



City Research Online

City, University of London Institutional Repository

Citation: Singer, J. (2023). Closing the Barn Door? Fact-checking America's Covid-19 "Infodemic". *Journalism & Mass Communication Quarterly*, 100(2), pp. 332-353. doi: 10.1177/10776990231168599

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/30133/>

Link to published version: <https://doi.org/10.1177/10776990231168599>

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.

City Research Online:

<http://openaccess.city.ac.uk/>

publications@city.ac.uk

Closing the Barn Door? Fact-checking America's Covid-19 "Infodemic"

Accepted for publication March 2023 by:
Journalism & Mass Communication Quarterly

Jane B. Singer
Professor Emerita of Journalism Innovation
Department of Journalism
City, University of London

Keywords: Covid-19, fact-checking, gatekeeping, infodemic, misinformation

Acknowledgment: The author wishes to thank all the reviewers but especially "Reviewer Three," who suggested the wonderfully apt metaphor of "circuit breaker" to describe the fact-checkers' role in attempting to interrupt the spread of misinformation. Thank you!

Abstract:

Based on a study of U.S.-tagged items in a global database of fact-checked statements about the novel coronavirus throughout the first year of the pandemic, this article explores the nature of fact-checkers' "retroactive gatekeeping." This term is introduced here to describe the process of assessing the veracity of information after it has entered the public domain rather than before. Although an overwhelming majority of statements across 16 thematic categories were deemed false and debunked, often repeatedly, misinformation continued to circulate freely and widely.

Closing the Barn Door? Fact-checking America's Covid-19 "Infodemic"

**Accepted for publication March 2023 by:
*Journalism & Mass Communication Quarterly***

**Jane B. Singer
City, University of London**

"We're fighting an infodemic," WHO's director-general declared in February 2020, just weeks into the global health crisis (Ghebreyesus, 2020). "Fake news spreads faster and more easily than this virus, and is just as dangerous." He was not the first to come to this realization. The previous month, fact-checkers from around the world had begun contributing to a collective database designed as a global resource for combatting misinformation about what soon became known as Covid-19. Launched by the International Fact-checkers Network at the Poynter Institute, the #CoronaVirusFacts Alliance¹ database held a whopping 10,885 entries by the end of 2020, 1,218 of them "tagged" for the United States.

The widespread circulation of information that is inaccurate, misleading, malicious, or otherwise harmful to civil society is hardly new, and its connections with eroding public trust and intensifying social polarization are well-documented (Ekström et al., 2020). But its rampant proliferation in an age of digital and, especially, social media is striking (Tandoc et al., 2018), aided significantly by the structural imperatives of platforms such as Facebook, whose commercial success depends on continuous user engagement (Gray et al., 2020; Pickard, 2019). Amid a global pandemic, this tsunami of misinformation endangers public health, as protective strategies are undermined by distrust, and ineffective or even harmful treatments gain leverage over ones that can save lives (Evanega et al., 2020). The role of fact-checkers as a counter-force has attracted scholarly attention; Luengo and Garcia-Marin (2020), for example, credit their ability not only to address hoaxes of various kinds but also to apply an empirical approach to offset false Covid-19 narratives. Brennen and his colleagues

(2020) noted as early as April 2020 the rapid increase in time and resources devoted to countering false claims about the pandemic.

However, connections of these contemporary phenomena with traditional understandings of the proactive role of information gatekeepers in moderating the flow of information to audiences have been scarce. The purpose of this exploratory study is to examine an application of fact-checkers' alternative approach, which involves assessing the veracity of information *after* it has been published rather than before. Focusing on U.S.-tagged database items, it examines the volume, scope, and nature of Covid-19 misinformation and fact-checkers' efforts to defuse it.

Literature Review

This article draws on three sets of literature. The first two, concerning the nature of misinformation in a digital environment and the role of dedicated “fact-checkers” in combatting it, are considered in the first part of this section. The third focuses on the evolution of gatekeeping theory, as a once-narrowly bounded media environment is transformed into a vast ecosystem whose boundaries, to the extent they exist at all, are controlled largely by algorithms.

Literature: Misinformation and fact-checking

Although something recognisable as “the internet” has existed for well over 50 years, it was not until the creation and rapid popular uptake of web browsers in the 1990s (Ryan, 2010) that a truly communal digital space took shape. Technological advances in the early 21st century facilitated what became known as “Web 2.0,” enabling internet users to become content producers, “first class entities” in a media world that previously had relegated them to more passive consumption roles (Cormode & Krishnamurthy, 2008). With the advent of

social media in the mid-2000s, a “culture of connectivity” (van Dijck, 2013) roared into existence; by the 2010s, the exponentially greater transmissibility of information in this digital-native variant made it a dominant form of populist communication (de Zúñiga et al., 2020), raising myriad questions about its effects on, and role in, democratic society (Vraga, 2019).

Extensive documentation highlights the strong connection between social media and misinformation, along with its potential threat to civil society (Allcott et al., 2019). As reliance on social media to deliver information grows, the ability of shared misinformation to influence others’ opinions and beliefs also expands, helped along by such factors as confirmation bias, selective exposure, and social ties (Tandoc, 2019). Social media platforms have been found to incubate belief in blatantly false information, with repetition increasing the perception of accuracy even for posts with minimal plausibility (Pennycook et al., 2018); its spread is seen as central to the growth of populist sentiment around the world (Iosifidis & Nicoli, 2020).

Do post-hoc attempts to correct this misinformation help? Research suggests that they can, but also that practitioners should step carefully. For instance, general warnings about fake information can have a “spillover” effect, making people more distrustful of the truth (Clayton et al., 2020). Even explicit warnings that a headline had been disputed by a third-party fact-checker do not necessarily weaken the effects of repeat exposure to misinformation (Pennycook et al., 2018). A user’s cognitive ability also affects acceptance of the countering information in a fact-check; those on the lower end of the scale are unlikely to adjust their attitudes even after explicit rebuttal of the false information (De keersmaecker & Roets, 2017). In general, research suggests that such post-publication initiatives as fact-checking can help address misinformation, but their impact is not universal, is often contingent on other factors that are difficult to address or assess, and in some cases may even be negative, serving

to reinforce belief in the original false claim even when the misinformation is corrected immediately (Thorson, 2016).

Other work has offered a bit more hope. For instance, Vraga and Bode (2020) found that despite the relative “stickiness” of misinformation, corrections do seem to reduce belief in its veracity – though their effect diminishes as issues become more polarized or as people integrate dubious ideas into their own self-concept. Pointing out that corrective messages on social media are aimed at the person sharing the information as well as its recipients, the researchers indicate that effectiveness can be improved through such communication tactics as stating what is false and providing an explanation why, a strategy in line with the approach of fact-checkers in the database analyzed here (ibid.).

Although much of the research into misinformation has focused on the political realm, a considerable body of work has examined it in the context of health communication, a field in which increased action from researchers and practitioners is seen as urgently needed (Chou et al., 2020). As Broniatowski and his colleagues (2018) point out, social media have the potential to facilitate fast and far-reaching dissemination of factual health information – but instead are frequently abused to spread harmful content, notably but not exclusively around vaccines. In a meta-analysis of research published between 2012 and 2018, Wang et al. (2019) showed the extent to which social media enable communities of denialists to thrive, with unfounded reports, conspiracy theories, and pseudoscience all having profound consequences for public health, from hostility against health workers to skepticism about medical guidelines, as well as the widely documented problem of vaccine hesitancy (Chou et al., 2018).

Recent work on Covid-related misinformation has underscored the negative impact of hoaxes spread via social media. Lee and his colleagues (2022), for example, found that use of social media for news about the pandemic was negatively related to factual knowledge and

positively related to knowledge “miscalibration.” However, Kreps and Kriner (2020) found that although simply flagging fake headlines had little effect on assessment of accuracy or propensity to share, corrections that explicitly countered false claims with factual information were somewhat more effective. Additional grounds for optimism come from a study by Bode and Vraga (2021), who showed that exposure to misinformation about Covid-19 on social media was common, but most people who said they saw such content also said they saw a correction of it.

These findings underlie the premises that motivate many fact-checkers: that facts matter, that citizens need and deserve to be properly informed, and that strengthening trust in quality information is crucial (Singer, 2021). Ensuring the accuracy of information has long been a hallmark of quality journalism, and media outlets have historically had editors devoted to checking facts (Cortada & Aspray, 2020; Graves & Amazeen, 2019; Sivek & Bloyd-Peshkin, 2018). But fact-checking as a distinct journalistic form in its own right dates only to the late 2000s (Graves et al., 2016), emerging in the United States around the time that social media was becoming prominent; by early 2023, nearly 400 fact-checkers operated around the world (Duke Reporters Lab, n.d.). Roughly a quarter of them, including organisations contributing to the database studied here, are certified as signatories to the International Fact-checking Network Code of Principles²; these fact-checkers have provided explicit evidence to satisfy independent assessors of their adherence to non-partisanship, fairness, and transparency of sources, funding, organization, and methodology (IFCN, n.d.).

Like journalists, fact-checkers see equipping citizens with truthful information about civic society as a core function (Singer, 2021). Like journalists again, fact-checkers value truthfulness (Graves, 2017); unlike journalists, though, they overtly adjudicate veracity through a transparent process of weighing evidence, claims, and counterclaims (Coddington et al., 2014; Graves, 2016). Another crucial distinction with theoretical implications is that

while journalistic work is largely proactive, involving decisions by reporters and editors about what information to pursue and to publish, fact-checkers are primarily reactive: They respond to information (often though not exclusively bad information) that is already in the public sphere. Journalists and fact-checkers thus can be seen as standing on different sides of a metaphorical gate.

The extent to which journalists' attitudes about what information to let through the gate jibe with fact-checkers' attitudes about how to respond once it is published has not been extensively studied, but a quick look at practitioner norms can offer preliminary insights. The "quest for truthfulness" is the most dominant theme in journalistic codes of ethics around the world (Cooper, 1990, p. 11), and accurately conveying the truth is central to fact-checkers' work, as well (Graves, 2017; Singer, 2021). However, their approaches to truth differ: While journalists tend to focus on accurately reporting what was said or done, fact-checkers are more interested in judging the veracity of the statement itself. FactCheck.org founder and long-time journalist Brooks Jackson summed up the distinction a decade ago, suggesting the need to evolve quickly away from a gatekeeper model of dwindling relevance into "more of an umpire/referee" (quoted in Amazeen, 2013, p. 19). Implications related to fact-checkers' role in building media literacy have begun to attract scholarly attention (see Çömlekçi, 2022; Frau-Meigs, 2022). Hameleers (2022), for instance, found that fact-checking works best when combined with media literacy interventions, though these may or may not be part of a fact-checker's arsenal.

Another point of distinction lies in fact-checkers' foregrounding of accountability and transparency. While traditional journalistic transparency has been described as "limited and strategic" (Chadha & Koliska, 2015, p. 215), these two norms are high on fact-checkers' list of priorities (Singer, 2021). Published fact-checks typically offer links to sources used in reaching a judgement; they also commonly indicate the steps taken to investigate a statement

or claim and to make a decision about it. Fact-checkers believe this provision of information showing audiences how they reached a judgment is crucial in distinguishing their practices from those of traditional journalists (Singer, 2018).

In fact, many fact-checkers explicitly see themselves as correcting some shortcomings of journalism (Amazeen, 2019), describing fact-checking as “good medicine” for an ailing occupation (Graves, 2018, p. 623). Recent work suggests fact-checkers tend to believe they are more trustworthy, credible, and non-partisan information providers than legacy media in their coverage area (Singer, 2021). Providing an impetus to move away from old media habits and understandings is part of the mission for those who see themselves as “both an extension to traditional journalism and in many respects as a correction of it” (Singer, 2018, p. 1079).

In summary, research into misinformation and the emergence of fact-checkers as a counter-force suggests that once a falsehood has entered today’s unfettered and interconnected information sphere, attempts to “correct” it yield effects that can be positive – but that also are significantly and sometimes negatively influenced by the context in which those debunking attempts are produced and perceived. The volume and seeming indestructability of misinformation, particularly on social media, compounds the difficulty. In the words of Heidi Larson (2021), founding director of the Vaccine Confidence Project at the London School of Hygiene and Tropical Medicine, fact-checking can resemble clipping the head off a weed: You can do it repeatedly, but the roots just continue to grow.

To place fact-checkers’ attempts at dealing with misinformation in a more theoretical perspective, this article turns now to a necessarily brief consideration of the nature of more traditional forms of information gatekeeping as well as its ongoing reconfiguration in the digital and social world in which fact-checkers primarily operate.

Literature: The past, present, and possible future of gatekeeping

Gatekeeping theory highlights the role of journalists as information mediators (Shoemaker, 1991), encompassing the ways in which they navigate that role amid influences at levels ranging from the individual to the societal, with news production routines holding particular power (Shoemaker et al., 2001; Shoemaker & Reese, 2013). First applied to a newspaper editor in the mid-20th century (White, 1950) and updated over the years (Shoemaker, 1991; Shoemaker & Vos, 2009; Vos & Heinderyckx, 2015), it has been both reasserted and challenged in a world of digital (Bro & Wallberg, 2015; Thorson & Wells, 2015), participatory (Bruns, 2005; Domingo et al., 2008), and social media (Coddington & Holton, 2014). Calls for a rethink date back at least 30 years (see Berkowitz, 1990), but over the past decade, a consensus seems to have emerged that the concept can be most aptly described as “in transition,” as Vos and Heinderyckx (2015) characterise it.

Clearly, a fluid and inclusive media space means even journalists readily acknowledge that while they may retain a degree of editorial oversight, they no longer exert control over what enters the information sphere (Vos & Thomas, 2019); gatekeeping, like everything else online, has become a networked process (Meraz & Papacharissi, 2016). There is widespread agreement that the metaphor, if not necessarily the occupational norms undergirding it (Walters, 2021), is past due for an overhaul. Schwalbe and her colleagues (2015) opt for “gatecheckers,” particularly in relation to visual content. Pearson and Kosicki (2017) suggest a better metaphor is “way-finding,” placing the focus on the paths that news users take to find their way to a particular piece of information. Thorson and Wells (2015) propose a framework of “curative flows,” encompassing not only the journalists involved in content production and dissemination but also media consumers, social others within digital networks, strategic communicators, and algorithms “designed to shape the discovery and presentation of content” (p. 31).

This idea of algorithmic gatekeepers deserves highlighting. Algorithms pose a significant challenge to classic gatekeeping theory, which Wallace (2018) suggests is no longer adequate to describe contemporary digital news selection processes involving a complex interplay among users, platforms, and news creators. Compounding the challenge is that algorithmic gatekeepers are “the ultimate incarnation of opacity” (Heinderyckx, 2015, p. 257; Pasquale, 2015) – and they of course play an oversized role in social media (Thorson, 2020), where so much coronavirus misinformation has circulated freely and widely (Ferrara et al., 2020; Rosenberg et al., 2020).

Algorithms external to news organisations and their human gatekeepers increasingly influence how journalists assess, research, and publish stories, as well as how users consume them (Brake, 2017). For instance, editors make extensive and increasing use of algorithms, particularly in their reliance on audience metrics for decisions about coverage and placement (Blanchett, 2021; Tandoc, 2014), part of their adaptation to what Carlson (2018) calls “measurable journalism.” As AI permeates all stages of the news-making process, Simon (2022) warns, platform companies may increasingly control not only the channels of distribution but also the means of content production. Diakopoulos (2019) goes further, warning that a loss of editorial control is inevitable: “By introducing algorithms into news curation, journalists and editors are delegating decision-making about what content to include, where to include it, and when to post it” (p. 200). Newly emerging AI permutations such as ChatGPT, which responds to text prompts by rapidly generating copy drawn from machine learning (Pavlik, 2023), will raise fresh questions and concerns.

Recent gatekeeping scholarship has taken these considerations about roles, processes, and technologies on board and begun to tackle the notion of what Hermida (2020) calls “post-publication gatekeeping,” a consideration that combines the human aspect of the process with “the materiality of the technological infrastructures and products, and the subsequent

emergent social habits of news consumption and circulation” (p. 470). Scholarly attention is beginning to turn to this still under-explored concept, largely in relation to the impact users have on journalists’ subsequent news selection (Ai et al., 2022; Blanchett, 2021; Salonen et al., 2022).

The current research seeks to expand these understandings by focusing on the particular form of quality control exercised by fact-checkers in retroactively assessing information that is already published. Given the near-impossibility of keeping any piece of content out of circulation, it suggests that contemporary gatekeeping entails identifying which bits of published information are true and which are not, and attempting to rebut, refute, or otherwise counter the latter. Fact-checkers thus epitomize an approach to gatekeeping born of the social media age, in which historic understanding of the role – that audiences could “hear as a fact only those events which the newsman ... believes to be true” (White, 1950, p. 390) – has lost its validity.

The core research question of this exploratory study of fact-checkers as gatekeepers interrogates the characteristics of a massive fact-checking database constructed in an attempt to deal with misinformation circulating in the United States during the first year of the Covid-19 pandemic. Following an empirical examination of the scale, scope, and thematic nature of database posts, the article concludes by considering what the fact-checkers’ approach might signify in relation to gatekeeping theory in the current media ecosystem.

Methodology

To address this research question, this study draws on a subset of 2020 #CoronaVirusFacts Alliance database posts: those tagged for the United States. Each post included the name of the fact-checking organization (for example, Politifact); the date of the post; the country or countries tagged by the fact-checker; a rating (false, misleading, and so

on); a summary of the statement (for instance, “Boiled orange peels with cayenne pepper are a cure for coronavirus”); and a link to “read more,” offering an explanation of the rating and the ability to access a longer discussion on the organization’s own website. Each organization decided whether to repost a fact-check from its own site to the database, formatting the relevant information into a template created by the IFCN tech team to support this collaborative effort. This paper focuses on the 1,218 posts tagged “United States” (including two erroneously tagged as “USA” or “United”); associated links were not followed.

The researcher first logged all 10,885 posts in an Excel file, organized by month and day, then created a separate file for the U.S.-tagged posts. Information recorded included the country or countries associated with each post; the date of the post; the fact-checker who provided the post; the rating given the item; and the full text of the post itself. Because the analysis focused on the contents of the database, it was not possible to identify visual or textual characteristics of the original material that fact-checkers had selected for assessment. Nor was the original publisher of the content analysed; that said, other work based on this database suggests social media in general, and Facebook in particular, was a source of a significant majority of misinformation fact-checked here (*citation withheld pending peer review*).

To facilitate analysis, a supplemental file was created, providing a count of the number of all U.S.-tagged posts per month and the number of cross-tagged posts per month (for instance, those tagged for both “France” and “United States”), as well as a log of countries included in any cross-tag. In considering the volume of Covid-19 misinformation in 2020, this article reports descriptive statistics based on a simple count of items.

A thematic textual analysis of the posts was then conducted to understand the topics represented across this body of misinformation and any fluctuations in emphasis over time. Textual analysis enables researchers to perform what McKee (2003, p. 1) describes as an

“educated guess” about the most likely interpretations of a text, facilitating analysis of “how texts produce potential meanings and what those potential meanings are” (Hughes, 2007, p. 249). This qualitative approach is useful for considering samples of textual material, as here, rather than large bodies of text, and it can further be focused on a few selected features of that material (Fairclough, 2003). It enables researchers to discern patterns and versions of reality present in a text (Fürsich, 2009). In this study, textual analysis of the posts was applied to track the nature of misinformation debunked by the fact-checkers through various stages of the pandemic, including its emergence in early 2020, the virus’ nearly unchecked rampage across America in the following months, and the increased attention to vaccines as the year drew to a close.

To carry out this analysis, the author re-read each post and made a preliminary thematic designation. After considering all 1,218 US-tagged posts in this way, another pass through the data set enabled modification and refinement of these themes to reflect patterns more accurately across the data set. New themes – such as “economy” for posts related to stimulus checks and other economic matters, and “tests” to highlight posts that were specifically about testing capacity and processes – were added. Others that initially were considered separately were combined; for example, safety precautions (for instance, use of face masks) and risk factors (for instance, that having a beard increases the chance of infection) were originally interpreted as distinct themes but proved difficult to differentiate and were therefore collapsed into a single “risk” theme. Ultimately, a final list of 16 themes was derived and is provided in **Appendix A**.

As shown in **Table 1**, a total of 1,155 items – 94.8% of the total – were rated as false, partially false, or misleading. In addition, 29 items received a “no evidence” rating; these were included in the thematic analysis, as were a total of six without a rating and another four with unique ratings indicating at least some degree of falsity. Only 22 posts, 1.8% of the total,

were rated as even partially true; none was rated as wholly true. Because these 22 items did not constitute misinformation in the assessment of the fact-checkers, they were set aside for purposes of the thematic analysis. Two April posts labelled as “explanatory” also were omitted from the thematic categorization. It should be emphasized that as this study focused only on a single database of fact-checks, these data do not indicate that accurate information about Covid-19 was unavailable to American media consumers in 2020. Fact-checkers have significantly limited time and resources (Micallef et al., 2022; Singer, 2021), making them more likely to focus on debunking potentially harmful false information than to bolstering a truthful statement.

Findings: Misinformation by the numbers

The first of the 1,218 “United States” items was posted on January 21, 2020, by Agence France-Presse (AFP), labelling as false the statement that “the coronavirus was created in a lab and patented”; the last appeared on December 31, with Spanish fact-checker Newtral.es refuting the claim that a nurse in Tennessee had contracted Bell’s Palsy from a Covid-19 vaccine. In between, a large majority of the posts – 943, or 77.4 percent – were contributed by seven U.S.-based fact-checkers (see **Appendix B**), with a total of 34 fact-checking enterprises based in other countries providing the rest. More than 80 percent of these items were rated as completely untrue, with most of the others assessed as either partially false or misleading (see **Table 1**). Few fact-checkers bothered posting to the database items that were even partially true. Of the 22 items rated as containing some truth, 20 were posted by Politifact.

Database tools facilitated cross-tagging of multiple countries, for instance those referenced in the hoax but circulating more widely. Of those tagged for the United States, 176 (14.4%) were also tagged for one or more other locations. However, US-based fact-checkers

rarely exercised this option – only seven times, all in April. Of the items cross-tagged with the United States in the database, 94% were provided by fact-checkers from other countries.

Roughly half of the U.S.-tagged database entries were posted in March (345 posts) or April (315 posts); altogether, more than 80 percent of the posts (985 of 1,218) were added to the database in the first half of the year. Although this study cannot assess the reasons for such patterns, one possibility is that U.S.-based fact-checkers diverted their energies to the political campaign in the latter part of 2020; fewer than 100 items were added to the coronavirus database in August, September, and October combined. In March, an average of more than 11 posts were collectively contributed every day; in September, the average plummeted to just one per day.

Although the number of posts added to the database decreased over time – with a bit of an uptick in December, as misinformation about the emerging vaccines spread across the Internet – the percentage that contained false or misleading information did not. On the contrary, the last item rated as even “half true” appeared on April 3rd, and both explanatory items also appeared in the first half of April. From then on, virtually every post was identified as either false or misleading by the fact-checkers. Again, the reasons for these patterns can only be inferred from a textual analysis; it may be, for instance, that fact-checkers decided to dedicate their limited time to addressing false information about the coronavirus rather than highlighting material that was at least partially correct. Whatever the explanation, it is clear that debunking false claims did not make them go away; not only did new ones continuously appear but old ones also recirculated repeatedly. To take one example: Claims by then-talk show host Rush Limbaugh and others that the coronavirus was no more serious than the common cold appeared in February, the month the first U.S. death from the virus was recorded; the pandemic was still being termed a hoax eight months, hundreds of thousands of U.S. deaths, and millions of symptomatic infections later.

Findings: Misinformation themes

A total of 1,194 items of misinformation that appeared in the database across 2020 were subjected to textual analysis. As shown in **Table 2**, each of the 16 thematic categories represented at least 2% of these posts, ranging from 28 items of misinformation related to technology to 136 related to politics. Adding in the 70 posts related to Donald Trump, a theme unto himself, indicates more than 17 percent of the items of misinformation debunked by these fact-checkers were political in nature, perhaps indicative of the overall emphasis placed on holding public figures accountable.

No fact-checker with multiple posts tagged for the United States contributed items that fell into a single thematic category. The only clear distinction among their contributions was the heavy political leaning of the *Washington Post* Fact-Checker, with all 21 of its contributions related either to President Trump or to politics more broadly. Otherwise, there were no discernible patterns to the selection of the fact-checkers, who each worked independently in identifying statements to investigate. For example, although 15 of the 125 posts from Science Feedback related to vaccines, it also contributed posts that fell into 13 of the other thematic categories; to take another example, AFP's 108 posts covered every theme identified here.

The only theme to recur in every month of the year involved vaccinations, referencing the availability, use, or effects of coronavirus vaccines (and, in a few cases, of other vaccines such as those for seasonal flu). As early as April, fact-checkers were countering false reports that a volunteer for a vaccine trial had died. Summer brought claims that a vaccine would “permanently alter our DNA,” contained “dangerous amounts of fetal DNA,” and resulted in “a 33% death rate.” Microsoft billionaire and global philanthropist Bill Gates was repeatedly linked to nefarious plots related to vaccination, from using vaccines to implant microchips and thus “geolocate the population” to admitting “his [sic] COVID-19 vaccine might kill

nearly 1 million people.” In the early part of the year, there were claims that a vaccine already existed, typically in some distant location such as Russia or Australia; by the end of the year, when vaccines had cleared their clinical trials and actually *were* becoming available, they were greeted with a surge of misinformation about their safety and side effects, from sterility to facial paralysis to outright death (along with a revival of the microchip claim). Hoaxes related to vaccines accounted for more than half of all posts in December; this was the only theme to be more prevalent late in 2020 than it was in earlier months.

In contrast, misinformation around the origins of the virus were most prevalent early in the year; more than a third of the debunked statements in January, when the database launched, involved claims that the coronavirus was manufactured, notably that it was “a weapon developed in a Chinese lab.” Other false statements during this period asserted that various unlikely entities had foreseen the outbreak, from late Libyan strongman Muammar Gaddafi to characters in movies or TV shows; indeed, the creators of the Simpsons cartoon were apparently so prescient that they even “predicted Tom Hanks would contract coronavirus in 2007.” The early months of the year also saw dangerous misinformation about the severity of the illness, notably that it was “simply the common cold” or “just the damn flu.”

On the last day of February 2020, what is believed to be the first US death from coronavirus was reported. Within a month, the United States had become the hardest-hit country in the world, with more than 81,000 infections and 1,000 deaths (Taylor, 2021). Fact-checkers were kept busy debunking statements that either exaggerated the progression of the disease (“Florida hospital reports a coronavirus ‘infestation’”) or, conversely, denied its prevalence and impact (“Pictures and reports of ‘empty hospitals’ prove COVID-19 spread is ‘fake crisis’”).

By March, the database was awash in misinformation about supposed cures for coronavirus; by the end of April, 75 such claims had been debunked, yet they continued to appear in every month except September. Fake cures ranged from the infamous hydroxychloroquine to assorted foods and beverages (bananas, coffee, garlic, lemons ...) to blowing air from a hair dryer up one's nose. Cocaine was said to be a cure, and so was alcohol. On the other hand, a measure that does help curtail spread of the disease, the use of face masks, was said to be useless (a claim often falsely attributed to an authority figure) or even harmful, notably the false statement that masks "cause carbon dioxide toxicity." Overall, false statements about safety measures and risk factors represented the second-most prominent theme, an obvious obstacle to any efforts to encourage Americans to take simple precautionary steps. There were claims that hand sanitizer could burst into flames near a gas stove, that there is "no real scientific basis" to support social distancing, that "stay-at-home orders are illegal in the United States and can be disregarded with impunity." And more.

That the "politics" theme was the most prominent in this dataset is perhaps not surprising during a presidential election year. The nature of this political misinformation was diverse. There were a great many false claims about Democratic politicians, notably House Speaker Nancy Pelosi (claimed to have delayed coronavirus funding as a campaign tactic, among other misdeeds) and reviled Michigan Governor Gretchen Whitmer, accused of banning the purchase of everything from baby car seats to "vegetable seeds and fruit" to American flags. There were allegations of secret visits to the Wuhan lab (to which former President Barack Obama, in cahoots with Bill Gates and perhaps Anthony Fauci, allegedly channelled funds); accusations that Obama not only mishandled the swine flu crisis but also then left Trump "with a cupboard that was bare"; and reports that a whole raft of Democratic politicians, including Joe Biden and Kamala Harris, were blatantly flouting safety measures. Political claims appeared throughout the year, but were most prevalent in March, April, and

May; they did not show an uptick as the election neared, as might have been expected. Again, reasons for this finding cannot be identified from a textual analysis, but one viable explanation could be that fact-checkers were simply not adding them to the database but rather dealing with them exclusively on their own websites.

And a few final words about Trump. Although the then-president was the actual source of a considerable amount of pandemic misinformation (Evanega et al., 2020) and much of it was refuted by the fact-checkers, there also were a sizable number of false claims made about him or attributing to him statements he did not make. He did not, for instance, “urge sick people to get out and vote during COVID-19.” He did not say “people are dying that have never died before.” He did not, at least as far as fact-checkers could ascertain, try to steal a vaccine from Germany or refuse testing kits provided by the WHO. In other words, despite the accusations of political bias sometimes levelled at U.S. fact-checkers (see Marietta et al., 2015), they were relatively even-handed in their assessment of statements about his role in the pandemic. Again, though, assessments of false statements by Trump – the *Washington Post*’s fact-checker tallied an *average* of 39 untrue statements each and every day during his final year in office (Kessler, 2021) – may simply not have been added to this database; indeed, in the last half of 2020, only 10 posts in this thematic category were posted, and six of them were from fact-checkers located outside the United States.

To summarise: Fact-checkers devoted enormous time and energy to combatting coronavirus misinformation, particularly in the first few months of 2020 but continuing straight through to Christmas and beyond. In all, an astounding 1,155 statements over the course of the year were assessed as false or misleading – the great majority of those as wholly untrue – and assiduously debunked. The Discussion now turns to consideration of what these attempts might signify in relation to contemporary gatekeeping theory.

Discussion

What does this small yet depressing sample of coronavirus misinformation suggest about the nature of misinformation? For starters, it is persistent. Similar claims appeared – and were refuted – over and over. From discredited “cures” to vaccines ridiculously portrayed as microchip implantation devices, fact-checkers’ efforts seemed to have had little effect on the recurrence of such hoaxes. Second, it is global. This article focuses on the United States, but the larger dataset shows the same claims appeared repeatedly right around the world – and were repeatedly countered by fact-checkers in country after country. And third, misinformation is responsive: It reflects reality even as it seeks to reinvent it. Database posts largely tracked the course of the disease in the United States, from its outbreak and rapid initial spread to attempts to combat it to the emergence of effective vaccines. The hoaxes were all the more dangerous because they mirrored the real world – albeit in a grossly distorted way.

More broadly, this study proposes an alternative understanding of gatekeeping in a digital and social media environment. As innumerable other scholars have pointed out through empirical and conceptual work, those who assess and verify information no longer can exert control over what enters the public domain in the ways they once did. Users, as well as the algorithms that minutely track and shape online activity, have gained a fundamental and virtually unassailable role. The best that humans exercising journalistic oversight can offer is an antidote to misinformation: either through the further reporting and analysis that reporters provide, or through an exploration of the veracity of claims, and a debunking of those found to be untrue, that is the fact-checkers’ specialty. This debunking is itself the result of what also can be seen as a gatekeeping function: the fact-checker’s selection from among the myriad bits of nonsense ricocheting around the ether on any given day.

Although they do many journalistic things, such as investigating and assessing the information they receive, fact-checkers are unlike journalists in important ways. Perhaps most centrally, fact-checkers neither put newly reported information into the marketplace nor keep flawed information out – a gatekeeping function that has become all but impossible to enact. In ruling on the veracity of previously published material rather than determining what should be published in the first place, the core of journalistic gatekeeping as traditionally understood, fact-checkers stand on the other side of a metaphorical gate in order to exercise an alternative approach that is both reactive and retroactive.

Indeed, fact-checkers may be ideally, maybe even uniquely, suited to performing a human gatekeeping role in a social media age in which algorithm-driven false or misleading information circulates widely, freely, and constantly. This exploratory study in the context of attempts to combat coronavirus misinformation does, however, support earlier calls for a new metaphor (Pearson & Kosicki, 2017; Schwalbe et al., 2015), Thorson & Wells, 2015). Perhaps we might add to the metaphorical mix the idea of “circuit breaker,” which captures fact-checkers’ attempts to interrupt, at least temporarily, the flow of misinformation. Despite its mechanical connotation, a circuit-breaking role seems, at least for now, best-suited to human actors, particularly given the emphasis on expository transparency that undergirds the guiding principles of fact-checking (International Fact-checking Network, n.d.; Singer, 2021).

This study has numerous limitations, which in turn suggest wide-ranging opportunities for future study. For starters, the focus here was only on fact-checks relevant to the United States, despite the global nature of the pandemic and the “infodemic” that surrounded it. Another crucial limitation is that only what fact-checkers decided to post to the database was available for analysis, meaning other claims – including truthful ones – could not be assessed. The fact-checker’s rationale for selecting one bit of misinformation to debunk rather than another could not be incorporated here; nor could the ways in which

database contributors interacted, leaving open important questions around the potential for intermedia agenda-setting in the context of a fact-checking network. Follow-up work that incorporates interview or survey data, which might usefully interrogate the place of human actors in an information space increasingly delineated by non-human ones, can address many of these shortcomings.

In the meantime, the insights afforded by this exploratory study potentially can inform how scholars (and practitioners) think about the contested concept of gatekeeping. They suggest ways that traditional understandings of influences on gatekeepers (Shoemaker et al., 2001; Shoemaker & Reese, 2013) are being challenged and reshaped by users, algorithms, and all the other intersecting actors within the contemporary news ecosystem. Perhaps most important, further studies of the effects of fact-checks on audiences' information assessments are needed to better understand whether debunking already-circulating falsehoods is a valuable extension of gatekeeping theory and a meaningful contribution to truth-telling in the public interest ... or is akin to closing the barn door after the horse has galloped away.

Endnotes

¹ The database can be accessed at: <https://www.poynter.org/ifcn-covid-19-misinformation/>. Additional information about the creation and contents of the database is available at: <https://www.poynter.org/coronavirusfactsalliance/>. Note that although the database providers offered their own categorizations, these encompassed the database as a whole and ultimately covered a period of around two years. The themes discussed in this article, which is focused on the subset of U.S. posts in 2020 alone, therefore vary accordingly.

² The IFCN code of principles is available at: <https://ifcncodeofprinciples.poynter.org/>

References

- Ai, M., Gibrilu, A. W., & Zhang, N. (2022). Editors, Users and Post-Publication Gatekeeping: A Study of News Ranking on Chinese Digital Native Media. *Journalism Practice*. Available at: <https://www.tandfonline.com/doi/full/10.1080/17512786.2022.2055623>
- Allcott, H., Gentzkow, M., & Yu, C. (2019). Trends in the Diffusion of Misinformation on Social Media. *Research & Politics*. Available at: <https://journals.sagepub.com/doi/full/10.1177/2053168019848554>
- Amazeen, M.A. (2013, October). "Making a Difference: A Critical Assessment of Fact-checking in 2012." Policy paper, New America Foundation. Available at: <https://www.newamerica.org/new-america/policy-papers/making-a-difference/>
- Amazeen, M.A. (2019). Practitioner Perceptions: Critical Junctures and the Global Emergence and Challenges of Fact-checking. *International Communication Gazette* 81 (6-8): 541-561.
- Bode, L., & Vraga, E. K., (2021). Correction Experiences on Social Media during COVID-19. *Social Media + Society*. Available at: <https://journals.sagepub.com/doi/full/10.1177/20563051211008829>
- Blanchett, N. (2021). Participative Gatekeeping: The Intersection of News, Audience Data, Newswriters, and Economics. *Digital Journalism* 9 (6): 773-791.
- Berkowitz, D. (1990). Refining the Gatekeeping Metaphor for Local Television News. *Journal of Broadcasting and Electronic Media* 34 (1): 55-68.
- Brennen, S., Simon, F. M., Howard, P. N., & Nielsen, R. K. (2020). "Types, Sources and Claims of COVID-19 Misinformation." Reuters Institute for the Study of Journalism. Available at: <https://reutersinstitute.politics.ox.ac.uk/types-sources-and-claims-covid-19-misinformation>
- Brake, D. R. (2017). "The Invisible Hand of the Unaccountable Algorithm: How Google, Facebook and Other Tech Companies Are Changing Journalism." In Tong, J., & Lo, S-H. (eds.), *Digital Technology and Journalism* (pp. 25-46). London: Palgrave Macmillan.
- Bro, P., & Wallberg, F. (2015). Gatekeeping in a Digital Era: Principles, Practices and Technological Platforms. *Journalism Practice* 9 (1): 92-105.
- Broniatowski, D. A., et al. (2018). Weaponized Health Communication: Twitter Bots and Russian Trolls Amplify the Vaccine Debate. *American Journal of Public Health* 108 (10): 1378-1384.
- Bruns, A. (2005). *Gatewatching: Collaborative Online News Production*. New York: Peter Lang.
- Carlson, M. (2018). Confronting Measurable Journalism. *Digital Journalism* 6 (4): 406-417.

- Chadha, K., & Koliska, M. (2015). Newsrooms and Transparency in the Digital Age. *Journalism Practice* 9 (2): 215-229.
- Chou, W-Y. S., Gaysynsky, A., & Capella, J. N. (2020). Where We Go from Here: Health Misinformation on Social Media. *American Journal of Public Health* 110 (S3): S273-S275.
- Chou, W-Y. S., Oh, A., & Klein, W. M P., (2018). Addressing Health-related Misinformation on Social Media. *JAMA* 320 (23): 2417-2418.
- Clayton, K., et al. (2020). Real Solutions for Fake News? Measuring the Effectiveness of General Warnings and Fact-check Tags in Reducing Belief in False Stories on Social Media. *Political Behavior* 42 (2): 1073-1095.
- Coddington, M., & Holton, A. E. (2014). When the Gates Swing Open: Examining Network Gatekeeping in a Social Media Setting. *Mass Communication and Society* 17 (2): 236-257.
- Coddington, M., Molyneux, L., & Lawrence, R. G. (2014). Fact Checking the Campaign: How Political Reporters Use Twitter To Set the Record Straight (or not). *International Journal of Press/Politics* 19 (4): 391-409.
- Çömlekçi, H. F. (2022). Why Do Fact-checking Organizations Go Beyond Fact-checking? A Leap Toward Media and Information Literacy Education. *International Journal of Communication* 16. Available at: <https://ijoc.org/index.php/ijoc/article/view/19728>
- Cooper, T. W. (1990). Comparative International Media Ethics. *Journal of Mass Media Ethics* 5 (1): 3-14.
- Cormode, G., & Krishnamurthy, B. (2008). Key Differences between Web 1.0 and Web 2.0. *First Monday* 13 (6). Available at: <https://journals.uic.edu/ojs/index.php/fm/article/view/2125>
- Cortada, J. W., & Aspray, W. (2020). Gaining Historical Perspective on Political Fact-Checking: The Experience of the United States. *LIBRES: Library & Information Science Research Electronic Journal* 30 (1): 1-32. Available at: <https://cpb-us-e1.wpmucdn.com/blogs.ntu.edu.sg/dist/8/644/files/2014/03/LIBRESv30i1p1-32.CortadaAspray.2020-1.pdf>
- De keersmaecker, J., & Roets, A. (2017). “Fake News”: Incorrect, but Hard to Correct. The Role of Cognitive Ability on the Impact of False Information on Social Impressions. *Intelligence* 65: 107-110.
- de Zúñiga, H.G., Michalska, K. K., & Römmele, A. (2020). Populism in the Era of Twitter: How Social Media Contextualized New Insights into an Old Phenomenon. *New Media & Society* 22 (4): 585-594.
- Diakopoulos, N. (2019). *Automating the News: How Algorithms Are Rewriting the Media*. Cambridge, MA: Harvard University Press.

Domingo, D., Quandt, T., Heinonen, A., Paulussen, S., Singer, J. B., & Vujnovic, M. (2008). Participatory Journalism Practices in the Media and Beyond: An International Comparative Study of Initiatives in Online Newspapers. *Journalism Practice* 2 (3): 326-342.

Duke Reporters Lab. (n.d.). Fact-checking. Available from: <https://reporterslab.org/fact-checking/>.

Ekström, M., Lewis, S. C., & Westlund, O. (2020). Epistemologies of Digital Journalism and the Study of Misinformation. *New Media and Society* 22 (2): 205-212.

Evanega, S., Lynas, M., Adams, J., & Smolenyak, K. (2020). Coronavirus Misinformation: Quantifying Sources and Themes in the COVID-19 “Infodemic.” Cornell Alliance for Science / Cision Global Insights. Available from: https://www.uncommonthought.com/mtblog/wp-content/uploads/2020/12/Evanega-et-al-Coronavirus-misinformation-submitted_07_23_20-1.pdf

Fairclough, N. (2003). *Analysing Discourse: Textual Analysis for Social Research*. London: Routledge.

Ferrara, E., Cresci, S., & Luceri, L. (2020). Misinformation, Manipulation, and Abuse on Social Media in the Era of COVID-19. *Journal of Computational Social Science* 3 (2): 271-277.

Frau-Meigs, D. (2022). How Disinformation Reshaped the Relationship between Journalism and Media and Information Literacy (MIL): Old and New Perspectives Revisited. *Digital Journalism* 10 (5): 912-922.

Fürsich, E. (2009). In Defense of Textual Analysis: Restoring a Challenged Method for Journalism and Media Studies. *Journalism Studies* 10 (2): 238-252.

Ghebreyesus, T. A. (2020, 15 February). “Address to Munich Security Conference.” Available at: <https://www.who.int/director-general/speeches/detail/munich-security-conference>

Graves, L. (2016). *Deciding What’s True: The Rise of Political Fact-checking in American Journalism*. New York: Columbia University Press.

Graves, L. (2017). Anatomy of a Fact Check: Objective Practice and the Contested Epistemology of Fact Checking. *Communication, Culture & Critique* 10 (3): 518-537.

Graves, L. (2018) Boundaries Not Drawn: Mapping the Institutional Roots of the Global Fact-checking Movement. *Journalism Studies* 19 (5): 613-631.

Graves, L., & Amazeen, M. A. (2019). “Fact-checking as Idea and Practice in Journalism.” In Nussbaum, J. F. (ed), *The Oxford Research Encyclopedia of Communication*. Available at: <https://doi.org/10.1093/acrefore/9780190228613.013.808>

Graves, L., Nyhan, B., & Reifler, J. (2016). Understanding Innovations in Journalistic Practice: A Field Experiment Examining Motivations for Fact-checking. *Journal of Communication* 66 (1): 102-138.

Gray, J., Bounegru, L., & Venturini, T. (2020). "Fake News" as Infrastructural Uncanny. *New Media and Society* 22 (2): 317-341.

Hameleers, M. (2022). Separating Truth from Lies: Comparing the Effects of News Media Literacy Interventions and Fact-Checkers in Response to Political Misinformation in the US and Netherlands. *Information, Communication & Society* 25 (1): 110-126.

Heinderyckx, F. (2015). "Gatekeeping Theory Redux." In: Vos, T., & Heinderyckx, F. (eds.), *Gatekeeping in Transition* (pp. 253-267). New York: Routledge.

Hermida, A. (2020). Post-Publication Gatekeeping: The Interplay of Publics, Platforms, Paraphernalia, and Practices in the Circulation of News. *Journalism & Mass Communication Quarterly* 97 (2): 469-491.

Hughes, P. (2007). "Text and Textual Analysis." In Devereux, E. (ed.), *Media Studies: Key Issues and Debates* (pages 249-282). London: Sage.

International Fact-checking Network. (n.d.) "The Commitments of the Code of Principles." Poynter.org. Available at: <https://ifcncodeofprinciples.poynter.org/know-more/the-commitments-of-the-code-of-principles>

Iosifidis, P., & Nicoli, N. (2020). The Battle To End Fake News: A Qualitative Content Analysis of Facebook Announcements on How It Combats Disinformation. *International Communication Gazette* 82 (1): 60-81.

Kessler, G. (2021, 23 January). "Trump Made 30,573 False or Misleading Claims as President. Nearly Half Came in His Final Year." *Washington Post*. Available at: https://www.washingtonpost.com/politics/how-fact-checker-tracked-trump-claims/2021/01/23/ad04b69a-5c1d-11eb-a976-bad6431e03e2_story.html

Kreps, S. E., & Kriner, D. (2020). The Covid-19 Infodemic and the Efficacy of Corrections. Available for download at: https://papers.ssrn.com/sol3/Papers.cfm?abstract_id=3624517

Larson, H. (2021, April 27). *Facing the "Infodemic": How Journalists Covering COVID-19 Can Fight Mis/Disinformation*. International Symposium on Online Journalism 2021 Conference, Austin, Texas, USA.

Lee, S., Yamamoto, M., & Tandoc Jr. E. C. (2022). Why People Who Know Less Think They Know about COVID-19: Evidence from US and Singapore. *Journalism & Mass Communication Quarterly* 99 (1): 44-68.

Luengo, M., & Garcia-Marin, D. (2020). The Performance of Truth: Politicians, Fact-checking Journalism, and the Struggle To Tackle COVID-19 Misinformation. *American Journal of Cultural Sociology* 8 (3): 405-427.

Marietta, M., Barker, D. C., & Bowser, T. (2015). Fact-checking Polarized Politics: Does the Fact-check Industry Provide Consistent Guidance on Disputed Realities? *The Forum* 13 (4): 577-596.

- Meraz, S., & Papacharissi, Z. (2013). Networked Gatekeeping and Networked Framing on #Egypt. *International Journal of Press/Politics* 18 (2): 138-166.
- McKee, A. (2003). *Textual Analysis: A Beginner's Guide*. London: Sage.
- Micallef, N., Armacost, V., Memon, N., & Patil, S. (2022). True or False: Studying the Work Practices of Professional Fact-Checkers. *Proceedings of the ACM on Human-Computer Interaction* 6 (CSCW1). Available at: <https://dl.acm.org/doi/abs/10.1145/3512974>
- Pasquale, F. (2015). *The Black Box Society: The Secret Algorithms That Control Money and Information*. Cambridge, MA: Harvard University Press.
- Pavlik, J. V. (2023). Collaborating with ChatGPT: Considering the Implications of Generative Artificial Intelligence for Journalism and Media Education. *Journalism & Mass Communication Educator*. Available at: <https://journals.sagepub.com/doi/full/10.1177/10776958221149577>.
- Pearson, G. D. H., & Kosicki, G. M. (2017). How Way-Finding is Challenging Gatekeeping in the Digital Age. *Journalism Studies* 18 (9): 1087-1105.
- Pennycook, G., Cannon, T. D., & Rand, D. G. (2018). Prior Exposure Increases Perceived Accuracy of Fake News. *Journal of Experimental Psychology: General* 147 (12): 1865-1800.
- Pickard, V. (2019). *Democracy without Journalism? Confronting the Misinformation Society*. Oxford: Oxford University Press.
- Rosenberg, H., Syed, S., & Rezaie, S. (2020). The Twitter Pandemic: The Critical Role of Twitter in the Dissemination of Medical Information and Misinformation during the COVID-19 Pandemic. *Canadian Journal of Emergency Medicine* 22 (4): 418-421.
- Ryan, J. (2010). *A History of the Internet and the Digital Future*. London: Reaktion Books.
- Salonen, M., Olbertz-Siitonen, M., Uskali, T., & Laaksonen, S. M. (2022). Conversational Gatekeeping – Social Interactional Practices of Post-Publication Gatekeeping on Newspapers' Facebook Pages. *Journalism Practice*. Available at: <https://www.tandfonline.com/doi/full/10.1080/17512786.2022.2034520>
- Schwalbe, C. B., Silcock, B. W., & Candello, E. (2015). Gatecheckers at the Visual News Stream: A New Model for Classic Gatekeeping Theory. *Journalism Practice* 9 (4): 465-483.
- Shoemaker, P. J. (1991). *Gatekeeping*. Thousand Oaks, CA: Sage.
- Shoemaker, P. J., Eichholz, M., Kim, E., & Wrigley, B. (2001). Individual and Routine Forces in Gatekeeping. *Journalism & Mass Communication Quarterly* 78 (2): 233-246.
- Shoemaker, P. J., & Reese, S. D. (2013). *Mediating the Message in the 21st Century: A Media Sociology Perspective*. New York: Routledge.
- Shoemaker, P. J., & Vos, T. (2009). *Gatekeeping Theory*. London: Routledge.

Simon, F. (2022). Uneasy Bedfellows: AI in the News, Platform Companies and the Issue of Journalistic Autonomy. *Digital Journalism*. Available at: <https://www.tandfonline.com/doi/full/10.1080/21670811.2022.2063150>

Singer, J. B. (2018). Fact-checkers as Entrepreneurs: Scalability and Sustainability for a New Form of Watchdog Journalism. *Journalism Practice* 12 (8): 1070-1080.

Singer, J. B. (2021). Border Patrol: The Rise and Role of Fact-checkers and Their Challenge to Journalists' Normative Boundaries. *Journalism* 22 (8): 1929-1946.

Sivek, S. C., & Bloyd-Peshkin, S. (2018). Where Do Facts Matter? The Digital Paradox in Magazines' Fact-checking Practices. *Journalism Practice* 12 (4), 400-421.

Tandoc Jr, E. C. (2014). Journalism Is Twerking? How Web Analytics Is Changing the Process of Gatekeeping. *New Media & Society* 16 (4): 559-575.

Tandoc, E. C., Jr. (2019). The Facts of Fake News: A Research Review. *Sociology Compass* 13 (9). Available at: <https://onlinelibrary.wiley.com/doi/10.1111/soc4.12724>

Tandoc, E. C. Jr., Lim, Z. W., & Ling, R. (2018). Defining "Fake News." *Digital Journalism* 6 (2): 137-153.

Taylor, D. B. (2021, 17 March). "A Timeline of the Coronavirus Pandemic." *The New York Times*. Available at: <https://www.nytimes.com/article/coronavirus-timeline.html>

Thorson, E. (2016). Belief Echoes: The Persistent Effects of Corrected Misinformation. *Political Communication* 33 (3): 460-480.

Thorson, K. (2020). Attracting the News: Algorithms, Platforms, and Reframing Incidental Exposure. *Journalism* 21 (6): 1067-1082.

Thorson, K., & Wells, C. (2015). "How Gatekeeping Still Matters: Understanding Media Effects in an Era of Curated Flows." In: Vos, T., & Heinderyckx, F. (eds.), *Gatekeeping in Transition* (pp. 25-44). New York: Routledge.

van Dijck, J. (2013). *The Culture of Connectivity: A Critical History of Social Media*. Oxford: Oxford University Press.

Vos, T. P., & Heinderyckx, F. (2015). *Gatekeeping in Transition*. London: Routledge.

Vos, T. P., & Thomas, R. J. (2019). The Discursive (Re)construction of Journalism's Gatekeeping Role. *Journalism Practice* 13 (4): 396-412.

Vraga, E. (2019). What Can I Do? How To Use Social Media To Improve Democratic Society. *Political Communication* 36 (2): 315-323.

Vraga, E., & Bode, L. (2020). Correction as a Solution for Health Misinformation on Social Media. *American Journal of Public Health* 110 (S3): S278-S280.

Wallace, J. (2018). Modelling Contemporary Gatekeeping: The Rise of Individuals, Algorithms and Platforms in Digital News Dissemination. *Digital Journalism* 6 (3): 274-293.

Walters, P. (2021) Reclaiming Control: How Journalists Embrace Social Media Logics While Defending Journalistic Values. *Digital Journalism*. Available at:
<https://www.tandfonline.com/doi/full/10.1080/21670811.2021.1942113>

Wang, Y., McKee, M., Torbica, A., & Stuckler, D. (2019). Systematic Literature Review on the Spread of Health-related Misinformation on Social Media. *Social Science & Medicine* 240. Available at: <https://www.sciencedirect.com/science/article/pii/S0277953619305465>

White, D. M. (1950). The “Gate Keeper”: A Case Study in the Selection of News.” *Journalism Quarterly* 27 (4): 383-390.

Table 1:
Posts tagged for “United States” in the #CoronaVirusFacts Alliance database,
January – December 2020

2020	Total posts (N)	False	Partly false^a	Misleading	Partly true^b
January	38	30	1	2	-
February	71	60	1	6	1
March	345	279	20	22	17
April	315	270	25	9	4
May	161	130	19	12	-
June	55	44	3	7	-
July	51	39	4	5	-
August	37	27	1	7	-
September	30	20	4	5	-
October	32	25	-	2	-
November	27	15	1	7	-
December	56	47	-	6	-
TOTALS	1,218	986 (81%)	79 (6.5%)	90 (7.4%)	22 (1.8%)

- a The total of 79 posts in this category had ratings of “mostly false” (59), “partly false” (15), “mainly false” (1), “inaccurate” (1), or “two Pinocchios” (3), a rating used by the *Washington Post* fact-checker to indicate “significant omissions and/or exaggerations.”
- b The total of 22 posts in this category had ratings of “mostly true” (10), “half true” (9), “partially true” (1), “partly true” (1) or “partially correct” (1).

In addition, a rating of “no evidence” was used 29 times in posts tagged for the United States. Other ratings applied but not indicated above were “explanatory” (2), used for posts that provided an explanation or context about a statement; and “in dispute,” “missing context,” “mixed,” and “unlikely,” each used once. One fact-check was missing its rating, and “organization doesn’t apply ratings” was used five times early in the year for FactCheck.org, which later changed its usual no-rating policy for database entries. Altogether, there were 41 of these “other” ratings, for a total of 3.4% of all U.S.-tagged posts.

Table 2:
Volume of posts by thematic category of misinformation, by month of 2020

Themes are presented here in order of prevalence in the dataset, from high to low. **Appendix A** provides an alphabetical listing of themes and a description of each.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Pol	-	3	31	42	29	8	7	5	1	-	4	6	136
Risk	-	6	20	19	19	16	8	5	8	12	7	2	122
Exag	7	7	48	23	15	4	2	-	-	-	1	-	107
Cure	7	9	39	20	8	1	3	4	-	1	1	3	96
Vac	3	1	6	18	6	6	3	5	3	2	7	29	89
Ser	-	3	18	16	11	1	3	10	4	5	4	3	78
Trump	-	2	22	24	11	1	3	1	2	4	-	-	70
Man	13	12	7	16	5	2	3	-	3	1	-	-	62
Intl	-	-	26	14	10	-	1	2	1	-	-	-	54
Econ	-	-	15	21	5	1	3	1	-	-	-	-	46
Test	-	1	16	6	3	2	7	1	3	-	1	2	42
Gates	2	2	2	11	14	4	-	-	-	2	-	1	38
Xen	-	14	6	15	1	-	-	-	-	-	-	-	36
Media	-	1	12	17	2	1	-	1	1	-	-	-	35
Cult	1	4	11	7	1	1	2	1	2	2	1	1	34
Tech	-	-	11	6	5	1	3	-	-	-	-	2	28
Other	5	5	38	34	16	6	3	1	2	3	1	7	121
	38	70	328	309	161	55	51	37	30	32	27	56	1,194

Note that the 22 posts rated as partially true -- one in February, 17 in March and four in April, as shown in **Table 1** – are omitted from the count here. Two explanatory posts, which both appeared in April, also are omitted.

Appendix A: Coronavirus database themes, US-tagged posts

THEME	DESCRIPTIONS and EXAMPLES
CULTURE	Posts referencing celebrities and other famous people (outside politics or science), plus cultural artefacts alleged to have predicted the pandemic <i>EXAMPLE: "Cristiano Ronaldo bought private island to escape coronavirus"</i>
CURE	Posts providing misinformation about preventing or treating Covid infection <i>EXAMPLE: "Breathing air from a hair dryer or a sauna can prevent or cure COVID-19"</i>
ECONOMY	Posts referencing US or global economy, including misinformation about stimulus checks and effects on business(es) <i>EXAMPLE: "Economic stimulus payments to U.S. citizens will either reduce future tax refunds or will have to be paid back"</i>
EXAGGERATION	Posts exaggerating the spread or impact of the coronavirus, including false statements about rise or prevalence of cases <i>EXAMPLE: "Coronavirus hits a 15% fatality rate"</i>
GATES	Posts about Microsoft billionaire and global philanthropist Bill Gates ... so common that he gets a category all to himself. <i>EXAMPLE: "Bill Gates has access to your DNA and ownership in WHO"</i>
INTERNATIONAL	Posts referencing things that were happening only outside the United States <i>EXAMPLE: "Belgium's health minister banned sex inside or with 3 or more people"</i>
MANUFACTURED	Posts claiming coronavirus is man-made or a direct result of other human activity, including misinformation about patents <i>EXAMPLE: "The coronavirus is 'a military bio-weapon developed by China's Army'"</i>
MEDIA	Posts stating that the news media lie, exaggerate, or are otherwise untrustworthy <i>EXAMPLE: "News outlets are misusing a boy's image to report the same child died of COVID-19 in three different countries"</i>
POLITICS	Posts referencing US political actions or actors other than Donald Trump <i>EXAMPLE: "U.S. Vice President Mike Pence delivered empty boxes of PPE to a hospital as a publicity stunt"</i>
RISK	Posts referencing misinformation about risk factors and safety precautions <i>EXAMPLE: "Wearing face masks can cause carbon dioxide toxicity; can weaken immune system"</i>
SERIOUSNESS	Posts claiming that Covid-19 is not a serious disease <i>EXAMPLE: "COVID-19 is a bacterium that is easily treated with aspirin or a coagulant"</i>
TECHNOLOGY	Posts connecting coronavirus to conspiracy theories rooted in the misuse of technology, primarily but not exclusively related to 5G <i>EXAMPLE: "The coronavirus outbreak is caused by 5G technology"</i>
TESTS	Posts containing misinformation related to coronavirus tracing or testing <i>EXAMPLE: "Nasal swabs used to obtain samples for COVID-19 tests reach the blood-brain barrier and may damage it"</i>
TRUMP	Posts containing misinformation about the president, as well as from him <i>EXAMPLE: "President Donald Trump said, 'People are dying who have never died before'"</i>
VACCINES	Posts referencing the availability, use, or effects of coronavirus vaccines <i>EXAMPLE: "Aborted fetal cells are in the COVID-19 vaccine"</i>
XENOPHOBIA	Posts containing misinformation about people of diverse nationalities (particularly Chinese), religions, or ethnicities. <i>EXAMPLE: "Coronavirus patients are being 'cremated alive' in China"</i>
OTHER / MULTI	Posts that do not fit any of the other thematic categories, along with a total of 10 that contain multiple misinformation themes in a single post <i>EXAMPLE: "Supermarkets are recalling coronavirus-infected toilet paper"</i>

Appendix B:

U.S.-based fact-checkers contributing to the #CoronaVirusFacts Alliance database in 2020

Fact-checker	Total database posts, 2020 (N)	Fact-checker URL
PolitiFact	401	https://www.politifact.com/
Lead Stories	245	https://leadstories.com/
Science Feedback ^a	125	https://sciencefeedback.co/
FactCheck.org	96	https://www.factcheck.org/
Check Your Fact	42	https://checkyourfact.com/
<i>Washington Post</i> Fact-Checker	21	https://www.washingtonpost.com/news/fact-checker/
Misbar ^b	13	https://misbar.com/en/factcheck

- a Although registered in France, Science Feedback is an international organization with a significant presence in the United States.
- b Misbar maintains offices in the United States and Jordan