



City Research Online

City, University of London Institutional Repository

Citation: Walsh, M. J., Baker, S. A. & Wade, M. (2023). Evaluating the elevation of authoritative health content online during the COVID-19 pandemic. *Online Information Review*, 47(4), pp. 782-800. doi: 10.1108/oir-12-2021-0655

This is the accepted version of the paper.

This version of the publication may differ from the final published version.

Permanent repository link: <https://openaccess.city.ac.uk/id/eprint/28748/>

Link to published version: <https://doi.org/10.1108/oir-12-2021-0655>

Copyright: City Research Online aims to make research outputs of City, University of London available to a wider audience. Copyright and Moral Rights remain with the author(s) and/or copyright holders. URLs from City Research Online may be freely distributed and linked to.

Reuse: Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge. Provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.

Evaluating the elevation of authoritative health content online during the COVID-19 pandemic

Structured Abstract

Purpose: To respond to the COVID-19 'infodemic' and combat fraud and misinformation about the virus, social media platforms coordinated with government healthcare agencies around the world to elevate authoritative content about the novel coronavirus. These public health authorities included national and global public health organisations, such as the Centers for Disease Control and Prevention (CDC) and the World Health Organisation (WHO). In this article we seek to evaluate the effectiveness of this strategy by asking two key questions: 1) Did people engage with authoritative health content on social media? 2) Was this content trusted?

Approach: We explore these issues by drawing on data from a global online questionnaire on 'Public Trust in Experts' ($n = 429$) conducted during the initial phase of the pandemic in May 2020, a crucial period when reliable information was urgently required to **influence behaviour and** minimize harm.

Results: We found that while the majority of those surveyed noticed authoritative health content online, there remained significant issues in terms of **internet** users trusting the information shared by government healthcare agencies and public health authorities **online**.

Originality: In what follows, we examine the role of trust in implementing this novel public health strategy and assess the capacity for such policies to reduce individual and social harm.

Public Trust in Scientific Experts

Trust in scientific experts is crucial to ensure compliance with public health advice. Trust has been defined as a 'confident relationship to the unknown' (Botsman, 2017). Whether conceived of as a 'belief' (Cummings and Bromiley, 1996) or an 'emotion' (Myers and Tingley, 2016), trust involves confidence in one's own expectations (Luhmann, 2000). To trust another is to expect the probability they 'will perform an action that is beneficial or at least not detrimental to us is high enough for us to consider engaging in some form of cooperation' (Gambetta, 1988:217). Moreover, a conceptual distinction between trust and distrust is necessary. Rather than viewing trust as the opposite of distrust, it is more accurate to consider them as distinct components (Cheng and Chen, 2020:4). Hence, low distrust in either

a claim or an authority is not synonymous with high trust, particularly in relation to *motivating behavioural change* (which, ultimately, is the primary concern of public health messaging during a pandemic). In this study we explore the role of trust in shaping people's engagement with the information disseminated by governments in response to the COVID-19 pandemic. This is achieved by examining how social media users engage with the authoritative health content elevated on social media platforms in response to the virus. While there is a rich body of literature examining trust as a precursor to social action, we contribute to this field first, by exploring how people's trust of governments and public health authorities influenced their acceptance of public health advice during the pandemic and second, using these empirical findings to evaluate the effectiveness of elevating authoritative health content on social media as a novel public health initiative.

Trust is highly contextual. Trusting another involves an assessment of their competence, reliability, integrity and benevolence, fusing together beliefs about *how* and *why* actions occur in a specific context (Botsman, 2017:126). Rather than framing questions of trust in general (e.g. "Do you trust scientists?"), it is more suitable to phrase questions of trust in relation to specific actions (e.g. "Do you trust scientists to create a safe vaccine?"). Trust in science is therefore 'multidimensional', relating not simply to the perceived veracity of empirical claims or competence of technicians, but also to their ethical integrity and political motivations (Achterberg *et al.*, 2017; Miller, 2004). Indeed, prior research suggests that people make subtle distinctions in the relative trust they accord to scientists, scientific institutions, and scientific principles and methods (Huber *et al.*, 2019). While public trust of scientific principles and methods tends to be high (Miller, 2004), among certain demographics there is a 'science confidence gap' where trust in scientific methods is combined with distrust in scientists and the organisations in which they are embedded (Achterberg *et al.*, 2017).

Prior to the pandemic, the Wellcome Global Monitor (2019) reported that 72% of people globally trusted scientists. Similarly, the Pew Research Center (Funk *et al.*, 2020:7) indicated that trust in science and scientists 'to do what is right' was relatively high across Europe, most of the Asia-Pacific region, the United States, and Canada (though there was some noticeable ambivalence among respondents in Russia, Brazil, and Taiwan). Broadly speaking, public trust in scientists was relatively high at the beginning of the COVID-19 pandemic. However, trust in

scientists and governments has shifted noticeably throughout the pandemic. A UK opinion poll found that—several months into the pandemic—while 64% of people were more likely to listen to expert advice from qualified scientists and researchers, 97% called for greater transparency over the scientific advice given to government ministers on the coronavirus outbreak (Open Knowledge Foundation, 2020). Survey research conducted in the UK found that three in five people considered scientists in general to be trustworthy over the course of the pandemic, slightly higher than the scientists directly advising the government on COVID-19 (Skinner *et al.*, 2020:8). These findings reflect concerns that some scientists have found themselves politically compromised during the pandemic, with public confidence in scientists undermined by a series of incidents involving politicians and governments.

In the UK, for example, several studies showed a substantial drop in May 2020 in public confidence in the government's resolve and capacity to handle the pandemic. This coincided with the resignation of Dominic Cummings, the former Chief Adviser to the Prime Minister (2019-20), after he breached the government's lockdown rules that he helped to establish. The decline of public confidence in the face of such hypocrisy—and the resulting effects on willingness to uphold personal risk mitigation practices—has been referred to as 'The Cummings Effect' (Fancourt *et al.*, 2020; Skinner *et al.*, 2020). While some studies suggest the incident 'made relatively little difference to public trust beyond June 2020' (Skinner *et al.*, 2020:2), others indicate that it had 'negative and lasting consequences' by undermining the public's confidence in the government (Fancourt *et al.*, 2020). Trust remains fundamental to state responses to the COVID-19 pandemic, for persistently low levels of political trust threaten to undermine the effectiveness and legitimacy of government guidelines and ongoing efforts to vaccinate the population (Marien, 2011). This legitimacy can be supplemented by deferring to respected public health authorities. However, if those same authorities are undermined or compelled into compromised positions through political pressures, this can further weaken the state's legitimacy during times of crisis.

Trust in Public Health Authorities

Trust in public health authorities is integral in encouraging people to adhere to official health advice (Pagliaro *et al.*, 2021). Furthermore, amid times of global crisis, perceptions of existential threat connected to complex and shifting phenomena can unsurprisingly result in

uncertainty and anxiety among populations (Balog-Way and McComas, 2020). However, shared beliefs that a firm moral grounding is motivating public officials can prove crucially persuasive during crises (Everett *et al.*, 2020). Such beliefs shape the willingness of citizens to adopt risk-mitigating practices, and thus potentially grave consequences can result from institutional mistrust (Vinck *et al.*, 2019; see also Cairns *et al.*, 2013). This was evident in the recent decline in authority of the WHO, as well as other government healthcare agencies—such as the CDC—who suffered declines in public confidence and trust. During the early months of the pandemic an editorial in *The Lancet* (2020:1521) observed that the CDC had ‘seen its role minimised and become an ineffective and nominal adviser’ due to its strained relationship with the US government. Most troublingly, in May 2020, the head of the US COVID-19 Task Force, Dr Deborah Birx, reportedly stated that ‘There is nothing from the CDC that I can trust’ (Dawsey *et al.*, 2020). This, noted *The Lancet* (2020), was a ‘shocking indictment’ of an agency ‘once regarded as the gold standard for global disease detection and control’ (2020:1521).

In contrast, one health institution that largely retained its vaulted status was the UK’s National Health Service (NHS), in large part due to its perceived symbolic and strategic importance in rebuilding the nation after WWII (Davies, 2021). The NHS prominently featured in government messaging, urging citizens to adopt behaviours to ‘protect the NHS’. The NHS is among the UK’s most trusted and beloved institutions (Taylor-Gooby, 2008), and thus—despite other significant failures—this communicative strategy of connecting the everyday practices of citizens to the ongoing viability of a widely admired entity proved effective in motivating behavioural change. Among our respondents, however, it was the WHO that figured most prominently as a key institution that instead dramatically lost trust precisely when it was most needed.

The WHO has played ‘a preeminent role in the political validation of international health as a field during the second half of the twentieth century’ (Cueto *et al.* 2019:1). However, recently the WHO has come under criticism for its response to infectious disease outbreaks. Critics, for example, described WHO’s management of the 2014 Ebola outbreak as signalling ‘a crisis in global health leadership’, with the WHO suffering ‘huge capacity deficits’ (Gostin and Friedman, 2014). An earlier independent review following the 2009 H1N1 outbreak likewise

warned 'the world is ill prepared to respond... to a global, sustained and threatening public health emergency' (WHO, 2011). These frequent warnings proved not enough to spur greater support for WHO during the early weeks of Covid-19, for even by February 5, 2020—with 25 countries reporting confirmed cases—WHO's request for USD\$675m for a dedicated preparedness and response plan (WHO 2020) was met with dragging feet by member states, and by March 4 only \$1.2m had been raised (Buranyi 2020). The WHO's lack of material support subsequently heightened their reliance on social media platforms to promote harm-mitigating advice, yet these were the very same platforms already experiencing coordinated manipulation by 'misinformation superspreaders' (Yang *et al.*, 2021).

Despite this evident lack of tangible support from nation states, 'the inevitable focus on the work of the WHO turned quickly to open criticism of the agency' (Agartan *et al.*, 2020, p.368). Such criticisms reveal the **tensions** the WHO encounters as, 'an ostensibly scientific and technical agency' that must 'navigate the choppy waters of international politics' (Lee, 2020, p.375). Consequently, the common assessment that the WHO 'performed badly' in responding to COVID-19 reflects the invidious position the agency found itself in, working with a meagre budget and being overly reliant on voluntary cooperation from both state and corporate entities (Zakaria, 2020). Moreover, Torres and colleagues (2020:1355), suggest that WHO's 'aim to remain neutral might have led WHO to emphasise diplomacy over addressing the risks and effect of global transmission...'. Given they have financial resources 'less than the annual budgets of many hospitals', a growing consensus emerged that the WHO was burdened with a seemingly impossible task (Brown and Ladwig, 2020:1149, Gostin *et al.*, 2020).

When the credibility of public health agencies like the WHO and CDC are questioned, it can have grave implications during a pandemic, where 'relevant, timely, accurate, and actionable health information' is crucial (Kreps, 2021:2). Although the WHO were aware of this as exemplified by their frequent warnings of an 'infodemic', the WHO were criticised for contributing to **confusion about the transmission and management of the virus**. This was especially apparent in their guidance on mask-wearing, wherein the agency continued to discourage mask wearing until April 2020, seemingly due to concerns that universal adoption would deprive health workers of essential supplies (Tufekci, 2020). This advice was ultimately

reversed by June 2020, when the WHO advised mask-wearing among the public (Tsirtsakis, 2020). Unsurprisingly, much 'needed credibility was lost over this shifting story' (Christakis, 2021), as it seemed to simultaneously betray four key attributes needed to build and sustain institutional trust: *competence, reliability, integrity and benevolence* (Botsman, 2017). Trust was the WHO's most crucial resource, steadily built over decades of successfully coordinating global health efforts. Hence their calculated trade-off—perhaps compelled by many states' inexcusable lack of pandemic preparedness—was arguably an error, effectively trading in their long-term credibility to ease the short-term failures of others (Balog-Way and McComas, 2020). Altogether, a lack of clarity in the messaging, delays in proportionally responding to the unfolding crisis, and perceptions of being politically compromised contributed to growing concerns that WHO was mishandling their response.

Trust in Social Media

While public health institutions have used social media to communicate timely information to the public (Syn, 2021), these institutions have come under scrutiny for their handling of the pandemic. Low institutional trust has been compounded by a concurrent crisis of trust in social media companies that impacts the ability of governments to use these tools to communicate public health messaging (Cifuentes-Faura, 2021:831). Since the 2016 US Presidential Election, there has been growing public awareness that social media companies may be complicit in undermining liberal democratic ideals and political institutions (Morgan, 2018). A series of trust-eroding scandals have revealed examples of foreign electoral interference (Mueller, 2019), misinformation (Wardle and Derakhshan, 2018) and data misuse on major social media platforms. One notable example of a personal data breach is the Cambridge Analytica Scandal, where personal data collected from a third-party Facebook application was used to predict the personalities of US voters and create personalized ads to influence the 2016 US Presidential Election (Cadwalladr and Graham-Harrison, 2018). Although users consented to share their data through a third-party Facebook application, the incident was framed as a data breach as most users unknowingly shared their data without informed consent (Deley and Dubois, 2020). In 2018, Facebook's founder and CEO, Mark Zuckerberg, publicly apologised for Facebook's 'major breach of trust' in failing their responsibility to protect users' data (Wong, 2018). Facebook's COO, Sheryl Sandberg (2018),

reiterated this view, describing the incident as ‘a major violation of people’s trust’ for failing to protect user data, **acknowledging that ‘trust is at the core of our service’ and must be earned.**

Despite Facebook announcing **changes in** how it shares data with third-party apps, trust in social media has eroded in response to these scandals (Bright et al., 2019). It is not that people trust these technologies less—as Annette Baier (1986) contends, trust can only exist where there is the possibility for betrayal—rather **users** distrust the creators and managers of a given technology. **For example, much** discourse about the harms of algorithmic steering and engagement-based ranking is attributed to the design choices of engineers and the business models of tech platforms (Wallison, 2021). ‘Trust in social media’ is therefore generally reflective of our beliefs about, and trust towards, the **actors** who control that technology (Deley and Dubois, 2020). Conspiracy theories, misinformation and disinformation have proliferated online prior to, and during, the COVID-19 pandemic (Chen *et al.*, 2022). Digital technologies not only make harmful information more accessible, misinformation can now be created and amplified at an unprecedented speed and scale (Cifuentes-Faura, 2021). Tech companies have not only faced claims they are ‘prioritizing profit over safety’ (Nix and Wagner, 2021), recent reports suggest that Facebook and Google fund disinformation (Hao, 2021). In a context of uncertainty and evolving scientific advice, this overabundance of false and misleading information is harmful as it threatens to undermine trust in health institutions and programmes (The Lancet Infectious Diseases, 2020). It prompted WHO’s director-general, Tedros Adhanom Ghebreyesus, to declare in 2020 that ‘We’re not just fighting a pandemic; we’re fighting an infodemic’, **one** where people are uncertain about who to trust and what information to believe.

Given growing concerns of **a COVID-19 ‘infodemic’**, tech platforms took the unprecedented move to work together to combat fraud and misinformation about the virus. As part of this novel co-ordinated response, major tech platforms including Facebook, Google, LinkedIn, Microsoft, Reddit, Twitter and YouTube issued a joint industry statement in which they pledged to combat misinformation by elevating ‘authoritative content’ on their platforms from **established** healthcare agencies around the world (Facebook Newsroom, 2020). Google prioritized search results from the WHO and government agencies, while Twitter and

Facebook displayed messages in newsfeeds with links to health authorities (Butcher 2021). This shared objective was implemented differently by each platform. While most of the major tech companies introduced new harm policies that enabled them to remove posts perceived to 'pose a serious risk of egregious harm' (YouTube, 2020), or what Facebook terms 'imminent physical harm' (Clegg, 2020), other companies, such as Twitter, introduced labels to identify 'misleading information' and 'disputed claims' (Roth and Pickles, 2020). Tech companies' coordinated efforts to elevate authoritative content also varied in their strategies and applications, with Twitter introducing labels and warning messages 'to limit the spread of potentially harmful and misleading content' (Roth and Pickles, 2020), while YouTube (2020) disallows content that contradicts explicit guidance from the WHO or local health authorities on the treatment, prevention, diagnosis, transmission and existence of COVID-19. However, given the evolving nature of scientific advice, and the shifting guidance from public health authorities on transmission and prevention, removing information that contradicts authoritative content has the potential to undermine trust. These complexities became apparent in recent discussions about the potential origins of the virus (Godlee, 2021; Thacker, 2021). Despite the importance of analysing how trust shaped the effectiveness of tech companies' novel approach to elevate authoritative content during the pandemic, there is an absence of scholarly literature examining the effectiveness of this strategy. In this article, we seek to compensate for this neglect by examining user perspectives on the elevation of authoritative health content about COVID-19. We consider the role of trust in shaping how users engage with authoritative content and the implications that trust in authorities, such as the government and scientific experts, plays in the effectiveness of this strategy. Our contribution is therefore theoretical, empirical and substantive, examining how trust in authoritative health content online is mediated by the trustworthiness of sources in specific contexts and the implications these trust relations have for technological responses to combat misinformation and improve public health initiatives.

Methods

This study used an online questionnaire to understand how internet users engaged with authoritative health content during the pandemic and whether they trusted the experts sharing this content. The elevation of authoritative health content occurred in response to the extraordinary public health challenge posed by the greater volume of information

available online. Our research questions therefore sought to explore how this change in policy from social media platforms was viewed by the public and how this was connected to levels of trust in governments and other public health authorities.

Given the need to collect information in a timely and exploratory manner about experiences of accessing information during the unfolding pandemic, a convenience sampling process was used for participant recruitment. After obtaining institutional ethics approval, announcements were posted on social media (i.e. Facebook, LinkedIn, Twitter) in May 2020 to encourage participants to complete the online, self-administered questionnaire. The topics **canvassed** were: demographic details, news consumption regarding COVID-19, attitudes towards technology companies and their handling of the pandemic (including the novel strategy of elevating authoritative content), public trust in governments, media (including tech companies and social media) and scientific institutions. The questionnaire was comprised of closed and open-ended questions, where respondents were encouraged to elucidate their beliefs and attitudes on these topics. This was to ensure the open-ended responses were rich and could be used to understand how individuals were engaging with social media in learning about the progression of the pandemic. Once responses to the questionnaire were collected, descriptive statistics were collated to offer a basic understanding of the sample, with thematic analysis then used to identify major themes discernible in the open-ended responses. For open-ended responses, we compiled the statements provided by respondents and organised them into themes using thematic analysis (Braun and Clarke, 2006). Thematic analysis is a method for interpreting patterns across a qualitative data set, which involves a process of data coding and analysis (Braun and Clarke, 2022, 4). For the purposes of coding the open-ended responses each author engaged with the selected open-ended responses exploring the elevation of authoritative content and content moderation perceptions and settled on a coding protocol then used to conduct the analysis of the open-ended responses. The results were considered in relation to the closed-ended responses we also collected in considering the themes we report on in the following.

429 respondents took part in this study. Our sampling process was driven by an urgency to capture practices and rationales as they were occurring to understand how people responded to tech companies' novel initiative to collectively elevate authoritative content. Our sample

comprised more women (67%) than men (32%) and those who identified as non-binary (1%). Participants ranged from 18 to over 80 years in age, with the majority of participants aged between 30-49 years old. In terms of educational attainment, most participants held a university diploma or higher (56%) and a sizable minority (19%) had a secondary education schooling qualification or equivalent. In terms of employment status, approximately half of the respondents indicated they were employed in either the public or private sector (49%), some were studying (7%) or retired and not looking for work (12%), or were full-time homemakers (4%), with other also being identified (at 6%) and other participants not leaving a response (22%). We also asked respondents how they would describe their political views. A minority described themselves as very conservative (2%) and conservative (15%), with a larger segment identifying as very liberal (19%) and liberal (37%). There were also participants who did not respond to the question regarding their political views (27%). Of the 429 responses to our questionnaire over 300 of these responses were collected in May 2020, with the remaining balance collected in June 2020. Given that our research questions sought to examine user engagement with authoritative health content online as an emergent digital information practice implemented by the major tech companies globally, we did not seek to limit participation based on a particular geographic location. Responses were received from various regions around the globe with most respondents residing in Australia (69%) and the United Kingdom (20%), followed by the United States of America (5%), France (1%) and other locations. Many participants indicated that they were white (83%), and a smaller percentage identified as Asian (6%), other (4%), and Hispanic (1%). Others (6%) chose not to identify their ethnicity.

Acquiring information about COVID-19

Our exploratory questionnaire demonstrates how respondents obtained information and news about COVID-19 at the start of the pandemic. The COVID-19 crisis generated a significant volume of unverified information about the virus (Cifuentes-Faura, 2020:833). Despite this, our responses suggest that 73% of participants acquired information about COVID-19 from traditional media sources such as newspapers, as well as 66% from television and 44% from radio. Interestingly, however, our respondents also note that new media played a role in communicating information about the pandemic. A majority (58%) indicated that they obtained information from social media, with a minority acquiring information from

podcasts (17%) and a smaller number indicating they obtained information from blogs (9%). 40% cited family and 42% friends as information sources.

Half of respondents indicated that they used Facebook to acquire information about COVID-19. This was followed by Twitter, at just 21% and WhatsApp, at 17%. These findings suggest that respondents used both open social networks and encrypted messenger services to retrieve information related to COVID-19. Moreover, 19% of respondents indicated that they did not use social media to acquire information about the pandemic and a further 28% stated they undertook their own “independent online research to learn about COVID-19”. These responses convey the variety of media used to acquire information about the virus.

Changed media preferences during the pandemic

In setting the context for how our respondents engaged with media content during the early stages of the pandemic, we sought to determine how the novelty of the situation impacted their news and media consumption. During this time, increases in news information and related sources is **evident in** our respondents’ media consumption. For example, some respondents equated their increase in media consumption with their desire to consume more specialised authoritative content, rather than news in general. Respondents turned to well-regarded sources for authoritative, credible information. Examples participants cited included ‘the Johns Hopkins website and BBC World Service’, ‘collated COVID-19 data on websites... that are referred to by other reputable sources’, consulting the WHO and ‘government websites more often’ and even ‘added WHO website to my browser homepage’. This suggests that despite unprecedented access to a wide range of pandemic related content where users are likely to come across unverified claims (Cifuentes-Faura, 2021:830; Apuke and Omar 2021), respondents **primarily** turned to authoritative **content during** the pandemic.

Simultaneously, numerous respondents observed a sense of news fatigue, despite the observation that many expressly watched and sought more news and COVID-19 related content. Paradoxically, even at a relatively early moment during the pandemic, some respondents reported opting for a reduction in the relentless news content they were exposed to regarding the pandemic. As one respondent explained:

I have lost interest over the last 2.5 months. Reading and listening far less. It's all just pretence and finding authentic information seems too challenging.

This view was echoed by other respondents who explained, 'I am consuming less media and news at the moment because of oversaturation and the anxiety it causes me'. This idea of an information glut was a recurring theme:

I am certainly less inclined to use any sort of media that spams COVID-19 information. I watch less news because it is largely consumed by COVID-19 coverage that I am uninterested in seeing repeated multiple times.

These responses indicate that despite an increase in news consumption **motivated by information-seeking**, respondents also felt fatigued and sought a desire to protect themselves from an 'oversaturation' of COVID-19 content. These strategies are duly reflected in wider media consumption patterns during the pandemic, where for many the aspiration to remain informed and up-to-date on Covid-related matters was eventually undermined by growing fatigue (Groot Kormelink & Klein Gunnewiek, 2022; Zhang *et al.*, 2022).

Respondents also noted that their media consumption changed during the pandemic. Some respondents followed more authoritative content online. For example, one respondent suggested that they, 'Check [the] websites of authorities more, including WHO and Governments'. Another indicated they 'follow a few epidemiologists on twitter and I check their feeds daily'. Conversely, others expressed low levels of trust in authoritative sources, observing they were 'tracking data to understand trends that the government and the media aren't showing... Don't trust the media at all'. Here scepticism about legacy media and government reporting led to respondents **conducting** their own research by 'tracking' data and independently identifying 'trends'. In these circumstances, low trust of governments and public health authorities lead to distrust of authoritative health content and limited behavioural change (Pagliaro *et al.*, 2021). A reflexive consumer of information is observable in some of these accounts, one that consciously performs a type of self-moderation in electing to independently value specific sources over others. For example, the following suggests a

shift in consuming less disreputable sources of information in lieu of opting for more authoritative variants:

I have changed my preferences in terms of the number of sources I previously sought news from, e.g. I have cut back (or entirely stopped consulting) on a number of social media news sources that were more tabloid in approach to reporting. Generally, I am consulting sources that report fact and reference academic research/articles.

Here we see a seeking of more authoritative content, with users thoughtfully engaging with sources of greater reputability to avoid becoming overwhelmed by a glut of low-quality information:

I am using social media less and reading fewer articles. Too much misinformation and fear-mongering out there. Now I work to identify good from bad info and limit my intake to avoid overload. I have my own work to get done and can't have my headspace overfilled all the time.

From the perspective of media consumers in an environment of **over-abundant** information (Cheng and Chen 2020), we witness careful efforts to work through large **quantities** of content in ways that protect wellbeing and reduce potential overloading while still seeking out authoritative advice (Mannell and Meese, 2022). This also highlights the importance of ensuring sound health messages are available for users that are endorsed and verified by health authorities and government institutions, because in its absence unverified **falsehoods** can perniciously spread (Sharma and Kapoor, 2021). Moreover, part of the reason for this reaction from some of our respondents is that levels of distrust were observed not only in relation to different forms of media, but also government and official public health authorities, which have a direct implication for their trust of authoritative health content elevated on social media.

Authoritative advice, content moderation and COVID-19

3 out of 4 respondents (76%) confirmed that they noticed authoritative advice provided by government healthcare agencies and public health authorities when they used social media services during the pandemic. This is particularly significant given at the time of data collection the elevation of government advice on social media was still a relatively novel phenomenon. Furthermore, when asked if they read the advice presented online, over half of respondents indicated they read this information (62%), with around 1 in 5 users indicating they ignored it (19%). We also asked respondents whether they believed technology companies should remove posts and videos related to COVID-19 that contradict current scientific and medical advice. A majority (61%), suggest contradictory advice should be removed, with only a quarter of our respondents (25%) answering in the negative, indicating platforms should not remove this **content** despite it contradicting current health advice. Another grouping (14%) suggested a different approach, which we explore below.

The difficulties of content moderation

Content moderation is part of the strategy used by tech companies to combat misinformation pertaining to COVID-19 (Gillespie, 2020). When asked, 'Do you think technology companies should remove posts and videos about COVID-19 that contradict current scientific and medical advice?', respondents conveyed a level of uncertainty about the degree of content moderation strategies during the pandemic. Respondents pointed to the contingent and unfolding nature of scientific information that social media companies understandably struggled to keep in lockstep. For example, one respondent suggested that given it was 'early in the event, then there was no very clear evidence to allow me to determine what was THE scientific view' and that content removal 'is a very fine line to draw, and where it is drawn is highly contextual.' Along these lines, several respondents **made** a distinction between conflicting scientific claims otherwise made in good faith with outright wrong or misleading information perpetuated by non-experts, obscuring the binary of either conforming to or contradicting scientific advice:

Whilst I mostly agree, no-one wants fake news, there are often more than one scientific and or medical opinion so unless something is categorically disproven then how would this work?

Others were 'strongly disinclined to any blanket rule', with one respondent suggesting that 'The chances of limiting other voices who might be correct is too high'. Several pointed to the potential for significant harm as perhaps the only reasonable justification for impinging on speech rights:

In the interests of free-speech I would say no—however, if something was posted which could potentially cause harm then yes it should be removed.

Some also identified practical difficulties of policing speech on digital platforms or noted that such efforts may prove counter-productive: 'Removal only perpetuates the conspiracy theories'. Alternatively, respondents noted that debates around content moderation

...appears to rest on a hidden assumption that certain types of 'advice' are more legitimate than other types. Or, to put the point another way, the 'current scientific and medical advice' is uniform, and any post or video that deviates from that uniformity is illegitimate, and can be censored.

Reinforcing this view that it is challenging to establish cogent and unchanging scientific advice early during a pandemic, the difficulties for laypersons in meeting shifting standards of responsibly sourced advice was articulated as a concern. Such good faith efforts were further harmed by rampant misinformation, which led to information avoidance tactics and heuristic shortcuts among laypersons assessing COVID-19 related risks (see Kim *et al.*, 2020). Respondents also articulated a related hesitancy, noting that social media companies should not be beholden to state bodies—given they too may perpetuate poor advice or misinformation—but should nonetheless be more proactive in other respects:

I am really unsure about this. I would like tech platforms to monitor content and get rid of blatantly false information, however it is also true that in this pandemic even governments and medical experts have got it wrong sometimes, e.g. initial UK advice around developing herd immunity. If tech platforms were instructed to remove content conflicting with that government advice, they might remove legitimate

concerns that were subsequently proved right and adopted through changed government policy. However, I feel they should have been quicker to take down conspiracy theories from the likes of David Icke and Pete Evans. It's a difficult dividing line—social media has a place in contradicting government because government doesn't always get it right.

While some respondents suggest blatant and egregious examples of disinformation requires swift action, respondents also thought this should not quell a healthy distrust of the state and its policy making process. Here a desire to retain a space for dissent or criticism of policy is implied, particularly during a time when policy formulation was drastically accelerated and **stoke** fears that forms of inclusive pluralism were being supplanted by 'authoritative monotony' (Baekkeskov *et al.*, 2021). Furthermore, another respondent notes that—in addition to mistrust of government—social media companies themselves are also widely mistrusted (Steinfeld, 2022). Ideally, they further note, savvy and responsible users should be able to critically parse information, but often fail to do so, resulting in an impasse:

My response is between 'yes' and 'no'. I don't trust social media owners (particularly Facebook) to make the 'right' decisions when it comes to deciding what should or shouldn't be removed. Added to this mistrust, I don't trust some governments eg USA and Australian Federal government. Which creates a dilemma. The general populace should be able to be discerning about their sources and the accuracy of reports but that has not been the case for some time.

Here the compounding of different forms of mistrust are articulated. As a result, this respondent is unable to answer in either the affirmative or negative because of the 'dilemma' of our information environment; government institutions and social media companies do not inspire confidence in making the 'right' decision. Echoing this idea is the following response that captures several of these themes regarding the complicated nature of responding to more marginal examples:

Depends. If it is blatant dangerous rubbish then definitely yes (which would include removing tweets by Donald Trump as they are probably the most dangerous

misinformation because of his position). Would be difficult to find the line between what to delete and what not to though as it could just lead to people getting more paranoid about conspiracies. Maybe better to flag them in some way so people seeing them are encouraged to investigate further. Really not sure what is the best approach for this one.

While the removal of ‘blatant’ content that contradicts scientific advice is a desired action, the difficulty of implementing this was raised also as a pressing concern. This includes borderline situations where content is less clearly egregious, but which nonetheless has implications for the level of trust expressed in relation to social media companies and—as we discuss in the following—government and other institutions.

Distrust of the government and public health authorities

In addition to content moderation, distrust of the government and public health authorities impacted how participants appraised authoritative health content. In this section we seek to disentangle how government and other institutions that craft and influence policy, as well as authoritative health content, connect with perceptions of trust given that adherence to authoritative public health advice requires trust of these sources. When exploring responses to the question: ‘Has your trust in the Government changed over the course of the COVID-19 pandemic?’, respondents pointed to the role political actors played in failing to inspire confidence as the pandemic progressed. As one British respondent explained:

I didn’t trust them greatly at the start. My distrust has increased due to the blatant lies, e.g. the protective ring around care homes, Dominic Cummings breaking lockdown rules, Michael Gove lying about driving to test his eyesight. Matt Hancock lying about the amount of tests being carried out Boris Johnson’s incompetence to lead and his failure to turn up to press briefings. The silencing of journalists during these briefings.

This view supports the observation made by others that prominent government figures breaking their own prescribed lockdown measures significantly ‘undermined confidence in the government to handle the pandemic’ (Fancourt *et al.*, 2020). Another respondent pointed

to **how** political leaders use ostensibly authoritative statements and statistical information to spin and obfuscate potential policy failures, as a factor increasing distrust:

They have lied so many times, used statistics to make them look good but when you look further into their quotes it's a lie. For example: counting 1 glove as a piece of PPE when they are worn as pairs, or testing when they counted the nose swab and throat swab as separate tests to bump up their numbers to make their input look good. Plus, Dominic Cummings being backed when he obviously flouted the rules when the rest of the country was trying its best. The government is a disgrace.

These incidents point to the capacity for perceived failings of certain politicians to undermine people's trust in the government and the legitimacy of authoritative health content presented by government healthcare agencies. While the examples were specific to each region, this theme of low trust in governments and their impact on trust of authoritative health content on social media was a recurring global theme. For example, one respondent in the US noted, 'As Trump continues to lie, remove experts, and ignore the advice of the scientific community I trust what comes out of the government less and less'. Underscoring this further, another respondent observed that while knowledge is provided to governments from experts, the perceived political nature of governing distorts this expertise and therefore further renders suspicious the advice then provided to the public:

I believe the Government is well advised by experts. I am skeptical whether they choose to share this information without their own spin for political gain. I do not trust the current Government generally.

The nexus between political and scientific expertise is further complicated when considering public perceptions of health authorities at the start of the crisis. Respondents expressed concerns about the trustworthiness of local and international government healthcare agencies, such as the WHO, due to the organisation's early communications about the cause and transmission of the virus. When asked, 'Has your trust in these [government healthcare] organisations changed over time since the COVID-19 pandemic?', respondents expressed criticism over what appeared to be the WHO's compromised relationship with China. For

example, one respondent noted that ‘They [The WHO] seem to have become biased after COVID was politicized, and they keep flip flopping on information’. Another noted that the organisation’s strategy during the early stages of the pandemic **was motivated more by** face-saving diplomacy than a concern for public health: ‘I thought WHO was a reputable organisation that was interested in the welfare of everyone, not to just take the diplomatic route’. While these understandings belie that the WHO by its very nature is a multilateral organisation steeped in the complex geopolitics of the United Nations, the perceptions of policy backflips and retreats—in addition to **perceptions of a** compromised relationship with China—have implications for the level of trust our respondents have in the organisation and the authoritative advice it provides. For example:

I've lost faith entirely in global bodies such as the WHO and UN, they have been rendered toothless in order to retain support from the countries that invest in them.

Echoing this more directly, one participant notes: ‘WHO [I] trust less due to early support of China covering up information’ and another indicates ‘I used to believe the WHO was the authority on global health issues. I no longer trust their assessments’. Respondents were particularly critical of the WHO’s failure to recognise Taiwan in a video that circulated widely in March 2020 of Bruce Aylward, the Senior Advisor to WHO’s Director-General, avoiding questions about Taiwan’s exclusion from the world health body. As one respondent explained:

I trusted WHO initially and then the whole China lying thing and the Taiwan thing happened and well, who can believe anything they say. They also regularly change the structure of their reports online. Changing structure indicates a cover up.

Or, as explained by another:

My trust in the WHO has reduced following their refusal to talk about Taiwan.

Such views reflect a wider consensus that the WHO suffered significant reputational harms through perceptions that **they were overly deferential towards China and** too readily

accepted China's initial claims that no evidence of human-to-human transmission had yet been found (see Gilsinan, 2020; Tsirtsakis, 2020; Woodley, 2020). By throwing into sharp relief the political context in which public health authorities operate, and the distrust of these organisations by various sectors of society, responses of this kind complicate attempts to elevate authoritative health content online as trustworthy and credible. For example, as the following participant notes in relation to the CDC and the WHO:

I trust the White House even less [...] Am a little disappointed in CDC's performance. The mask advice was false at first, "They don't protect the public but they do protect medical staff." Disgusted with WHO keeping Taiwan out because of China's politics. Disgusted with WHO for praising China when China locked down Wuhan but criticized the rest of the world for limiting travel from China.

In this respect, the appearance of partisan complicity and revisioning of authoritative health advice leads to a perceived conflation of different responses by public health authorities, which holds significant implications for the institutional standing of these organisations. In contrast, attempting to maintain some distance and independence from the political dimensions of the policy process appears, at least to this participant, one way of salvaging a public health authorities' credibility:

It [my trust] has increased in Australia due to the apolitical and technocratic nature of how they have operated. The WHO is different. I see them as being caught between professionalism and political forces. So my trust in them is high, but lower than the Australian bodies. I don't know about other countries. In the US it is a shit show.

Public concerns over the politicisation of public health authorities complicates actions undertaken by tech companies to elevate authoritative content of government healthcare agencies during the pandemic. Authoritative health advice is deeply embedded within the institutional contexts in which it is formulated. Here health information regarding the pandemic, and the public health responses required to mitigate it, were suggested as being mediated by the institutional standing and implied levels of trust in health authorities and governments. Public trust in government and its health advice suggests a need to be much

more clearly aware of the mechanisms and associations in which authoritative health information is disseminated, including the need to consider elevating the voices of non-partisan actors and agencies. Here the way authoritative information is situated within the information environment of health authorities is critical in either undermining or ensuring this authoritative content reaches members of the community and is then trusted and actioned or met with suspicion and dismissal.

Conclusion

In this article we assessed tech companies' **novel, coordinate approach** to elevate authoritative content of government healthcare agencies as a public health measure during the pandemic. Our study sought to explore two interrelated questions at the early stage of the pandemic: first, whether users engage with authoritative health content on social media; and second, if authoritative health content is trusted and why. To investigate these issues, we used closed and open-ended questions to elucidate public trust and attitudes regarding authoritative health content during an early stage of the pandemic. We found that despite the novelty of tech companies' co-ordinated approach to elevate authoritative content, most respondents indicated that they obtained information from social media, noting that 3 out of 4 saw the authoritative advice provided on social media platforms. This is significant as at the time of data collection the elevation of government advice on social media was a relatively novel phenomenon, with over half of respondents indicating that they read the authoritative information and far fewer (1 in 5) respondents indicating they ignored it. In exploring perceptions of content moderation practices undertaken by technology companies, a majority (61%) of respondents indicated contradictory advice should be removed, with only a quarter indicating they should not remove this information despite it contradicting current health advice. Other respondents suggested a more complicated position, citing difficulties in terms of practical implementation processes regarding content moderation, as well as a hesitancy **around** social media companies **potentially becoming** beholden to state bodies, while also **urging more proactive responses** to conspiratorial content.

While content moderation strategies and the elevation of authoritative content were considered positive responses minimising the spread of misinformation, controversies surrounding governments' handling of the virus **undermined the** legitimacy of authoritative

health content disseminated by government healthcare agencies. In particular, the perceived failings of governments and politicians **resulting from a series of** trust eroding scandals undermined the legitimacy of authoritative health content presented by government healthcare agencies. **Here respondents note that the perceived politicisation of public health has implications for the reception of the elevation of authoritative content and its efficacy.** While government responses to the pandemic varied by region, the theme of low institutional trust and its impact on public trust of authoritative health content on social media was a recurring global theme that is suggestive of the significant role of trust in public health. **When the separation between the polity and public health authority is obscured and distrust in government occurs, consequences arise for how authoritative content is received. Our theoretical contribution has sought to avoid viewing trust of social media as an isolated, abstract phenomenon by considering its interconnections with trust in scientific expertise and public health authorities in specific social contexts. We** have explored how users' trust of authoritative content on social media is situated in relation to perceptions about the intentions and political interests of corporate and institutional elites. Trust is contextual in that it pertains to a specific action and is truly only ever present where there remains the possibility of betrayal. In providing authoritative advice in a context of political polarisation, we contend that there remains an acute need for nonpartisan voices to be elevated in addition to government healthcare agencies.

Practical implications

Our findings raise an important tension: while scientists and the scientific method tend to be highly trusted, many **remain** distrustful of scientific institutions due to concerns they are compromised by **economic interests and** political issues. These tensions are particularly pertinent in highly polarised and partisan countries, such as the US, where significant parts of the population distrust **formal political bodies and actors**. As such, we recommend that tech companies consider elevating non-political voices as authoritative content. Here it would be helpful for health agencies to provide instructional resources and exemplars of information that citizens can share to encourage the distribution of resourceful information over memes that do not typically contain helpful information (Kothari, Walker and Bruns, 2022, 14). We also suggest that it would be useful to encourage health officials to actively leverage social

media users' willingness to engage in these topics by disseminating content that invites audiences to engage in conversations. In this respect, we concur with Gupta, Dash & Mahajan (2021) that communicating public health messages through social media has represented a missed opportunity for health agencies given the lack of resourcing and competency in using these mechanisms for dynamic communication with the public. Moreover, when elevating authoritative health advice, it would be preferable to clearly delineate the basis of knowledge informing this advice from government decision making to enable users of social media to explore any evidence as distinct from the potential responses enacted by the polity. Ultimately, more should be done to proactively engage with citizens through various social media channels, providing relevant and frequent health information during crucial times with the aim of reducing the circulation of rumours and concocted cures and prevention tips (Sharma and Kapoor, 2021).

Limitations and future studies

The limitations of this study should also be considered. This was an exploratory study, with a restricted number of respondents participating in an intentionally brief window of time. We did not aim to capture a representative sample of the population. Instead, we drew on a convenience sample due to the need for rapid data collection in a temporally significant moment and in response to restrictions established by social distancing and lockdown mandates. As a result, we have not systemically compared different regions or demographics, which is an area that could be explored, particularly in relation to how public trust of government healthcare agencies in these regions impacts their trust of authoritative health content online. Future research could also explore how differences in age and other demographic criteria shape people's engagement with authoritative content. Future research could also correlate how the reception of authoritative content changes according to the consistency and reliability of political and scientific advice in different regions. The charting of trust in governments and public health authorities also could be further assessed by examining in greater detail the relationship between governments, public health authorities and how reception of the messaging from these entities is connected to levels of trust.

References

Achterberg, P., De Koster, W., and Van der Waal, J. (2017). A science confidence gap: Education, trust in scientific methods, and trust in scientific institutions in the United States, 2014. *Public Understanding of Science*, 26(6), 704-720.

Agartan, T.I., Cook, S. and Lin, V., 2020. Introduction: COVID-19 and WHO: Global institutions in the context of shifting multilateral and regional dynamics. *Global Social Policy*, 20(3), pp.367-373.

Apuke, O. and Omar, B. (2021). User motivation in fake news sharing during the COVID-19 pandemic: an application of the uses and gratification theory. *Online Information Review*. 45(1): 220-239.

Baekkeskov, E., Rubin, O. & P. Öberg (2021) Monotonous or pluralistic public discourse? Reason-giving and dissent in Denmark's and Sweden's early 2020 COVID-19 responses. *Journal of European Public Policy*, 28(8), pp.1321-1343.

Baier, A. (1986). Trust and antitrust. *Ethics*, 96(2), 231–260.

Balog-Way, D. and McComas, K. (2020). COVID-19: Reflections on trust, tradeoffs, and preparedness. *Journal of Risk Research*. 23(7-8):838-848. DOI: 10.1080/13669877.2020.1758192

Botsman, R. (2017). *Who Can you Trust? How technology brought us together—and why it could drive us apart*. Penguin UK.

Braun, V. and Clarke, V. (2022). *Thematic Analysis: A Practical Guide*. Sage: Los Angeles.

Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. *Qualitative Research in Psychology* 3(2): 77-101.

Bright, L. F., Wilcox, G. B. and Rodriguez, H. (2019). # DeleteFacebook and the consumer backlash of 2018: How social media fatigue, consumer (mis) trust and privacy concerns shape the new social media reality for consumers. *Journal of Digital & Social Media Marketing*, 7(2), 177-188.

Brown, T.M. and Ladwig, S., (2020). COVID-19, China, the World Health Organization, and the limits of international health diplomacy, *American Journal of Public Health*, 110(8), 1149-1151

Butcher P. (2021). COVID-19 as a turning point in the fight against disinformation, *Nature Electronics*, 4:7–9. doi: 10.1038/s41928-020-00532-2.

Buranyi, S. (2020). The WHO v coronavirus: why it can't handle the pandemic. *The Guardian: The Long Read*. < <https://www.theguardian.com/news/2020/apr/10/world-health-organization-who-v-coronavirus-why-it-cant-handle-pandemic>>

Cadwalladr, C. and Graham-Harrison, E. (2018). Revealed: 50 million Facebook profiles harvested for Cambridge Analytica in major data breach. *The Guardian*, 17 March. Available at: <https://www.theguardian.com/news/2018/mar/17/cambridge-analytica-facebook-influence-us-election>

Cairns, G., Andrade, M. and MacDonald, L. (2013). Reputation, relationships, risk communication, and the role of trust in the prevention and control of communicable disease: a review. *Journal of Health Communication*. 18(12):1550-65.

Chen, X.K., Na, J., Tan, L., Chong, M. and Choy, M. (2022). Exploring how online responses change in response to debunking messages about COVID-19 on WhatsApp. *Online Information Review*. <https://doi.org/10.1108/OIR-08-2021-0422>

Cheng, Y. and Chen, Z. (2021) Encountering misinformation online: antecedents of trust and distrust and their impact on the intensity of Facebook use. *Online Information Review*. 45 (2): 372-388. <https://doi.org/10.1108/OIR-04-2020-0130>

Christakis, N.A., (2020). *Apollo's arrow: The profound and enduring impact of coronavirus on the way we live*. Little, Brown Spark

Cifuentes-Faura, J. (2021) Infodemics during COVID-19: resources and recommendations to combat it. *Online Information Review* 45(4):830-833. <https://doi.org/10.1108/OIR-08-2020-0352>

Clegg, N. (2020). Combating COVID-19 Misinformation Across Our Apps. *Facebook*, 25 March. <https://about.fb.com/news/2020/03/combating-covid-19-misinformation/>

Cueto, M., Brown, T., and Fee, E. (2019). *The World Health Organization: A History*. Cambridge University Press: Cambridge.

Cummings, L.L. and Bromiley, P. (1996) 'The organizational trust inventory (OTI): development and validation' in Kramer, R.M. and Tyler, T.R. (eds) *Trust in Organizations: Frontiers of Theory and Research*, Thousand Oaks, CA, Sage.

Davies, D. (2021) 'NHS values, ritual, religion, and Covid19 death', pp.121-133 in *Death, Grief and Loss in the Context of COVID-19*, ed. P. Pentaris. Routledge.

Dawsey, J., Parker, A. Rucker, P., and Abutaleb. Y. (2020) As deaths mount, Trump tries to convince Americans it's safe to inch back to normal. *Washington Post*, May 9 <https://www.washingtonpost.com/politics/as-deaths-mount-trump-tries-to-convince-americans-its-safe-to-inch-back-to-normal/2020/05/09/bf024fe6-9149-11ea-a9c0-73b93422d691_story.html>

Deley, T., and Dubois, E. (2020). Assessing Trust Versus Reliance for Technology Platforms by Systematic Literature Review. *Social Media+ Society*, 6(2), 2056305120913883.

Everett, J. A. C., Colombatto, C., Chituc, V., Brady, W. J., and Crockett, M. (2020). The effectiveness of moral messages on public health behavioral intentions during the COVID-19 pandemic. <https://doi.org/10.31234/osf.io/9yqs8>

Facebook Newsroom (2020). Joint Industry Statement. *Facebook*, 17 March. <https://twitter.com/fbnewsroom/status/1239703497479614466/photo/1>

Fancourt, D., Steptoe, A., and Wright, L. (2020). The Cummings effect: politics, trust, and behaviours during the COVID-19 pandemic. *The Lancet*, 396(10249), 464-465.

Funk, C., Tyson, A., Kennedy, B. and Johnson, C. (2020). *Science and Scientists Held in High Esteem Across Global Publics*. Pew Research Center. <
https://www.pewresearch.org/science/wp-content/uploads/sites/16/2020/09/PS_2020.09.29_global-science_REPORT.pdf>

Gambetta, D. (1988). *Trust: Making and breaking cooperative relations*. Wiley–Blackwell.

Gillespie, T. (2020). Content moderation, AI, and the question of scale. *Big Data & Society*. July 2020. doi:10.1177/2053951720943234

Gilsinan, K. (2020). How China Deceived the WHO. *The Atlantic*. April 12, 2020 <
<https://www.theatlantic.com/politics/archive/2020/04/world-health-organization-blame-pandemic-coronavirus/609820/>>

Godlee, F. (2021). Covid 19: We need a full open independent investigation into its origins. *BMJ*, 8 July. <https://www.bmj.com/content/374/bmj.n1721.short>

Gostin, L., and Friedman, E. (2014). Ebola: A crisis in global health leadership. *The Lancet*, 384, 1323–1325. doi:10.1016/S0140-6736(14)61791-8

Gostin, L.O., Moon, S. and Meier, B.M. (2020). Reimagining global health governance in the age of COVID-19, *American Journal of Public Health*, 110(11), 1615-1619

Groot Kormelink, T. & A. Klein Gunnewiek (2022). From “far away” to “shock” to “fatigue” to “back to normal”: How young people experienced news during the first wave of the COVID-19 pandemic. *Journalism Studies*, 23(5-6), pp.669-686.

Gupta, S., Dash, S.B. and Mahajan, R. (2021), The role of social influencers for effective public health communication. *Online Information Review*, <https://doi.org/10.1108/OIR-01-2021-0012>

Hao, K. (2021). Silicon Valley: How Facebook and Google fund global misinformation. *MIT Technology Review*. <<https://www.technologyreview.com/2021/11/20/1039076/facebook-google-disinformation-clickbait/>>

Huber, B., Barnidge, M., Gil de Zúñiga, H., and Liu, J. (2019). Fostering public trust in science: The role of social media. *Public Understanding of Science*, 28(7), 759-777.

Kothari, A., Walker, K., and Burns, K. #CoronaVirus and public health: the role of social media in sharing health information. *Online Information Review*. <https://doi.org/10.1108/OIR-03-2021-0143>

Kreps, G.L., 2021. The role of strategic communication to respond effectively to pandemics. *Journal of Multicultural Discourses*, 16(1), pp.12-19

(The) Lancet Infectious Diseases (2020). The COVID-19 infodemic. *The Lancet. Infectious Diseases*, 20(8), 875.

Lee, K., (2020). WHO under fire: The need to elevate the quality of politics in global health. *Global Social Policy*, 20(3), pp.374-377

Luhmann, N. (2000) ‘Familiarity, Confidence, Trust: Problems and Alternatives’. In Gambetta, D. (ed.) *Trust: Making and Breaking Cooperative Relations*. University of Oxford, pp. 94-107

Mannell, K. & J. Meese (2022) From Doom-Scrolling to News Avoidance: Limiting News as a Wellbeing Strategy During COVID Lockdown. *Journalism Studies*, pp.1-18.

Marien, S. and Hooghe, M. (2011). Does political trust matter? An empirical investigation into the relation between political trust and support for law compliance. *European Journal of Political Research*, 50(2), 267-291.

Miller, J. D. (2004). Public understanding of, and attitudes toward, scientific research: What we know and what we need to know. *Public Understanding of Science*, 13(3), 273-294.

Morgan, S. (2018). Fake news, disinformation, manipulation and online tactics to undermine democracy. *Journal of Cyber Policy*, 3(1), 39-43.

Mueller, R. S. (2019). Report On The Investigation Into Russian Interference In The 2016 Presidential Election. Available at:
<https://www.justice.gov/archives/sco/file/1373816/download>

Myers, C. D. and Tingley, D. (2016). The influence of emotion on trust. *Political Analysis*, 492-500.

Nix, N. and Wagner, K. (2021). Whistleblower accuses Facebook of prioritising profit over safety. *The Sydney Morning Herald*.
<<https://www.smh.com.au/business/companies/whistleblower-accuses-facebook-of-prioritising-profit-over-safety-20211004-p58x4n.html>>

Open Knowledge Foundation (2020). Brits demand openness from government in tackling coronavirus. *Open Knowledge Foundation*, 5 May. Available at:
<https://blog.okfn.org/2020/05/05/brits-demand-openness-from-government-in-tackling-coronavirus/>

Pagliaro S., Sacchi S., Pacilli MG., Brambilla M., Lionetti F, et al. (2021). Trust predicts COVID-19 prescribed and discretionary behavioral intentions in 23 countries. *PLOS ONE* 16(3): e0248334. <https://doi.org/10.1371/journal.pone.0248334>

Roth, Y. and Pickles, N. (2020). Updating our approach to misleading information. *Twitter*, 11 May. Available at: https://blog.twitter.com/en_us/topics/product/2020/updating-our-approach-to-misleading-information

Sandberg, S. (2018). *Facebook*, 21 March.
<<https://www.facebook.com/sheryl/posts/10160055807270177>>

Sharma, A. and Kapoor, P.S. (2022), Message sharing and verification behaviour on social media during the COVID-19 pandemic: a study in the context of India and the USA. *Online Information Review*, 46(1): 22-39. <https://doi.org/10.1108/OIR-07-2020-0282>.

Skinner, G., Garrett, C. and Shah, G. N. (2020). How has COVID-19 affected trust in scientists? Ipsos MORI, 22 September. Available at: <https://www.ukri.org/wp-content/uploads/2020/09/UKRI-271020-COVID-19-Trust-Tracker.pdf>

Steinfeld, N. (2022). "The disinformation warfare: how users use every means possible in the political battlefield on social media", *Online Information Review*. <https://doi.org/10.1108/OIR-05-2020-0197>

Syn, S.Y. (2021). Health information communication during a pandemic crisis: analysis of CDC Facebook Page during COVID-19. *Online Information Review* 45(4): 672-686.

Taylor-Gooby, P., 2008. Trust and welfare state reform: the example of the NHS. *Social Policy & Administration*, 42(3), pp.288-306

Thacker, P. D. (2021). The covid-19 lab leak hypothesis: did the media fall victim to a misinformation campaign?. *BMJ*, 374.

Torres, I., Artaza, O., Profeta, B., Alonso, C. and Kang, J., 2020. COVID-19 vaccination: returning to WHO's Health For All. *The Lancet Global Health*, 8(11), pp.e1355-e1356

Tsirtsakis, A. (2020). Questions raised over WHO's seemingly conflicting COVID-19 advice. News GP. 9 June 2020 <https://www1.racgp.org.au/newsgp/clinical/questions-raised-over-who-s-seemingly-conflicting>

Tufekci, Z. (2020) 'Why Telling People They Don't Need Masks Backfired', *The New York Times*, March 17, 2020 <https://www.nytimes.com/2020/03/17/opinion/coronavirus-face-masks.html>

Vinck, P., P. N. Pham, K. K. Bindu, J. Bedford, and E. J. Nilles. (2019). Institutional Trust and Misinformation in the Response to the 2018–19 Ebola Outbreak in North Kivu, DR Congo: A Population-Based Survey. *The Lancet Infectious Diseases* 19 (5): 529–536. doi:10.1016/S1473-3099(19)30063-5.

Wallison, P. (2021). Danger of social media business models. *The Hill*. <<https://thehill.com/opinion/technology/579369-danger-of-social-media-business-models>>

Wardle, C. and Derakhshan, H. (2018). Thinking about 'information disorder': formats of misinformation, disinformation, and mal-information. *Journalism, 'Fake News' & Disinformation: A Handbook for Journalism Education and Training*. Paris: Unesco, 43-54.

Wellcome Global Monitor. (2019). *Wellcome Global Monitor 2018*, 18 June. Available at: <https://wellcome.org/reports/wellcome-global-monitor/2018>

World Health Organization (2020). US\$675 million needed for new coronavirus preparedness and response global plan. World Health Organization News Release 5 February 2020. <<https://www.who.int/news/item/05-02-2020-us-675-million-needed-for-new-coronavirus-preparedness-and-response-global-plan>>

Woodley, M. (2020). WHO official clarifies position on asymptomatic COVID-19 spread. News GP. 10 June 2020. <<https://www1.racgp.org.au/newsgp/clinical/who-official-clarifies-misleading-position-on-asym>>

Wong, J. C. (2018). Mark Zuckerberg apologises for Facebook's 'mistakes' over Cambridge Analytica. *The Guardian*, 22 March. Available at: <https://www.theguardian.com/technology/2018/mar/21/mark-zuckerberg-response-facebook-cambridge-analytica>

Yang, K.C., Pierri, F., Hui, P.M., Axelrod, D., Torres-Lugo, C., Bryden, J. & F. Menczer (2021) 'The COVID-19 infodemic: Twitter versus Facebook'. *Big Data & Society*, 8(1), DOI: 10.1177/20539517211013861

YouTube (2020). COVID-19 medical misinformation policy. *YouTube*, 20 May. Available at: <https://support.google.com/youtube/answer/9891785?hl=en-GB> (accessed 1 June 2020).

Zakaria, F., (2020). *Ten lessons for a post-pandemic world*. Penguin UK

Zhang, M.R., Boone, A., Behbakht, S.M. & A. Hiniker (2022). Understanding the Digital News Consumption Experience During the COVID Pandemic. *arXiv preprint*. arXiv:2202.05324