and social media)?

If such an effect does in fact exist, then it could be argued that perhaps the direction of the effect or its strength depend to a higher extent on people's belief in such conspiracy narratives about vaccination. Even though belief in conspiracy theories has been previously investigated in the COVID-19 context, to our knowledge, this variable has only been used as predictor, for example of vaccine hesitancy (McCarthy et al., 2022; Nuzhath et al., 2020; Ullah et al., 2021) or compliance with restrictive measures (Corbu et al., 2021; Freeman et al., 2022; Murphy et al., 2022), or as a dependent variable, with the purpose of understanding its predictors (Buturoiu et al., 2021a; Jennings et al., 2021; Tonković et al., 2021; Uscinski et al., 2020). In this study, we investigate whether belief in conspiracy theories about vaccination in the COVID-19 context could moderate the effect of conspiracy narratives circulating in the media on media trust:

RQ3. To what extent do people's belief in conspiracy narratives about vaccination moderate the effect of such narratives on media trust?

Debunking COVID-19 conspiracy narratives

Substantial amount of previous research has found that higher levels of attachment to conspiracy beliefs correlate negatively with levels of prevention and vaccination behaviors (Jennings et al., 2021; Nuzhath et al., 2020; Qiao et al., 2020; Romer and Jamieson, 2021;

Ullah et al., 2021). Such negative effects could be countered through debunking strategies. Misinformation and falsehoods (myths, conspiracy theories, and misconceptions) about the COVID-19 pandemic and vaccines have made their way into social media and beyond, forcing governmental authorities and medical experts to fight back by using debunking or denial narratives. Debunking is commonly understood as 'showing the wrongness of a thing or concept', while the semantic core of the phrase 'debunking conspiracy theories' is based on the idea that such theories are not only wrong but must be shown to be wrong (Dentith, 2021). Attempting to correct such narratives that continue to circulate in the digital environment and beyond may prove a difficult task as previous research has shown (Wood, 2016), given the multiple variables involved. Endorsement of conspiracy theories is more likely for conspiratorial account content than for debunking account content and this effect is stronger when the news comes from independent rather than mainstream sources (Mancosu and Vegetti, 2021).

However, the success of conspiracy theories is hard to be broken, and debunking strategies seem to be successful only to people with particular characteristics. Media content that reinforces conspiracy theories has proven to be more viral than stories that debunk them or take a neutral stance (Papakyriakopoulos et al., 2020). Although men are more likely to propagate and debunk conspiracy posts than women, these posts have a lower degree of user engagement compared to content from women, influencers and scientists cited (Chen et al., 2020). Furthermore, individuals with higher need for cognition manifest a higher tendency to process COVID-19-related media content more carefully and analytically and would be more likely to respond to debunking content regarding conspiracy theories revolving around COVID-19 (Su et al., 2021). In contrast, analyses have found low levels of effectiveness of debunking content when targeting individuals with a high a priori belief in misinformation (Helfers and Ebersbach, 2023).

Following previous findings focusing on investigating the impact of the spread and consumption of misinformation on distrust in the media (Jennings et al., 2021; Qiao et al., 2020), we propose that further research is needed on the relationship between conspiracy theory debunking and media trust. In order to investigate the extent to which debunking conspiracy narratives about vaccination circulating in the media can influence people's trust in the media, we investigate,

RQ4. How do debunking conspiracy narratives about vaccination circulating in the media influence people's trust in the media (both mainstream and social media)?

RQ5. How does the type of media outlet that foster information debunking conspiracy narratives about vaccination influence people's trust in the media (both mainstream and social media)?

As with content related to conspiracy narratives, we also investigate whether belief in conspiracy theories moderate these effects:

RQ6. To what extent do people's belief in conspiracy narratives about vaccination moderate effects of debunking such narratives on media trust?

Method

The design of this study relies on a 2 × 2 between-subjects experiment, with a control condition, in which we manipulated a news story from the point of view of the format of the content (online article vs Facebook post) and the content itself (framed using conspiracy narratives and counter–conspiracy narratives; see Table 1). The story concerned the COVID-19 vaccination, framed as either to support or to discourage vaccination (see Supplementary Appendix 1). People in the control condition were not exposed to any type of stimuli. The design and all materials used in this research were approved by the Ethics Committee of National University of Political Studies and Public Administration (SNSPA).

Sample

The data were collected in Romania by Daedalus New Media Research, using an online panel (N = 945), using quotas for gender, age, and geographical region. The sample has the following characteristics: age (M = 43.11, SD = 13.08), education (47.3% low education, 13% medium education, 39.7% high education), residence (81.9% urban areas; see Supplementary Appendix 2 for socio-demographics by condition). Data were collected in 1–9 April 2021. As context, on 31 March 2021, Romania had just passed the threshold of two millions of vaccinated people with at least one dose. In Romania, there were four approved vaccines at the time (Pfizer/BioNTech, Moderna, Oxford/AstraZeneca, and Johnson and Johnson).

Procedure

The questionnaire had the typical structure of an experiment embedded questionnaire, consisting of informed consent, moderators, control variables, random assignment to the stimuli or control condition, manipulation checks, and dependent variables (in this order). Randomization checks showed a good assignment to the five conditions: randomization was successful with concern to gender ($F_{4,940} = 0.06$, $p = 0.99$), education ($F_{4,940} = 0.18$, $p = 0.95$), age ($F_{4,940} = 0.14$, $p = 0.97$), frequency of going to the church ($F_{4,940} = 0.55$, $p = 0.70$), and perceived incidence of fake news about COVID-19 vaccination ($F_{4,940} = 0.32$, $p = 0.86$). A debriefing part was added at the end of the questionnaire.

Table 1. Experimental conditions.

	Online article	Facebook post
Conspiracy narrative	N = 191	N = 192
Counter–conspiracy narrative	N = 191	N = 193

Control condition (N = 178).

Stimuli

The stimuli were constructed as news stories: either an online newspaper story or a Facebook post sharing the same online newspaper story (the post suggested a high engagement with the post (see Supplementary Appendix). The content referred to the vaccination against COVID-19 disease, using a narrative suggestive of conspiracy theories (the virus was purposefully created in a laboratory, the vaccination could be interpreted as a mass manipulation experiment, vaccines could have severe side effects) or a narrative debunking all these elements.

Manipulation checks

Manipulation checks showed the stimuli were perceived as intended. We used four variables to this end, to check each characteristic of the factorial design: First, for the format of the information, people exposed to the Facebook post remembered that the format was typical for social media (as opposed to the people exposed to the online news article; $F_{1,765} = 151.35$, $p < 0.01$). ANOVA was applied to two groups, one formed of the two conditions for which the stimuli was a Facebook post, and one of the two conditions for which the stimuli was an online article. Then, the next three items verified the three claims built using either a conspiracy narrative or a counter–conspiracy narrative. All of them were embedded in the narrative of the news story used as manipulation. Thus, the differences between conditions were tested for the following items: 'The news story tackles vaccination as a solution to the pandemic' ($F_{1,765} = 80.36$, $p < 0.01$) – 'The news story tackles the very serious effects of vaccination including autism' ($F_{1,765} = 210.72$, $p < 0.01$) – 'The news story confirms that the virus was manufactured in a lab' ($F_{1,765} = 190.92$, $p < 0.01$). To test the differences, we measured the difference between people in the two conditions containing conspiracy narratives and the group of people in the two conditions containing counter–conspiracy narratives.

Supplementary Appendix 5 reports descriptives of all four manipulation check variables, by condition. In addition, we applied One-Paired t-test to assess to what extent people in each condition responded to the manipulation checks significantly different from the middle of the scale (3) (Supplementary Appendix 6). There are two exceptions to the $p < 0.01$ significance level test: people exposed to conspiracy narratives in both article and FB post forms did not respond significantly different from the middle of the scale to the variable measuring whether the news story tackled vaccination as a solution to the pandemic. However, those exposed to counter-narratives felt that the article had this effect to a significantly greater extent than in the middle of the scale. To make sure the pairs of conditions exposed to the same kind of content (through FB and online article respectively) significantly differed from each other with regard to this particular manipulation check variable, we further confirmed the *t*-test significant difference between each two conditions ($t(191) = 7.8$, $p < 0.01$ for conspiracy narratives two conditions; $t(190) = 8.5$, $p < 0.01$ for counter–conspiracy two conditions).

Measures

Dependent variables

Trust in mainstream media was measured using a four items scale, each item measured on a 7 points Likert-type scale, from '1' totally distrust to '7' totally trust. The wording of each question was 'I trust information coming from . . .' (TV programs, printed and online newspapers, radio, official sites (such as OMS and Ministry of Health). The four items loaded on one factor, with loadings from 0.689 to 0.893 ($\alpha = 0.849$, $M = 3.42$, $SD = 1.37$). Descriptives of trust of each type of media are given in Supplementary Appendix 3.

Trust in SNS was measured using three items, measured on a 7 points Likert-type scale, from '1' totally distrust to '7' totally trust information coming from online social networks such as Facebook, Twitter, and Instagram, from instant messaging platforms such as WhatsApp and Facebook messenger, from various online sources (other than official sources). The three items formed one factor, with loadings from 0.849 to 0.919 ($\alpha = 0.875$, $M = 2.55$, $SD = 1.31$). Descriptives of trust of each type of social media are given in Supplementary Appendix 3.

Moderators

Belief in conspiracy theories was measured with a battery of 7 items, evaluated from '1' completely false to '7' completely true. The wording referred to people's beliefs about seven statements regarding vaccination such as 'Data about vaccines safety are often fabricated', 'Pharmaceutic companies withhold the dangers associated with vaccination', and 'People are duped about the vaccines safety'. Items loaded on one factor, with loadings from 0.818 to 0.892 ($\alpha = 0.939$, $M = 3.68$, $SD = 1.76$). Full scale and descriptives for each item are given in Supplementary Appendix 4.

Findings

Main effects were measured using Ordinary Least Squares (OLS) regressions. Andrew F. Hayes' PROCESS macro for SPSS was used for the moderation analysis.

Findings show that conspiracy narratives do not lead to lower trust in either mainstream or social media. However, counter conspiracy narratives lead to lower levels of trust in both mainstream ($b = -0.285$, $p < 0.05$) and social media ($b = -0.337$, $p < 0.05$), but only when in the form of online news story (social media post did not lead to significant effects). Even if there were no other significant effect, there is a trend that maybe needs further investigation: all four types of content lead to lower levels of trust in both mainstream media and social media (see Table 2).

The fact that only the online article containing counter–conspiracy narratives yielded significant effects shows that people are still more influenced by mainstream media in what concerns COVID-19-related information. However, the direction of the influence is somewhat surprising, as debunking information seems to have a boomerang effect. One possible explanation could be that people score relatively high on the conspiracy

Table 2. Descriptives of trust in mainstream media and social media, by condition (scale from '1' total distrust to '7' total trust).

Experimental groups		Trust mainstream media	Trust SNS
Facebook – conspiracy narratives	Mean	3.43	2.52
	N	192	192
	Standard deviation	1.40	1.39
Online article – conspiracy narratives	Mean	3.48	2.53
	N	191	191
	Standard deviation	1.36	1.23
Facebook – counter conspiracy narratives	Mean	3.35	2.57
	N	193	193
	Standard deviation	1.34	1.39
Online article – counter conspiracy narratives	Mean	3.29	2.41
	N	191	191
	Standard deviation	1.42	1.20168
Control group (no stimulus)	Mean	3.58	2.75
	N	178	178
	Standard deviation	1.34	1.29

SNS: social networking sites.

beliefs about vaccination scale (M = 3.68, SD = 1.76). This is the reason why we further investigated the moderator role of such beliefs.

We used Andrew F. Hayes' PROCESS macro for SPSS to test the moderation effect. To test whether people's own beliefs about vaccination moderate the effect of the counter–conspiracy narratives in the form of an online article, we run hierarchical regression models in which in the first bloc we entered all experimental groups (except the control group) and the conspiracy beliefs variable, and in the second, we added the interaction term between the condition (dummy variable) using the stimuli of a counter–conspiracy narrative in the form of an online news story and conspiracy beliefs holds by respondents. Results in Table 3 show a significant increase of $\Delta R^2 = 0.004$ for mainstream media and $\Delta R^2 = 0.008$ for SNS.

Results show that the effect disappears once the belief in conspiracy theory is considered, but only for people scoring low for conspiracy beliefs, and is stronger for people scoring high on the conspiracy scale. In Figure 1, it is shown that people scoring low on conspiracy beliefs, have actually higher levels of trust in mainstream media that those who score high, and also the level of trust in the media is identical in the experimental condition and in the control condition. This helps understanding the main effects: exposure to counter–conspiracy narratives marginally lower trust in mainstream media, but only for those people who already strongly believe in conspiracy narratives. For people who do not believe, the effect disappears.

A somewhat similar pattern regarding the moderation effect happens for trust in SNS, with clearer significant effects for people who believe in conspiracy theories. The effect does not occur for people who do not believe in conspiracy theories about vaccination.

Table 3. Effect of interaction between belief in conspiracy theories and counter–conspiracy narrative as an online article.

	Trust in mainstream media				Trust in SNS			
	Block 1		Block 2		Block 1		Block 2	
	B	SE	B	SE	B	SE	B	SE
(Constant)	4.408	0.133	4.321	0.140	2.420	0.131	2.293	0.138
FB – conspiracy narratives	−0.157	0.137	−0.154	0.137	−0.189	0.136	−0.185	0.135
Online article – conspiracy narratives	−0.047	0.137	−0.047	0.137	−0.156	0.136	−0.155	0.136
FB – counter conspiracy narratives	−0.059	0.138	−0.067	0.137	−0.142	0.136	−0.154	0.136
Online article – counter–conspiracy narratives	−0.214	0.137	0.211	0.261	−0.317*	0.136	0.304	0.258
Belief in conspiracy theories	−0.238***	0.024	−0.214***	0.027	0.081**	0.024	0.116***	0.027
Belief in conspiracy theories × online article counter–conspiracy narratives			−0.115+	0.060			−0.168**	0.060
ΔR^2	0.004***				0.008***			
Total R^2	0.101				0.026			

SNS: social networking sites; SE: standard error.
*$p < 0.5$; **$p < 0.01$; ***$p < 0.001$

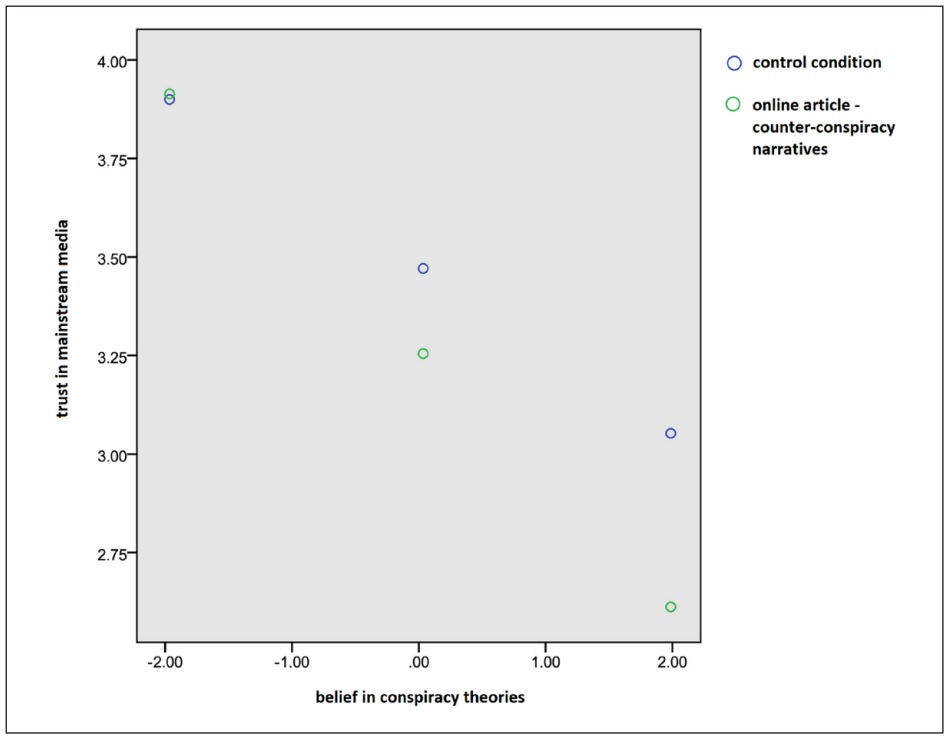

Figure 1. Moderation effect of belief in conspiracy theories (main effect on trust in mainstream media).

In Figure 2, the level of trust in social media platforms is similar in the two groups, while a significant difference can be observed between the experimental and the control conditions. However, there is a clear difference, when compared with trust in mainstream media: trust in SNS is higher for believers in conspiracy theories – at least in the control condition – than for nonbelievers in general (whereas for mainstream media, trust is higher for nonbelievers, but can be lowered by counter–conspiracy narratives).

Summing up, there is a significant main effect of counter–conspiracy narratives circulating in both mainstream media and SNS on trust (such narratives lower trust in both types of media), but only for those people who believe in conspiracy theories. No other effects have been found.

Discussion and conclusion

As previous research shows, trust in authorities and the media can have important positive effects on people's willingness to obey the legislation and adopt restrictive measures enforced by governments in times of (health) crisis (Quinn et al., 2013; Van der Weerd et al., 2011). Therefore, nurturing and maintaining a high level of trust in the media, especially in the traditional or mainstream media (which, as previously shown, appears

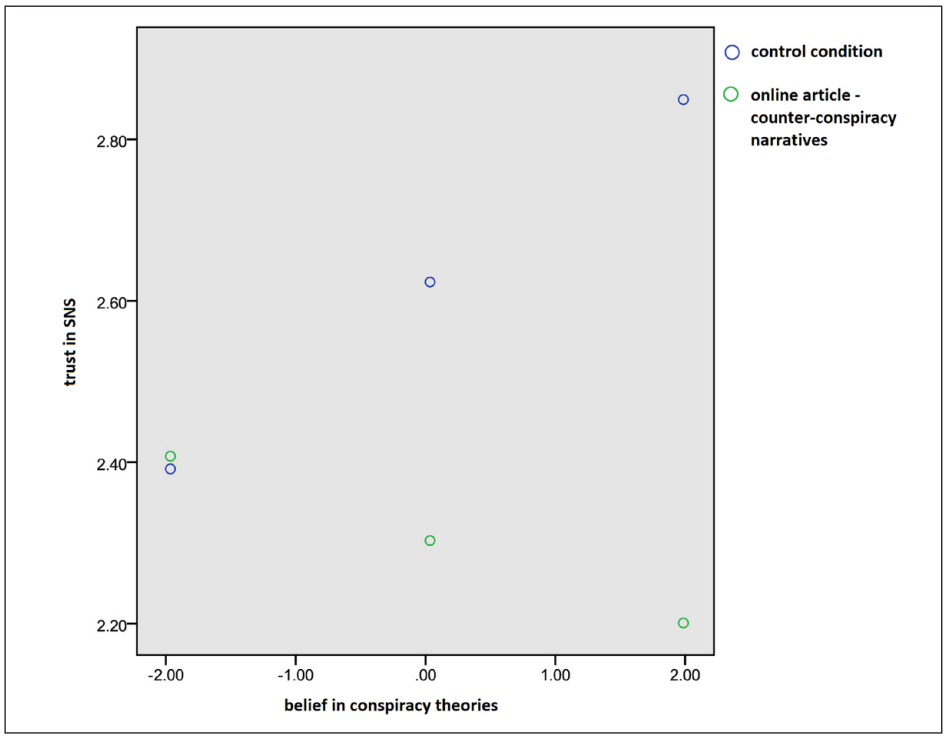

Figure 2. Moderation effect of belief in conspiracy theories (main effect on trust in SNS).

to be perceived as a more reliable source of information than social media), seems to be crucial in times of crisis for the effective management of situations such as the COVID-19 pandemic. In this regard, it is important to understand what may influence trust in the media in the short term in a context such as that fostered by the COVID-19 pandemic. Such results could provide evidence-based solutions for decision makers who are in key-positions for developing and implementing measures to ensure the safety and protection of people.

Building on the above, in this article, we investigate how conspiracy versus counter–conspiracy narratives about vaccination circulating in the media influence people's trust in both mainstream media and social networking sites (RQ1, RQ4). Equally, we are interested in whether and how the type of media outlet (e.g. online article vs Facebook post) that fosters conspiracy versus information debunking conspiracy narratives about vaccination influences people's trust in both mainstream media and SNS (RQ2, RQ5). Finally, we seek to understand how the effects of conspiracy versus denial on trust in the media are moderated by people's prior beliefs about conspiracy narratives about vaccination (RQ3, RQ6).

Overall, our results provide evidence that conspiracy narratives do not necessarily lead to decreased trust in traditional media or SNS. However, news stories that debunk

conspiracy narratives do appear to lead to lower levels of trust in both traditional media and SNS, but only when in the form of online news, and only for people holding conspiracy beliefs. This could suggest that the effect might be attributed to counter-attitudinal content related to conspiracy theories about COVID-19 pandemic. The same effect is not significant for the news in the form of Facebook post. One possible explanation could be that, when confronted with news debunking conspiracy narratives about vaccination, especially outside the SNS (usually associated with a great proliferation of false and misleading information – see European Council, 2021), people may feel that media news, including from mainstream media, revolves around the same old themes and patterns – that is, everything about the pandemic is ambiguous, questionable, unclear. Therefore, not much can be understood from any media about this sensitive topic. However, when confronted with dubious information in the social media realm, people may be neither surprised nor tempted to relate this to a general distrust in the media. Given that people tend to trust less the information received through social media (Gandhi, 2021; Jurkowitz et al., 2020), they may be also likely to have little expectations of the accuracy of a COVID-19-related story shared on Facebook (regardless of its possible conspiratorial nature). While this insight requires further investigation, we believe it provides useful explanations for our particular result that there is no significant effect of conspiracy news in the form of a Facebook post on people's trust in the media. Going further, we could speculate that the decline in people's trust in Facebook and the content available on the platform might suggest another interesting outcome, that is, that news shared on Facebook, however fake or conspiracy-based, might have a much less significant impact on users than news disseminated on traditional types of media. As far as Romania is concerned, this situation (if supported by future empirical studies) could be of major importance, as Facebook is currently the most used social media platform in Romania (NapoleonCat, 2023). In contrast to our research, recent studies suggest that exposure to false information in the media might lower trust in news in general (Altay et al., 2023) or in mainstream media (Lee et al., 2023; Ognyanova et al., 2020). However, to date most research on this topic is US centered, which provides an entirely different media and political context. We argue that results of this nature are bound to the particular context of the country in which they are conducted, as well as the topic in this general context, and we provide insightful information related to the COVID-19 pandemic in an East–European country.

At the same time, the fact that only the online article containing counter–conspiracy narratives had a significant effect on people's trust in the media shows that people are still more influenced by traditional media when it comes to COVID-19 news (which has a great potential in informing their subsequent opinions and behaviors). This is in line with recent studies providing empirical support for an increased popularity of mainstream media (including newspapers and television) as important sources of information during the pandemics (Ali et al., 2020; Sallam et al., 2021). Nevertheless, the direction of influence is somewhat surprising, as the debunking information (designed to counter misleading, conspiratorial content with true, verified, factual information) seems to have a boomerang effect. We relate this effect to the relatively high score that our respondents display on the conspiracy beliefs about vaccination scale, which might suggest that such effects could be attributed to counter-attitudinal content related to people's convictions

about the pandemic (which most often come in the form of conspiracy theories). This is supported by other studies showing that many Romanians tend to give credence to various conspiracy-based theories (such as that the COVID-19 pandemic was specifically created to inoculate people with a microchip through vaccination which, according to INSCOP Research (2021) holds true for one in three Romanians).

Considering Romanians' propensity to believe in conspiracy narratives already emphasized by previous research (Buturoiu et al., 2021b) and supported by our findings, we further investigated the moderating role of these beliefs, that is, we asked ourselves to what extent people's predispositions to believe such theories shape the influence these narratives have on their trust in the media. On this line, results show that when one does not believe in conspiracy theories, this effect is totally absent for people who were exposed to counter conspiracy narratives about COVID-19. However, for those who already hold strong conspiracy beliefs, the exposure to counter–conspiracy narratives in the form of an online article decreases trust in mainstream media. This pattern remains quite similar for people's trust in SNS, that is, no moderation effect is visible for those who do not believe in conspiracy claims about vaccination. Nevertheless, for people who do believe in conspiracy theories, trust in SNS decreases when people are exposed to counter conspiracy news shared as a Facebook post. A very interesting difference arises between respondents' trust in mainstream media versus SNS: for traditional media, trust is higher for people who disbelieve conspiracy theories, but it decreases with exposure to debunking narratives; for SNS, trust is higher for those who believe in conspiracies, but it can also be lowered by exposure to debunking content. One possible explanation for this could be related to the fact that, as already discussed earlier, the content that is conspiratorial in nature tends to circulate more in the digital media environment, being more often associated with social media networks than with mainstream media news. Another possible explanation refers to people's tendency to resist information and/or knowledge that is not consonant with pre-existing views and beliefs (Glüer and Wikforss, 2022). This, as scholars show, increases the risk of holding on to one's misperceptions, even when media outlets provide correct, empirically based information (Kvetanová et al., 2021; Strömbäck et al., 2022). In other words, we suggest that when the huge amount of information that is available in high-choice media environments aligns with people's former (conspiratorial) beliefs and values, efforts to correct it might be less successful, thus leading to decreased trust in the debunking source.

Based on our findings, there are some practical implications and recommendations that we would like to discuss in order to encourage and support better public responses to the COVID-19 and potential future crises in Romania. To this end, we argue that people's perceptions of and attitudes toward the COVID-19 pandemic, as well as their specific reactions to it – such as openness or reluctance to follow protective rules established for both personal and social good (e.g. wearing a mask, keeping social distance, taking a vaccine, etc.) are not necessarily fixed or static. Rather, they are constantly being challenged and profoundly influenced by current media information on the evolution of the epidemic in the context of the emergence of new strains of the virus, by the danger of contracting the disease, by the risks arising from immunization or the available vaccines, and so on. In this respect and in line with the results emphasized by this study, we argue that better public responses to the ongoing crisis can be achieved by exposing people to

factual, informative news stories aimed at helping them understand more of the problematic times they are facing. This is why we believe that journalists and other media actors should carefully check the details behind the news they cover to avoid spreading misinformation and conspiratorial content, as debunking, rather than correcting, can sometimes be counterproductive and reinforce (previous) mistaken beliefs (Tsfati et al., 2020). A key point here is that repetition enhances visibility and familiarity with the news fostering a 'familiarity backfire effect' (Cook and Lewandowsky, 2011), which can lead to increased credibility (Dechêne et al., 2010; Sude and Knobloch-Westerwick, 2022). Thus, even though the purpose of the media covering conspiracies may be to expose them, they may instead contribute to the dissemination and amplification of such information (Tsfati et al., 2020). Following this reasoning and considering the fairly high level of Romanians' beliefs in conspiracy narratives about the pandemic, we argue that even the mere attempt to debunk such narratives can have a boomerang effect, in the sense that it only affects people holding conspiracy beliefs, and it only decreases their trust in the media. This, as argued earlier, is also supported by people's tendency to resist knowledge and avoid information or evidence that challenges their deep-seated beliefs (Strömbäck et al., 2022). Therefore, people disbelieving conspiracy narratives will not necessarily be affected by such debunking attempts, whereas people holding high levels of personal belief in such stories will lose trust in the media for questioning attitude-compliant information, that is, information that is usually perceived as more credible, satisfying, reassuring, and self-protective (Sude and Knobloch-Westerwick, 2022).

In what future research is concerned, we believe that future studies should focus on understanding other possible explanations for the decline in citizens' trust in the media when exposed to content that attempts to debunk conspiracy theories. For example, it should be examined whether the effects of decreasing trust in the media are not mediated by a very high level of uncertainty created by the very wide circulation of these conspiracy theories. Unfortunately, we did not measure this, which is a limitation of the research. In addition, results are bound to the Romanian context, and the content of the stimuli we used in this experiment, which is a limitation, but also a strength of the research, as it shed light on how conspiracy content works in a political and media context never investigated before in this regard, namely Romania. Therefore, the need for future comparative research investigating the effects that conspiracy theories about COVID-19 vaccines and narratives that attempt to debunk such theories may have on people's trust in both traditional media and SNS cannot be overemphasized. We also acknowledge the fact that the manipulations checks, though significant, were not as powerful as we hoped; this is the reason why we provided extensive explanations about them in both the Manipulation checks section and the Supplementary Appendix. However, we believe this does not affect the validity of the study. Further studies could also look into other types of stimuli (different format, different narrative) or design in order to refine the results we have provided here.

Summing up, this study suggests that conspiracy narratives circulating in the media in a country in which people already hold high levels of conspiracy beliefs does not affect trust in either mainstream or social media. However, content that contain counter–conspiracy narratives and is circulated through mainstream media influences people's trust in both mainstream and social media, but only those people that already hold conspiracy

beliefs. This might support an argument that in fact counter-attitudinal content decreases people's trust in the media, at least when the content is related to conspiracy narratives, like those that highly circulated during the COVID-19 pandemic.

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Supplemental material

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References

Ali SH, Foreman J, Tozan Y, et al. (2020) Trends and predictors of COVID-19 information sources and their relationship with knowledge and beliefs related to the pandemic: Nationwide cross-sectional study. *JMIR Public Health and Surveillance* 6(4): e21071.

Altay S, Lyons B, Modirrousta-Galian A (2023) Exposure to higher rates of false news erodes media trust and fuels skepticism in news judgment. Available at: https://psyarxiv.com/t9r43/

Arafat SMY, Kar SK, Marthoenis M, et al. (2020) Psychological underpinning of panic buying during pandemic (COVID-19). *Psychiatry Research* 289: 113061.

Ardèvol-Abreu A, Gil de Zúñiga H (2017) Effects of editorial media bias perception and media trust on the use of traditional, citizen, and social media news. *Journalism & Mass Communication Quarterly* 94(3): 703–724.

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

Bertin P, Nera K, Delouvée S (2020) Conspiracy beliefs, rejection of vaccination, and support for hydroxychloroquine: A conceptual replication-extension in the COVID-19 pandemic context. *Frontiers in Psychology* 11: 565128.

Bond S (2020) 'The perfect storm': How vaccine misinformation spread to the mainstream. Available at: www.npr.org/2020/12/10/944408988/the-perfect-storm-how-coronavirus-spread-vaccine-misinformation-to-the-mainstrea (accessed 3 March 2022).

Buturoiu R, Udrea G, Dumitrache AC, et al. (2021a) Media exposure to conspiracy vs. anti-conspiracy information. Effects on the willingness to accept a COVID-19 vaccine. *Central European Journal of Communication* 14(2): 237–258.

Buturoiu R, Udrea G, Oprea D-A, et al. (2021b) Who believes in conspiracy theories about the COVID-19 pandemic in Romania? An analysis of conspiracy theories believers' profiles. *Societies* 11(4): 138.

Carrieri V, Madio L, Principe F (2019) Vaccine hesitancy and (fake) news: Quasi-experimental evidence from Italy. *Health Economics* 28(11): 1377–1382.

Chadha M, Avila A, Gil de Zúñiga H (2012) Listening in: Building a profile of podcast users and analyzing their political participation. *Journal of Information Technology & Politics* 9(4): 388–401.

Chen K, Chen A, Zhang J, et al. (2020) Conspiracy and debunking narratives about COVID-19 origins on Chinese social media: How it started and who is to blame. *Harvard Kennedy School Misinformation Review*. DOI: 10.37016/mr-2020-50.

Chou W-YS, Budenz A (2020) Considering emotion in COVID-19 vaccine communication: Addressing vaccine hesitancy and fostering vaccine confidence. *Health Communication* 35(14): 1718–1722.

Cook J, Lewandowsky S (2011) *The Debunking Handbook*. St. Lucia, QLD, Australia: University of Queensland Press. Available at: https://www.ltrr.arizona.edu/~katie/kt/natsgc/Debunking_Handbook.pdf (accessed 4 April 2023).

Corbu N, Negrea-Busuioc E, Udrea G, et al. (2021) Romanians' willingness to comply with restrictive measures during the COVID-19 pandemic: Evidence from an online survey. *Journal of Applied Communication Research* 49(4): 369–386.

Dechêne A, Stahl C, Hansen J, et al. (2010) The truth about the truth: A meta-analytic review of the truth effect. *Personality and Social Psychology Review* 14(2): 238–257.

Dentith MRX (2021) Debunking conspiracy theories. *Synthese* 198(10): 9897–9911.

Dole JA, Sinatra GM (1998) Reconceptalizing change in the cognitive construction of knowledge. *Educational Psychologist* 33(2–3): 109–128.

European Council (2021) Fighting disinformation. Available at: www.consilium.europa.eu/en/policies/coronavirus/fighting-disinformation (accessed 22 February 2022).

Fawzi N, Steindl N, Obermaier M, et al. (2021) Concepts, causes and consequences of trust in news media – A literature review and framework. *Annals of the International Communication Association* 45(2): 154–174.

Franks B, Bangerter A, Bauer MW, et al. (2017) Beyond 'monologicality'? Exploring conspiracist worldviews. *Frontiers in Psychology* 8: 861.

Freeman D, Waite F, Rosebrock L, et al. (2022) Coronavirus conspiracy beliefs, mistrust, and compliance with government guidelines in England. *Psychological Medicine* 52(2): 251–263.

Gallup/Knight Foundation (2020) American views 2020: Trust, media and democracy. Available at: www.knightfoundation.org/wp-content/uploads/2020/08/American-Views-2020-Trust-Media-and-Democracy.pdf (accessed 5 March 2022).

Gandhi M (2021) Do Americans trust tech giants? *SeoClarity*. Available at: www.seoclarity.net/blog/americans-and-trusting-tech (accessed 13 February 2022).

Glüer K, Wikforss Å (2022) What is knowledge resistance? 1. In: Strömbäck J, Wikforss Å, Glüer K, et al. (eds) *Knowledge Resistance in High-Choice Information Environments*. 1st ed. London: Routledge, pp.29–48.

Goode L (2009) Social news, citizen journalism and democracy. *New Media & Society* 11(8): 1287–1305.

Grimes DR (2021) Medical disinformation and the unviable nature of COVID-19 conspiracy theories. *PLoS ONE* 16(3): e0245900.

Ha L, Xu Y, Yang C, et al. (2018) Decline in news content engagement or news medium engagement? A longitudinal analysis of news engagement since the rise of social and mobile media 2009–2012. *Journalism* 19(5): 718–739.

Helfers A, Ebersbach M (2023) The differential effects of a governmental debunking campaign concerning COVID-19 vaccination misinformation. *Journal of Communication in Healthcare* 16: 113–121.

INSCOP Research (2021) 11 FEBRUARIE 2021: Percepţia publică asupra vaccinării. Încrederea românilor în vaccinarea anti COVID19 [FEBRUARY 11, 2021: Public perception of vaccination. Romanians' confidence in COVID 19 vaccination]. Available at: www.inscop.ro/11-februarie-2021-perceptia-publica-asupra-vaccinarii-increderea-romanilor-in-vaccinarea-anti-covid19 (accessed 12 February 2022).

Jennings W, Stoker G, Bunting H, et al. (2021) Lack of trust, conspiracy beliefs, and social media use predict COVID-19 vaccine hesitancy. *Vaccines* 9(6): 593.

Jolley D, Douglas KM (2014) The effects of anti-vaccine conspiracy theories on vaccination intentions. *PLoS ONE* 9(2): e89177.

Jolley D, Mari S, Douglas KM (2020) Consequences of conspiracy theories. In: Butter M, Knight P (eds) *Routledge Handbook of Conspiracy Theories*. 1st ed. London and New York: Routledge, pp.231–241.

Jurkowitz M, Mitchell A, Shearer E, et al. (2020) U.S. media polarization and the 2020 election: A nation divided. Available at: www.pewresearch.org/journalism/wp-content/uploads/sites/8/2020/01/PJ_2020.01.24_Media-Polarization_FINAL.pdf (accessed 2 March 2022).

Kožuh I, Čakš P (2021) Explaining news trust in social media news during the COVID-19 pandemic – The role of a need for cognition and news engagement. *International Journal of Environmental Research and Public Health* 18(24): 12986.

Kvetanová Z, Kačincová Predmerská A, Švecová M (2021) Debunking as a method of uncovering disinformation and fake news. In: Višňovský J, Radošinská J (eds) *Fake News Is Bad News – Hoaxes, Half-Truths and the Nature of Today's Journalism*. London: IntechOpen, pp.191–201.

Lee S, Gil de Zúñiga H, Munger K (2023) Antecedents and consequences of fake news exposure: A two-panel study on how news use and different indicators of fake news exposure affect media trust. *Human Communication Research* 49: 408–420.

Lin TTC, Bautista JR (2016) Predicting intention to take protective measures during haze: The roles of efficacy, threat, media trust, and affective attitude. *Journal of Health Communication* 21(7): 790–799.

Lobato E, Mendoza J, Sims V, et al. (2014) Examining the relationship between conspiracy theories, paranormal beliefs, and pseudoscience acceptance among a university population: Relationship between unwarranted beliefs. *Applied Cognitive Psychology* 28(5): 617–625.

Loomba S, de Figueiredo A, Piatek SJ, et al. (2021) Measuring the impact of COVID-19 vaccine misinformation on vaccination intent in the UK and USA. *Nature Human Behaviour* 5(3): 337–348.

McCarthy M, Murphy K, Sargeant E, et al. (2022) Examining the relationship between conspiracy theories and COVID-19 vaccine hesitancy: A mediating role for perceived health threats, trust, and anomie? *Analyses of Social Issues and Public Policy* 22(1): 106–129.

Mancosu M, Vegetti F (2021) 'Is it the message or the messenger?' Conspiracy endorsement and media sources. *Social Science Computer Review* 39(6): 1203–1217.

Mohammadi MR, Zarafshan H, Khayam Bashi S, et al. (2020) The role of public trust and media in the psychological and behavioral responses to the COVID-19 pandemic. *Iranian Journal of Psychiatry* 15(3): 189–204.

Murphy K, McCarthy M, Sargeant E, et al. (2022) COVID-19 conspiracies, trust in authorities, and duty to comply with social distancing restrictions. *International Criminology* 2(1): 44–58.

NapoleonCat (2023) Social media users in Romania – March 2023. Available at: https://napoleoncat.com/stats/social-media-users-in-romania/2023/03/ (accessed 1 April 2023).

Nuzhath T, Tasnim S, Sanjwal RK, et al. (2020) COVID-19 vaccination hesitancy, misinformation and conspiracy theories on social media: A content analysis of Twitter data. *SocArXiv*. DOI: 10.31235/osf.io/vc9jb.

Ognyanova K, Lazer D, Robertson RE, et al. (2020) Misinformation in action: Fake news exposure is linked to lower trust in media, higher trust in government when your side is in power. *Harvard Kennedy School Misinformation Review*. DOI: 10.37016/mr-2020-024.

Papakyriakopoulos O, Medina Serrano JC, Hegelich S (2020) The spread of COVID-19 conspiracy theories on social media and the effect of content moderation. *Harvard Kennedy School Misinformation Review*. DOI: 10.37016/mr-2020-034.

Park S, Sang Y, Jung J, et al. (2021) News engagement: The roles of technological affordance, emotion, and social endorsement. *Digital Journalism* 9(8): 1007–1017.

Pummerer L, Böhm R, Lilleholt L, et al. (2022) Conspiracy theories and their societal effects during the COVID-19 pandemic. *Social Psychological and Personality Science* 13(1): 49–59.

Qiao S, Friedman DB, Tam CC, et al. (2020) Vaccine acceptance among college students in South Carolina: Do information sources and trust in information make a difference? *Public and Global Health*. DOI: 10.1101/2020.12.02.20242982.

Quinn SC, Parmer J, Freimuth VS, et al. (2013) Exploring communication, trust in government, and vaccination intention later in the 2009 H1N1 pandemic: Results of a national survey. *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science* 11(2): 96–106.

Romer D, Jamieson KH (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.

Sallam M, Dababseh D, Eid H, et al. (2021) High rates of COVID-19 vaccine hesitancy and its association with conspiracy beliefs: A study in Jordan and Kuwait among other Arab countries. *Vaccines* 9(1): 42.

Samal J (2021) Impact of COVID-19 infodemic on psychological wellbeing and vaccine hesitancy. *The Egyptian Journal of Bronchology* 15(1): 14.

Shin I (2022) Twitter and endorsed (fake) news: The influence of endorsement by strong ties, celebrities, and a user majority on credibility of fake news during the COVID-19 pandemic. *International Journal of Communication* 16: 2573–2595.

Strömbäck J, Boomgaarden H, Broda E, et al. (2022) From low-choice to high-choice media environments. Implications for knowledge resistance. In: Strömbäck J, Wikforss A, Glüer K, et al. (eds) *Knowledge Resistance in High-Choice Information Environments*. London: Routledge, pp.49–68.

Strömbäck J, Tsfati Y, Boomgaarden H, et al. (2020) News media trust and its impact on media use: Toward a framework for future research. *Annals of the International Communication Association* 44(2): 139–156.

Su Y, Lee DKL, Xiao X, et al. (2021) Who endorses conspiracy theories? A moderated mediation model of Chinese and international social media use, media skepticism, need for cognition, and COVID-19 conspiracy theory endorsement in China. *Computers in Human Behavior* 120: 106760.

Sude D, Knobloch-Westerwick S (2022) Selective exposure and attention to attitude-consistent and attitude-discrepant information. Reviewing the evidence. In: Strömbäck J, Wikforss A, Glüer K, et al. (eds) *Knowledge Resistance in High-Choice Information Environments*. London: Routledge, pp.88–105.

Teovanović P, Lukić P, Zupan Z, et al. (2021) Irrational beliefs differentially predict adherence to guidelines and pseudoscientific practices during the COVID-19 pandemic. *Applied Cognitive Psychology* 35(2): 486–496.

Tonković M, Dumančić F, Jelić M, et al. (2021) Who believes in COVID-19 conspiracy theories in Croatia? Prevalence and predictors of conspiracy beliefs. *Frontiers in Psychology* 12: 643568.

Trent M, Seale H, Chughtai AA, et al. (2022) Trust in government, intention to vaccinate and COVID-19 vaccine hesitancy: A comparative survey of five large cities in the United States, United Kingdom, and Australia. *Vaccines* 40(17): 2498–2505.

Tsfati Y (2010) Online news exposure and trust in the mainstream media: Exploring possible associations. *American Behavioral Scientist* 54(1): 22–42.

Tsfati Y, Boomgaarden H, Strömbäck J, et al. (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.
Ullah I, Khan KS, Tahir MJ, et al. (2021) Myths and conspiracy theories on vaccines and COVID-19: Potential effect on global vaccine refusals. *Vacunas* 22(2): 93–97.
Uscinski JE, Enders AM, Klofstad C, et al. (2020) Why do people believe COVID-19 conspiracy theories? *Harvard Kennedy School Misinformation Review*. DOI: 10.37016/mr-2020-015.
Van Aelst P, Strömbäck J, Aalberg T, et al. (2017) Political communication in a high-choice media environment: A challenge for democracy? *Annals of the International Communication Association* 41(1): 3–27.
Van der Weerd W, Timmermans DR, Beaujean DJ, et al. (2011) Monitoring the level of government trust, risk perception and intention of the general public to adopt protective measures during the influenza A (H1N1) pandemic in the Netherlands. *BMC Public Health* 11(1): 575.
Vos TP, Eichholz M, Karaliova T (2019) Audiences and journalistic capital: Roles of journalism. *Journalism Studies* 20(7): 1009–1027.
Wilson SL, Wiysonge C (2020) Social media and vaccine hesitancy. *BMJ Global Health* 5(10): e004206.
Wood MJ (2016) Some dare call it conspiracy: Labeling something a conspiracy theory does not reduce belief in it. *Political Psychology* 37(5): 695–705.
Wu Y, Shen F (2022) Exploring the impacts of media use and media trust on health behaviors during the COVID-19 pandemic in China. *Journal of Health Psychology* 27(6): 1445–1461.
Xu S (2018) Crisis communication within a community: Bonding, coping, and making sense together. *Public Relations Review* 44(1): 84–97.
Yang Z, Luo X, Jia H (2021) Is it all a conspiracy? Conspiracy theories and people's attitude to COVID-19 vaccination. *Vaccines* 9(10): 1051.
Zhao E, Wu Q, Crimmins EM, et al. (2020) Media trust and infection mitigating behaviours during the COVID-19 pandemic in the USA. *BMJ Global Health* 5(10): e003323.

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