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Hyperpartisan, Alternative, and Conspiracy Media Users: An Anti-Establishment Portrait

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ABSTRACT

While there is growing academic attention to readers of hyperpartisan, alternative, and conspiracy (HAC) media, our understanding of these sites has developed in separate bodies of work. We make a case for studying HAC media in unison, recognizing them as different information sources that share the same underlying anti-establishment sentiment. We do so by painting a detailed portrait of HAC media users, detailing 1) who consumes HAC media; 2) how they access it; and 3) how its consumption relates to public opinion. This is made possible by the unique combination of panel surveys taken before and after the first COVID-19 lockdowns in Germany and Switzerland, and webtracking data capturing participants' actual online behavior. Our results show that those exposed to HAC media have a strong distrust of government and place themselves at the ideological extremes. While social media was a quintessential entry point for such media, most visits were registered by a small percentage of repeat visitors. Lastly, we show that those who consumed HAC media developed distinct opinions about the threat posed by COVID-19, mirroring the sentiments expressed in HAC media that the danger of the virus was exaggerated and that the real threat was to individual freedoms. With this case study, we showcase the theoretical utility of taking an integrated approach to HAC media, while providing nuanced insights into their audience.

Introduction

The digital-led transformation of the information environment has fueled the meteoric rise of niche media sites whose loose information standards are often accredited with rises in polarization, conspiracy beliefs, and misinformation. While concerns about information pollution on the web have long existed, attention to these sites reached a zenith following the outbreak of COVID-19. The online "infodemic" surrounding this period remains, to

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this day, one of the most concerning aspects of the pandemic and marked a turning point in our collective understanding of the dangers posed by untrustworthy information sources (Zarocostas, 2020). Nevertheless, insights about these niche media sites have developed in disparate, often isolated bodies of work. Studies usually focus on either "alternative," "conspiracy," or "hyperpartisan" media. While important differences exist between these types of sites, focusing on one at the expense of the rest risks missing the forest for the trees, overlooking broader trends of online information disorder. This paper suggests studying these media categories in combination, recognizing them as different manifestations of underlying anti-establishment sentiments. We argue that this uniting anti-establishment principle throughout hyperpartisan, alternative, and conspiracy (HAC) media provides a more flexible way to understand the content of these sites, their reason for being, and why people consume them.

While there is broad consensus that the information produced by hyperpartisan, alternative, and conspiracy (HAC) media is problematic, the evidence on who uses these sites, how they access this content, and its consequential relationship with political behavior is not as robust as one might hope. Most work on HAC media suffers from several shortcomings that, at best, limit the conclusions we can draw and, at worse, produce systematic biases in analyses. The first is the lack of individual-level focus – most accounts of HAC media focus on the websites themselves, with limited efforts to connect observations to individuals. While this area of research has created valuable insights as to how these sites operate (Heft et al., 2020; Mayerhoffer, 2021; Nygaard, 2020) and engage with users through social media platforms (Boberg et al., 2020; Sturm Wilkerson et al., 2021; Thomas et al., 2022), it provides limited information on how individual users engage with such content in a broader population. The second issue relates to studies that focus on the individual-level: most rely on self-reports of HAC media consumption and exposure. Self-reported measures of media usage can suffer from recall and desirability biases (Parry et al., 2021; Prior, 2009; Scharkow, 2016), a problem that only becomes more acute with niche HAC media websites whose readership can be sporadic and is often socially frowned upon. The third shortcoming originates from the categorization of sites: most studies narrow their focus to a single aspect of the hyperpartisan, alternative and conspiracy categorization. Such narrow foci ignore the overlap in the content, style, and audiences of HAC media sites, which was only reinforced in the context of the COVID-19 pandemic (DiMaggio, 2022; Eberl et al., 2021; Pereira et al., 2020).

This study reassesses past evidence with data that allows us to analyze actual participant consumption of HAC media and link it to individual-level traits and attitudes. To do so, we use a unique combination of panel surveys of nationally representative quota samples of Germany and German-speaking Switzerland paired with webtracking data, which passively recorded participants' desktop web behavior during a two-month period following the first lockdowns in Europe. Such data allows us to provide real-world answers to three pressing questions on individuals' relationship with HAC media during the initial months of the pandemic, painting the most comprehensive individual-level portrait of these users to date.

The first area of focus relates to *who consumes HAC media* – we use surveys taken *before* the imposition of lockdowns to understand the effect that individual characteristics had on people's likelihood to later visit HAC COVID-19 media during the lockdown. The second focus is on *access* – as sites with niche publics, how individuals were exposed and brought into the folds of this content is crucial in understanding the reach of these sites – questions

that only trace data allows us to answer. The third area of focus centers on the *relationship HAC media consumption has with key attitudes during the pandemic*: participants' COVID-19 threat perceptions. Incorporating surveys taken after lockdown, we assess how HAC media consumption was related to perceptions that COVID-19 was a threat to individuals' health and whether it posed a threat to personal freedoms.

Theory and Expectations

Anti-Establishment Hyperpartisan, Alternative, and Conspiracy Media

When studying information pollution, the popular focus has been on qualifiers such as "fake" news, "disinformation," and "misinformation." We argue that the usefulness of these adjectives is limited. From an empirical standpoint, many studies have shown that a "partisan layer of interpretation" better characterizes "fake news" sites and that much of what is "disinformation" in the United States originates from far-right websites (Faris et al., 2017). Conceptually, others have argued that such qualifiers fail to provide us with much information on the phenomenon (Farkas, 2018). Instead, the current state of online information pollution might be better understood not by studying the veracity of the content produced, but rather by understanding these sites by inquiring into their self-presentation. Specifically, we refer to the body of scholarship on alternative media (de León et al., 2022; Holt et al., 2019; Mayerhoffer, 2021; Muller & Schulz, 2021; Schulze et al., 2020), conspiracy media (Bessi et al., 2015; Hindman & Barash, 2018) and hyperpartisan media (Barnidge & Peacock, 2019; Pennycook et al., 2020; Rae, 2021; Stier et al., 2020). We argue that these distinct types of online media are better positioned to explain much of the "information disorder" concerns in contemporary scholarship. Unlike research on disinformation, fake news, untrustworthy news, and misinformation, they seek to characterize these sources not by judgments on the veracity of the content but rather by what actually makes these sites untrustworthy or untruthful: their open embrace of ideological interpretations of the world, their transparent positioning against the mainstream media, and their firmly held belief that a group of scheming elites control much of the world.

Much of the work on hyperpartisan, alternative and conspiracy media, however, employs a singular focus on only one of these media types, resulting in disconnected islands of scholarship. We argue that these islands must be brought together by a holistic understanding of the underlying phenomenon uniting all these formats: an anti-establishment positioning that directs their mission, infuses their content, and describes their audience. Seeing this archipelago of anti-establishment positioning rather than individual islands of research allows us to gain a better understanding of websites that might escape research focusing on only one of these three aspects. This broader approach permits a better understanding of these websites that do not conform to the fuzzy boundaries imposed by researchers, and instead oscillate between these categories. In the remainder of this section, we articulate what we understand by these different media formats and what we believe makes studying them in unison a worthwhile endeavor.

Hyperpartisan media has risen to prominence in the study of political communication. They are characterized as news sites that openly embrace an ideological standpoint, "promoting a narrow and skewed political agenda without making an effort toward a balanced representation of major political issues, events, or political actors" (Stier et al.,

2021, p. 431), with researchers highlighting their departure from "journalism's traditional notions of objectivity" (Rae, 2021, p. 2). "Political slant" is not enough to consider news as hyperpartisan (Stier et al., 2021) – there is a recognition of an explicit streak of anti-establishment attitudes running through hyperpartisan media's content. Rae (2021) has argued for the understanding of hyperpartisan media through its populist logic, particularly the anti-establishment positioning that populates these sites, being "openly hostile toward mainstream media and political parties while appealing directly to the 'people'" (Rae, 2021, p. 4). The anti-establishment coloring of their content is precisely what unites an uneasy medley of websites on both the far left and right of the ideological spectrum. In studies of their content, Faris et al. (2017) and Mourão and Robertson (2019) have documented this anti-establishment perspective, showing how the "anti-establishment narrative adopted by Trump and Breitbart led toward attacks on traditional institutions on both sides of the political spectrum" (Faris et al., 2017, p. 101), as well as their tendencies to use "sensationalism, misinformation and partisanship to provide anti- establishment narratives" (Mourão & Robertson, 2019). The study of hyperpartisan media has become an urgent task considering that they have been identified as key distributors of Tweets by the Internet Research Agency (Zhang et al., 2021), associated with populist attitudes (Stier et al., 2021), and responsible for much of the dis/misinformation around the 2016 American election of Donald Trump (Faris et al., 2017).

Alternative media do not necessarily situate themselves around a particular party or established ideology. Instead, they see themselves as a corrective to what they believe is a corrupt institution in need of an overhaul: the mainstream media (Holt et al., 2019). Alternative media, therefore, actively present themselves as a truth-telling alternative to large media organizations that are seen as doing the bidding of powerful elites. These sites have emerged as a response to a growing disaffection with the legacy news formats brought over from the 20th century, taking advantage of the growing skepticism and cynicism toward the media. While this disaffection has long been recognized, mass availability of the internet has provided an easy – and quite literal – "alternative" to legacy press offers. Alternative media embody this disaffection with what they often label as the "lying press," embracing a counter-hegemonic mission in what is fundamentally an anti-establishment process. While there is much debate around alternative media, there is a growing consensus around this anti-establishment dimension, with authors such as Eva Mayerhöffer arguing that "alternativeness can be understood as a matter of how 'anti-system' alternative media are" (Mayerhoffer, 2021, p. 124). This sets them apart from other forms of "alternative" journalism – models of journalism that present competing models to make journalism inclusive and participatory, yet do not take aim at established mainstream media as a putrid institution. Studying alternative media has become a necessary task: their content was shown to prominently feature misinformation on COVID-19, and their consumption has been linked with reduced political trust (de León et al., 2022).

We understand their distinction from hyperpartisan media in the fact that alternative media is not necessarily partisan. Alternative media do not see the act of truth-telling as an explicitly partisan exercise – they often criticize positions on both sides of the spectrum, operating under the very guise that they are "independent, nonpartisan and nonprofit" without any clear ideological endorsement, as claimed by the Swiss SWPRS. They are a corrective to media that they themselves perceived as being partisan, acting as a "counterweight and corrective to the media" that "write untruths, twist facts, omit crucial

information," as the Anti-Spiegel claims to do. A nuanced distinction – their opposition to the media industry itself, and not political elites, sets them aside from hyperpartisan media that openly embrace the defense of, for example, "conservative values" and who have dedicated webpage sections lauding the far-right German AfD. Nevertheless, the boundaries between alternative and hyperpartisan media are fuzzy at best, with some authors combining the terms in "alternative hyperpartisan media" and "far-right alternative media," or outright admitting to their interchangeability (Rae, 2021; Stier et al., 2020). This fuzziness, we argue, is at least exacerbated – and at most caused by – the anti-establishment dimension shared by both formats. This opposition to the establishment, whether in the media or politics, unites these two prominent media types, bringing them together with a third type that has been mostly separate in the literature: conspiracy media.

As interest in conspiracy theories has increased, so have the efforts to document and understand the websites dedicated to their promotion and coverage. While some of these sites take the form of static documentation of popular conspiracy theories – such as 911truth.org – others resemble much more the format of news media. Such is the case of sites such as NaturalNews, where reporting and updates on conspiracy theories are presented in a news-like manner, blending news events with nefarious interpretations of scheming elites. While the spectrum of "conspiracy-ness" found on these websites is quite broad – ranging from vaccine-skeptic sites masquerading as "wellness" news to repositories of extremism in sites such as qnotables.com – they are all united by their focus on known conspiracies, whether that be by fully dedicating their attention to a single conspiracy, or by infusing coverage and discussion of stories with a variety of conspiracies as part of a larger narrative. Nevertheless, what unites websites discussing the more banal suggestions that the health industry puts mercury in vaccines to have a steady stream of customers with more outlandish claims that celebrities are a cabal of shape-shifting reptiles, is a characteristic anti-establishment perspective. Such a statement aligns with the very definition of conspiracies as theories that employ scheming malevolent/nefarious/machinating elites to explain events (Goertzel, 1994; Uscinski et al., 2021). This anti-establishment perspective can, therefore, be seen as the stitching behind a colorful spectrum of conspiracy theories: a deep-seated skepticism of established power structures.

Scholars have begun documenting the links between conspiracy media, and those that are better described as alternative and hyperpartisan. These links are both tangible and theoretical. In the tangible sense, Zeng & Schäfer (2021) found that some of the most cited sources on conspiracy sites were hyperpartisan EpochTimes and Breitbart News. Ties, therefore, exist between these sites – linking practices directing the public toward these sites. Additionally, previous research has recognized both alternative and hyperpartisan media sites' propensity to dabble in conspiracies, employing both conspiratorial thinking and endorsing known conspiracies (Faris et al., 2017; Bruns, Hurcombe & Harrington, 2022). Theoretically, authors such as Barkun (2015) have argued that conspiracy believers have a deep-seated distrust of the mainstream media. They see the establishment media as a tool of the elite, an institution used to distract away from the malicious plots, regularly lying about events, and refusing to cover those that matter. The echoes of alternative media's discourse are a reflection of their shared anti-establishment positioning, leading them to find a shared enemy in the media.

The alternative, hyperpartisan, and conspiracy quality of these sites are, therefore, different manifestations of a similar underlying anti-establishment sentiment that

dominates much of the online content flagged as problematic. Focusing on just one of these manifestations has led researchers to inadvertently miss out on the broader picture. We suggest that uniting these different media types by their anti-establishment angle allows for a more comprehensive understanding of this phenomenon. This is done in a methodological sense, allowing for the expansion of "site-lists" that would have previously not fallen into a strict definition of either alternative, hyperpartisan, or conspiracy media, and in a conceptual sense, by recognizing the importance of the anti-establishment sentiment present online. Such a broader focus would also include other manifestations of anti-establishment sentiment online, such as extremist rhetoric and populist communication. However, it is broader than these phenomena: while HAC media can employ populist and extremist rhetoric and styles, not all sites are defined by, for example, people centrism, a defining feature of populist communication (De Vreese et al., 2018; Engesser et al., 2017). Indeed, past work has recognized the use of populist rhetoric in alternative and hyperpartisan (Bach et al., 2023); however, the relationship between populist attitudes and alternative media is mixed (Vogler et al., 2024; Bach et al., 2023).

Bringing together these simultaneously distinct yet overlapping media types into a single categorization defined by their anti-establishment-ness allows the field of political communication to progress in three ways. First, it recognizes the growing body of work highlighting the anti-establishment sentiment throughout the Western world, uniting populist, conspiratorial, and Manichean orientations by a "deep-seated antagonism toward the established political order" (Uscinski, 2021). Secondly, this anti-establishment dimension does much to explain why online users choose to consume this media. As Tsfati (2010) argued, selective exposure, while typically referring to selectivity in the *content* readers select, can also refer to selectivity in the source of the message. He found that distrust in the media was crucial for understanding why users selected into alternative online news sources – their distrust of the mainstream media brought them closer to the anti-establishment positioning of these sources. Recognizing both the growing anti-establishment dimension of politics, as well as past theory linking selectivity and distrust, allows us to position antiestablishment, hyperpartisan, alternative, and conspiracy media into a single type of online information source characterized by this generalized opposition to the establishment without needing to have a well-articulated partisan positioning. Lastly, as Fenton (2016) argued, media must be understood as a product of its times. In the case of the world after COVID-19, we have seen a substantial blending of these genres: traditionally political commentators have embraced health-centered conspiracies, factions on both the extreme left and right have come together in their skepticism to vaccination and pandemic regulation, and sites who present themselves in juxtaposition to the media establishment have now taken up arms against the health experts. COVID-19, therefore, represented a period of epistemological contestation – a period of meaning-making when numerous media types came together to criticize those in positions of power. In this process, these diverse sets of news types have been further united by their anti-establishment dimension,

Lastly, the use of the combined anti-establishment HAC media term is analytically more useful than other adjectives such as "misinformation," "fake" and "untrustworthy" that have been employed to characterize similar sites for two main reasons. First, from a supply perspective, the defining features of HAC media are openly embraced by these sites as a key part of their identity. Such websites take pride in their opposition to the mainstream, their critical coverage of scheming elites, and their open partisan slant. Such a perspective not

only makes the task of identifying these websites a lot easier – no website embraces the "untrustworthy" label –, but it places the focus on how these sites view themselves, instead of the normative label being ascribed to their content. In this way, the HAC framework highlights *why* such sites are considered untrustworthy in the first place. Second, from an audience perspective, the hyperpartisan/alternative/conspiracy quality that defines these sites are not only key parts of their identity but also of their business model. Such a focus highlights the reasons why these sites have an audience – demand exists for the perspectives that HAC media have to offer. This allows a more nuanced understanding that is obscured by labels such as "untrustworthy" and "misinformation" of why individuals seek out and engage with this content, immediately invoking desires for partisan interpretations, anti-elite attitudes, and general distrust of the media in a way that other adjectives fail to do so.

Who Consumed Hyperpartisan, Alternative, and Conspiracy COVID-19 Media?

The selective exposure framework can help us understand why certain individuals choose hyperpartisan, alternative, and conspiracy (HAC) media. While studies have analyzed these correlates individually, three variables stand out as playing a significant role in all these three media types, all united by their anti-establishment dimension. The first is trust in the media, understood as the level of confidence participants have in what they understand to be "the media," as well as in commercial and public service news outlets (Adam et al., 2022). While selective exposure theory has traditionally focused on selectivity at the content level, Tsafati (2010) has argued that there is a selectivity dimension at the message source level. Specifically, he argued that individuals who are skeptical of the media turn to online alternative sources that position themselves in opposition to the mainstream (Tsfati, 2010). Additionally, audience-perspective work shows how individuals turn to alternative media as they distrust mainstream offers: the mainstream is seen as providing incorrect and biased information, promoting an agenda, or deliberately not covering issues of importance (Andersen et al., 2021). These individuals, therefore, have a higher propensity to turn to media sites that claim to cover issues ignored or under-served by the mainstream media, offering a corrective alternative. Therefore, a lack of trust in the media has been documented to be a key driver of alternative (Schulze, 2020; Steppat et al., 2021) hyperpartisan (Heft et al., 2020), and conspiracy media (Craft et al., 2017).

Similarly, political trust is associated with HAC media consumption. Generally, citizens who believe that the government and political system are unresponsive to their needs and that politicians do not have their best interests at heart are more likely to selectively expose themselves to content that confirms these beliefs (de León et al., 2022). HAC media are crucial in this – hyperpartisan media often pitch societal issues as ideologically charged, alternative media cover what the mainstream "doesn't want you to know," and conspiracy sites portray political actors as involved in malevolent plots (Mari et al., 2022). As spaces that harbor opinions and beliefs at the fringe of the ideological spectrum, often vocally critical of the status quo, these sites attract people with low political trust (Holt et al., 2019; Schulze, 2020; Stier et al., 2020). Lastly, ideological extremism has been linked to HAC media consumption. While work on "fake news" on Twitter has documented that exposure happens most strongly for those on the right (Grinberg et al., 2019), studies on hyperpartisan news have shown how it is selectively accessed by those with political leanings residing in both the extremes (Stier et al., 2020). This includes those on the left and the right of the

political spectrum, with anti-establishment attitudes that draw extremes from both sides of the aisle to these types of websites (Barnidge & Peacock, 2019).

How Was Hyperpartisan, Alternative, and Conspiracy Media Accessed?

Our second focus is on individual access to HAC media. A key way of accessing this content is by directly navigating to it. Considering recent observations on the low presence of news sites visits in individual media diets (less than 2% of visits, (Wojcieszak et al., 2021)) and higher relevance of mainstream media in webtracking data (up to 19 times more visits compared with visits to hyperpartisan sites, (de León et al., 2022; Stier et al., 2020)), it is likely that this type of access is used only by a small number of individuals. HAC media sites are niche by definition, with content catering to a specific public – therefore, the number of people directly accessing these sites is likely low (Schulze, 2020). This is further exacerbated by recent research showing that during the pandemic, the public turned to trustworthy sources of information (Altay, Nielsen & Fletcher, 2022), with untrustworthy sites such as HAC media receiving even fewer visits than normal.

Under these circumstances, there is growing interest toward individual engagement with HAC media via information intermediaries. Such intermediaries, particularly social media and search engines, play an important role in today's online world (Stier et al., 2021). Here, the curated flows framework (Thorson & Wells, 2016) is informative: today's online media experience is shaped by a complex process of social, personal, journalistic, strategic and algorithmic curation that determines the information we are exposed to. Such processes, especially on social media, can lead to the type of incidental exposure that would not have been possible under the auspices of gatekeeping theory, leading individuals to HAC media without them actively seeking it out.

The possibility of incidental exposure to HAC media has raised multiple concerns, in particular in the context of social media. Studies have argued that "fake news" spreads faster on social media platforms (Vosoughi et al., 2018), showing how hyperpartisan media often results in a larger volume of engagement (Larsson, 2018). Several reasons contribute to the active engagement with HAC media on social media platforms, including reduced moderation standards as well as the tendency of social media platforms to rely on algorithms prioritizing content, causing strong emotional reactions (de León & Trilling, 2021). On COVID-19, existing research has highlighted the concerning role social media platforms have played as an entry-point to hyperpartisan interpretations of the crisis (Boberg et al., 2020; Motta et al., 2020), as well as for the propagation of misinformation (Yang et al., 2020). These studies, however, take place at the aggregate level, with limited efforts to connect to the individual level. These claims therefore need to be tackled head-on, with a focus on "real-world" participants, and with data that allows us to more carefully trace how this access occurs – a call that has been taken up for mainstream media (Scharkow et al., 2020), but not with HAC media, especially in the context of the pandemic.

Unlike social media platforms that are often viewed as amplifiers of HAC media, search engines are usually associated with the "mainstreaming effect," namely the tendency to provide similar outputs to individuals with different ideological positions. Usually, these outputs tend to focus on prioritizing authoritative sources, such as mainstream journalistic outlets and institutional websites, in particular in the case of Google. While for some search engines (e.g., smaller Western ones such as

DuckDuckGo or non-Western ones such as Yandex (Urman et al., 2021)) the visibility of HAC media might be higher, in general search engines can be viewed as a form of buffer against incidental exposure to HAC media by rarely featuring HAC sites in search results (Makhortykh et al., 2020).

How Does Hyperpartisan, Alternative, and Conspiracy Media Consumption Relate to COVID-19 Threat Perceptions?

Media effects theory, and particularly the framing framework, has shown that messages that individuals are exposed to can have consequences for their understanding of the world (Valkenburg, Peter & Walther, 2016). This is especially the case for issues on which they have little to no priors (de León, 2023), such as perceptions of the threat posed by COVID-19. One of the defining aspects uniting HAC media is the strong anti-establishment perspectives in its content, with issues often framed as a battle between the elite and "the people" (Rae, 2021). During the COVID-19 pandemic, competing narratives about the actual danger posed by the virus emerged in the lead-up to lock-downs throughout the world. Claims made by prominent actors that the virus "was not worse than the flu" proliferated the idea that COVID-19 was not a threat to health. This had direct effects on preventative behaviors and health rule compliance, with reduced health threat perceptions leading to reduce compliance (de Bruin & Bennett, 2020). Internationally, HAC media were key in promoting these ideas (Calvillo et al., 2020; Romer & Jamieson, 2021; Soares et al., 2022), prominently featuring narratives that the health effects of virus were being exaggerated by government and health officials. It is, therefore, likely that consumption of HAC media was associated with lower perceptions of the virus as a threat to health.

Health was not the only thing that the virus threatened: with the unprecedented government response in the form of lockdowns, compulsory mask-wearing, and limits on gatherings, many felt that the virus posed a direct threat to personal freedoms (de León et al., 2022; Sobkow et al., 2020). This sentiment was particularly prominent among actors on the extremes of the political spectrum, where the granting of emergency powers in Germany and Switzerland was equated with a move toward authoritarianism. Accusations of *Corona-Diktatur* (Corona Dictatorship) became widespread in discontent segments of civil society, whose calls for an end to restrictions and restoration of personal freedoms became a staple of COVID-19 policy resistance (Heinze & Weisskircher, 2022; Plumper et al., 2021).

HAC media echoed and proliferated these sentiments. From criticism of restrictions as "the cure being worse than the disease," to hyperpartisan frames on the measures ushering in a new era of authoritarian politics, to conspiracies that the virus was purposefully released to better control the population, the effect of the virus on personal freedoms were featured prominently in HAC media sites. In these sites, the virus was prominently featured as more of a threat to personal liberties than to health itself. While research has shown that perceived threats to freedom are negatively associated with the uptake of preventative measures (Ball & Wozniak, 2021; Sobkow et al., 2020), and similar work has linked conspiracy beliefs with this threat perception (Hughes et al., 2022), there is limited-to-no research exploring how online content consumption shapes these freedom threats to begin with.

Methods and Data

Sample and Data Collection

This study uses a combination of a panel survey and passively collected web-behavior data. Two quota samples were drawn from large reputable online webpanels (Dynata, GapFish, demoSCOPE) in Germany and German-speaking Switzerland. The first wave of surveys was conducted between March 2 and March 16, 2020. Webtracking was conducted between March 17 and May 25, 2020. Only those who agreed to be surveyed and also participated in webtracking (see "Webtracking Data" section) were included in the analysis, leading to a total of N=540 participants for Germany, and N=553 for Switzerland. The second wave of surveys was conducted between May 15 and May 25, 2020, and was accompanied by some attrition for Germany (N=402) and Switzerland (N=462). Because the timing of the data collection was right at the beginning of the pandemic, when the public turned to more trustworthy news sites (Altay, Nielsen & Fletcher, 2021), the estimates of HAC media consumption are likely conservative.

Webtracking Data

To accurately measure media use (Parry et al., 2021; Prior, 2013), participants were asked to install a custom-developed plugin to their desktop browsers. This custom plugin passively tracked participants' browsing behavior, recording not only the links visited by users, but also scraping the HTML (content) of these webpages, as well as registering the order of navigation. This approach not only allows us to capture *all* the URLs that participants visited – in contrast to numerous commercial solutions that apply internal (and many times undisclosed) filtering, and/or only offer a top number of reoccurring websites (e.g. Stier et al., 2020), or where only visits to a predefined list of websites are tracked (e.g. Merten et al., 2022) – but also capture the actual content that they were exposed to on these sites. This provides significant advantages over past work: it a) allows us to access the long-tail of unknown obscure media sites, addressing the "blind spots" highlighted in recent literature (see Gonzalez-Bailon & Xenos, 2022), and b) allows us to run automated content analysis procedures to filter content and find previously unknown sites of interest. This webtracked behavior is then combined with both waves of panel surveys (before and after), meaning we can both assess individually held opinions and attitudes in combination with actual media consumption behavior. The advantages of this novel setup have recently been discussed in detail (see Christner et al., 2021; Stier et al., 2019).

Participants had to give their informed consent to be tracked, with the conditions for tracking spelt out in detail. To block overly sensitive information, the tracker operated on a "blacklist" approach where domains containing sensitive information (e.g., banking, insurance, e-mail, pornography) were not captured. Furthermore, participants had the option to pause the tracker at any point for periods of 15 minutes at a time. Of course, not all participants consented to be tracked, and it might be that the profile of those dropping out correlates with our variables of interest, potentially leading to biased estimates. For instance, those on the extremes of the ideological spectrum might be more skeptical of such an approach. These concerns have received their own study, where we showed little to no systematic differences in political variables (e.g. political interest, trust, participation) across participating and nonparticipating populations (Gil-López et al., 2023)

. Furthermore, when compared to the European Election Study (EES) Voter (post-election) Study of 2019 and the Swiss Election Study (Selects), our sample has a comparable or higher representation of parties on the ideological extremes. In Germany, Die Linke partisans represented 10.7% of the sample instead of 8% in comparable studies, AfD 8.25% instead of 7.8%, and in Switzerland, SvP represented 19.3% instead of 18.6%, and the SP was 14.6% instead of 14.3%. We also conducted an analysis of the demographic sample composition of our sample in comparison to the population of Switzerland and Germany, showing that final webtracking samples generally resemble both countries' demographic distributions along the lines of age, with the average age of the sample being 2 years older (44) than the average population in Switzerland (42), and 4 years older for Germany (49 in our sample vs 45 in the population). There is, however, an under-representation of lower-educated individuals (DE: 13% vs population quota of 12%, CH: 3% vs population quota of 14%) relative to higher-educated ones (DE: 36% vs 26.8%, CH: 41% vs 37%), as well as over-representation of male participants (DE: 56% vs 49.7%, CH: 56% vs 49.3%) . To ensure that these imbalances were not biasing results, all models were rerun using a weighting scheme that accounts for the demographic discrepancies of our sample (age, gender, education, and location) – results can be found in Appendix 1.5 where we observe that findings generally remain the same.

To ensure that the desktop browsers were only used by the respondents agreeing to participate in the project, each participant was provided with a unique set of credentials to log in to the browser plugin used to track participant behavior. While we cannot ensure that participants installed the tracker plugin on all their primary desktop browsers, the substantial amount of activity (over 4 million recorded visits for all the respondents) suggests intense use of the tracked browsers. Participants were also carefully filtered to circumvent this problem – only those registering at least five days of online activity on tracked browsers were kept for the analysis, avoiding a situation in which participants installed the tracker but never used that browser.

Despite the approach's benefits and the precautions taken to increase the method's robustness, it is important to acknowledge a crucial limitation: the webtracker only captures content viewed on desktop browsers. Considering the growing dependency on mobile devices for information consumption, this is an important limitation when evaluating this study's results. Webtracking is, therefore, better understood as a procedure that improves our understanding of online information behavior while failing to capture it all. The information we collect should be considered a sample of our online information habits that better approximates our behavior, but fails to describe it in its totality.

This project's webtracking plugin was transformed into an open-source tool now maintained by *GESIS - Leibniz Institute for the Social Sciences* and is available for use.

Hyperpartisan, Alternative and Conspiracy (HAC) Media

A *starting list* of potential HAC media sites was constructed in three steps. First, eight existing site lists available in the literature on alternative, hyperpartisan media, conspiracy sites, untrustworthy news, fake news, and misinformation (specifically: Allcott et al., 2019; Bach et al., 2021; Grinberg et al., 2019; Guess et al., 2019; Heft et al., 2020; Muller & Schulz, 2021; Schulze et al., 2020; Stier et al., 2020) were compiled and then filtered to only include domains present in the tracking data. Second, a dictionary of COVID-19 conspiracy terms

was produced by developing descriptive terms for each of several salient COVID-19 conspiracies: that the virus was developed and released by a Chinese lab, that COVID-19 was being used as part of a globalist agenda for mass control, that COVID-19 was developed by the American military, and that governments were fabricating COVID-19 infections and deaths to further their agenda. This dictionary was applied to the entirety of the webtracked behavioral data in an automated content analysis process where each webpage visited was screened for the occurrence of dictionary terms (see Appendix 2.1 for dictionary terms). Third, existing content classification tools were used to detect populist radical right content and disinformation (see Appendix 2.1). Domains from a) the previous studies mentioned, b) mentioning any of the terms in the COVID-19 conspiracy dictionary, and c) including content labeled as populist radical right, or disinformation were compiled into a single starting list. Lastly, the full browsing history (folded into domains) of the ten individuals with the most visits to these domains were hand-coded: five from Germany (two on the far left, two on the far right, one with centrist views), and five from Switzerland (similar procedure). From these coded browsing histories, sites identified as HAC media were added to the final starting list.

This starting list of domains was then manually coded according to a HAC media codebook. Inspired by Holt et al. (2019) suggestion of a multi-level approach to categorization, the codebook labeled websites as belonging to hyperpartisan, alternative, or conspiracy media on three levels: self-representation, structural features, and content elements (see Appendix 2.2 for full codebook). This means that every site on the list, whether originating from external studies or from an automated classifier labeling, was carefully manually analyzed to determine whether they belonged in the HAC media list. This approach, therefore, guarantees that each domain was hand-coded to suit the needs and definitions of this project, avoiding the pitfalls associated with blindly recycling past lists, or relying solely on automated analysis of content. A total of 183 unique HAC media sites were identified. The full list of HAC domains is available in Table S6 of Appendix 2.2, along with the number of times each was visited by the participants. We believe such information is crucial to disclose as it provides readers with an idea of the relative weight that each site has on the analysis. We encourage researchers working with similar data to do the same.

We limited our analysis to visits to HAC media pages on COVID-19. To do so, we filtered all HAC media pages visited by their content, keeping only pages that mentioned "covid-19" (and variants), "corona," and "coronavirus" at least three times.

Intermediaries

To estimate the entry points to COVID-19 HAC media, we combined two approaches. First, we identified the precursors (i.e. the web page directly preceding the visit to the subsequent page) by constructing sequences of browsing actions. The webtracking data contains unique identifiers of each tracked page stored in the database, tracking which identifiers belong to the page preceding to the visited page. These data were used to construct the sequences of browsing actions. Second, we supplemented this data by identifying trajectories through the navigation stamps available in URLs of the visited pages (e.g. "http://webpage.com/article-name/utm_source=Google"), as has been done in previous work (eg Wojcieszak et al., 2021). To provide a meaningful interpretation of these results, we compare the intermediaries to HAC media to those of mainstream

media. For consistency and comparability, the same detection process was used for both media types. We summarized intermediaries by grouping visits to a site that is preceded by one of three webpage types: a social media platform (Facebook, Twitter, Reddit, LinkedIn, and Instagram), a search engine (Google, DuckDuckGo, Yahoo, Bing, and Ecosia), or direct access (first accessing the site's home page). It is important to note that not all visits were preceded by an intermediary: often, information from the previous page was unavailable, as it originated from black-listed sites (such as e-mail and messaging providers). Furthermore, internal browsing (eg clicking from one article to another) accounted for a large part of visits. These were excluded as they did not constitute "access points" to the websites, but rather internal browsing patterns. Because the baseline access rates to HAC media were already low, we could only identify 579 unique access points.

Survey Variables

Based on the American National Election Study, *Political trust* ($\overline{X}$ = 2.87, σ = 0.94) was measured by asking participants to respond to whether they trust that the government "is doing the right thing." *Media trust* ($\overline{X}$ = 3.45, σ = 0.81) was measured by creating a scale where participants rated their trust in "newspapers and magazines," "commercial media," and "public service media" (α= 0.74). *Extreme partisanship* ($\overline{X}$ = 0.26, σ = 0.44) was measured by a binary variable grouping self-identified voters of the SVP and SP in Switzerland, and the AfD and Die Linke in Germany. Threat perceptions were measured by asking participants "How much do you rate the threat posed by the Corona crisis in the following areas?." *Threats to freedoms* ($\overline{X}$ = 2.81, σ= 1.16) was measured by asking participants about threats posed "for my personal freedoms." *Threat to health* ($\overline{X}$ = 3.47, σ = 0.88) were measured by following the question with "for my and my family's personal health."

Models

To estimate the effect of wave 1 individual-level characteristics on HAC media use (Figure 4 below), negative binomial regression models (which account for the zero-inflated distribution of count data) are employed to predict the effect of survey variables (wave 1) on webtracking count variables, along with a series of control variables. To predict the relationship HAC media use has with threat perceptions (Figure 6 below), OLS linear regressions are used, with threat perceptions in wave 2 modeled as a function of previous HAC media use, as well as a series of control variables.

To ensure the reliability of our models, each had three robustness checks with heteroskedasticity consistent standard errors computed: original White standard errors HC_0 (White, 1980); HC_1, which adjust for degrees of freedom (MacKinnon & White, 1985); and HC_2, which adjusts for leverage values (MacKinnon & White, 1985). This information, along with full original model specifications and alternative modeling strategies, is detailed in Appendix 1. Additionally, to ensure that sampling error was not biasing results, models were rerun using a weighting scheme that accounts for the demographic discrepancies of our sample – results can be found in Appendix 1.5 where findings generally remain the same.

Results

Describing Hyperpartisan, Alternative, and Conspiracy Media Consumption

Figure 1 displays the topmost visited Hyperpartisan, Alternative, and Conspiracy (HAC) media sites for COVID-19 information. It is possible to see a large presence of all three types in this denomination: conspiracy sites with a spiritual focus are the most visited of all; hyperpartisan Polikstube, PI-news, and Dailykos receive a large share of visits; and ideologically unclear alternative sites such as KenFM and the SWPRS also make the list. These numbers, however, showcase a broader pattern: in general, HAC media sites received a low number of total visits – 3,146 in total, out of which 1,052 were on the topic of COVID-19. Out of a total of 1093 participants who participated in the first-panel wave and agreed to tracking, 15% of the sample (163 participants) visited HAC media at least once – here, however, the top 2% of the sample accounted for 75% of HAC COVID-19 media visits. These numbers pale in comparison to visits to mainstream media on COVID-19, where there were a total of 59,063 visits, and 77.5% of the sample (847 participants) visited them once.
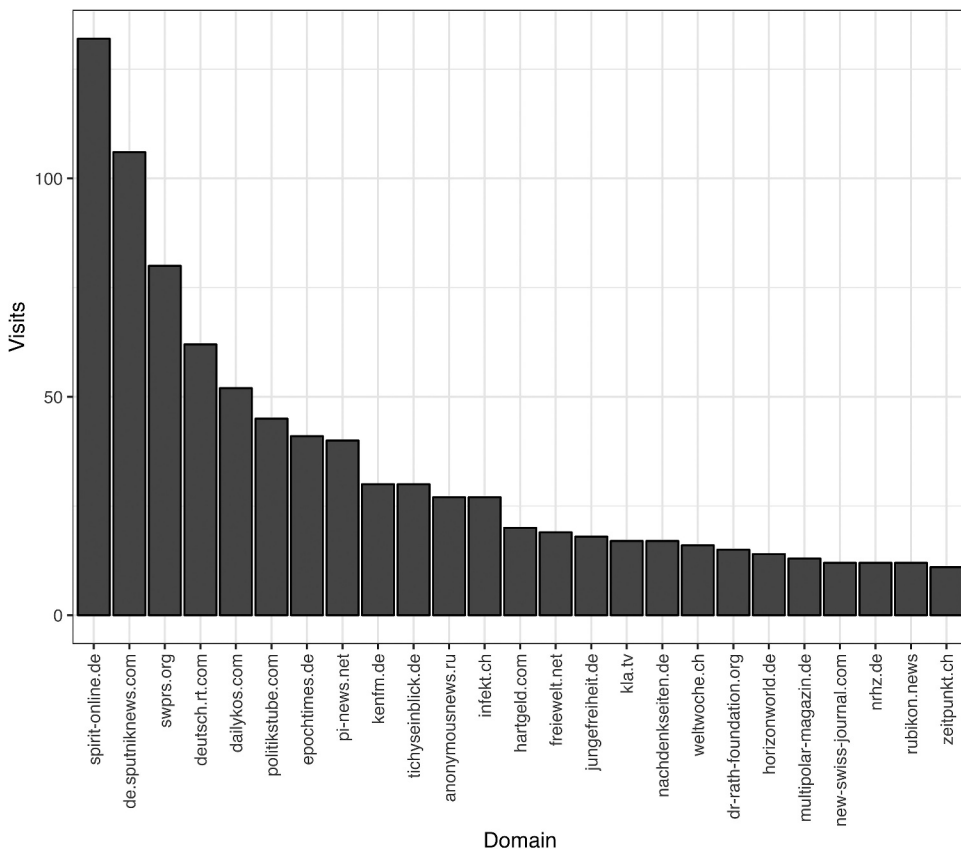

Figure 1. Top 25 hyperpartisan, alternative, and conspiracy media sites visited.
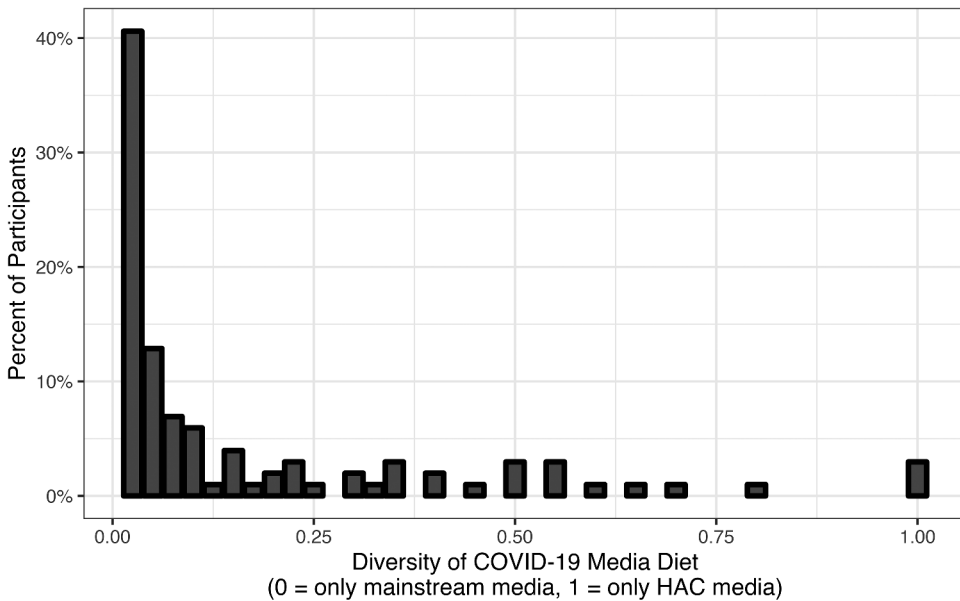
Figure 2. Diversity in COVID-19 media consumption.

Figure 2 showcases how concentrated individuals' consumption of COVID-19 information was on HAC media. Here, of participants that had at least one visit to COVID-19 HAC media, we calculated what percentage this amounted to relative to their total COVID-19 media consumption. The figure reveals that for most participants (77%) who consumed HAC media, HAC media was a small fraction of their overall COVID-19 media consumption, amounting to less than 25% of their total COVID-19 media consumption. There was, however, a small group of individuals (13%) for whom HAC media was the main source of online COVID-19 information: these individuals, although small in number, received 50% or more of their COVID-19 information from HAC media, with a hand-full *only* receiving COVID-19 information from these sites.

Who Consumed Hyperpartisan, Alternative, and Conspiracy COVID-19 Media?

A negative binomial regression modeling visits to HAC COVID-19 media was constructed and displayed in Figure 3, along with a comparison "placebo" mainstream media model. The HAC media model shows that even controlling for the key variables of age, sex, income, education, country-level effects, as well as other independent variables of interest – media trust and extreme partisanship – the effect of political trust is significant and negative. This means that a one-step increase in political trust is associated with a −0.83 (p< 0.001) decrease in the log of expected visits to HAC media pages on COVID-19. In terms of incident rate ratios (IRR), a one-step increase in political trust is equivalent to an expected 44% *decrease* in HAC COVID-19 media visited – a four-step decrease (from highest to lowest political trust) is therefore associated with a 176% reduction in visits. Similarly, we see a strong and significant (p< 0.001) effect produced by identifying as an extreme partisan. Our model suggests that a person who votes for the AfD, Die Linke, SP or SVP is associated
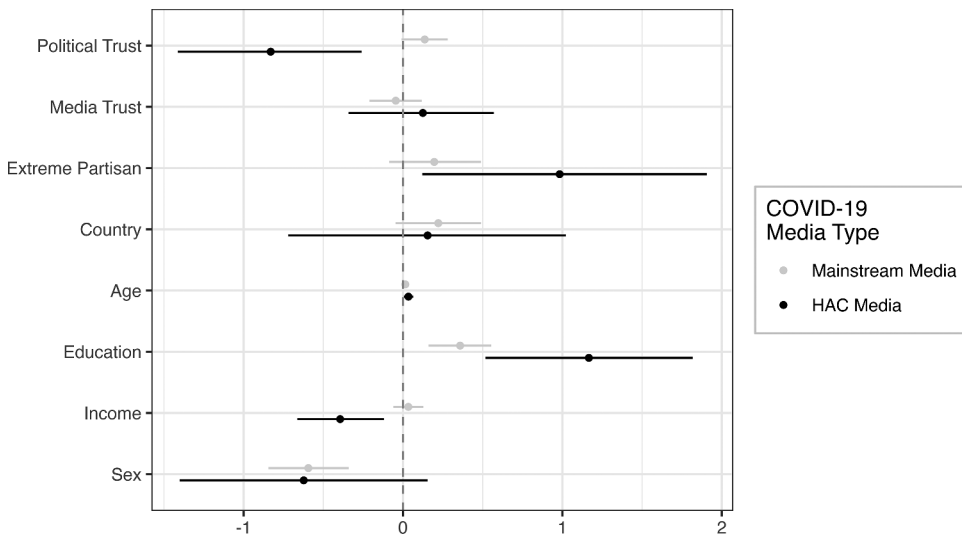
Figure 3. Negative binomial regression models predicting consumption of hyperpartisan, alternative and conspiracy COVID-19 media and mainstream COVID-19 media.
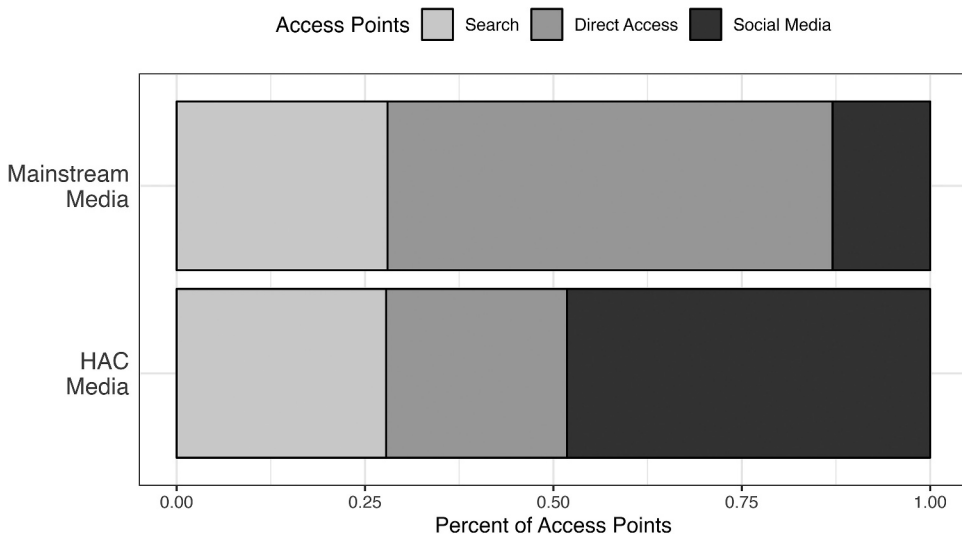

Figure 4. Intermediaries to hyperpartisan, alternative and conspiracy COVID-19 media.

with a 0.983 increase in the log of expected visits to HAC COVID-19 media (a 167% increase in total estimated visits). Trust in media is not significantly associated with HAC media consumption. This result shows that when it comes to HAC media consumption, variables such as political trust and extreme partisanship play a greater role than trust in media. The presence of different effects on the "placebo" mainstream model suggests that these results are robust. Effects are robust across several alternative modeling and weighing strategies (see Appendix 1.2).
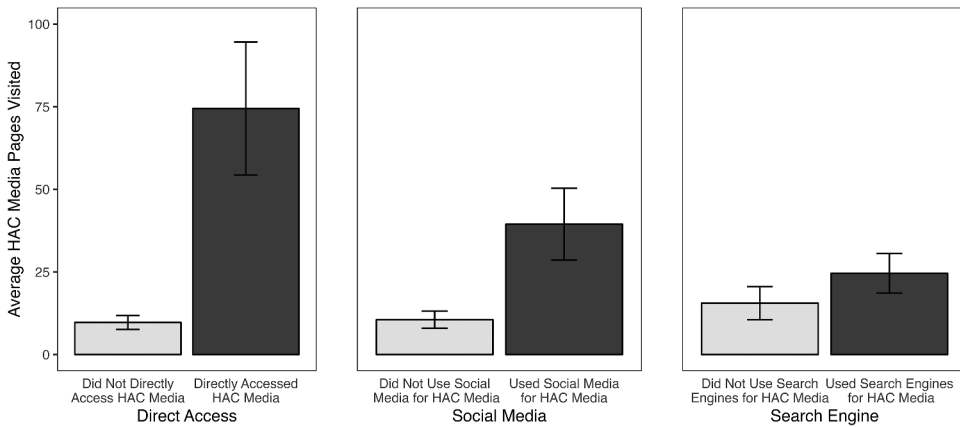
Figure 5. Average HAC Media Pages Visited based on intermediary use. Note: figure only includes those who viewed at least one HAC media page. Reading example: participants who accessed HAC media through social media had, on average, 49 total visits to HAC media.

How Was Hyperpartisan, Alternative and Conspiracy COVID-19 Media Accessed?

Figure 4 provides a description of the total 579 intermediaries to COVID-19 HAC media that were identified in the webtracking data in comparison to mainstream media. The difference in the prevalence of social media as an entry point stands out immediately. While for mainstream COVID-19 media, social media comprised 12.95% of all entry points, for HAC media it featured as over 48.19% of all entry points. This suggests that social media sites were a key entry point to COVID-19 HAC media, being over 3 times more prevalent than the equivalent to mainstream media. Conversely, however, there is a prominent gap between direct access to these sites. Our results show that 24% of identified entry points to HAC COVID-19 media were from participants visiting these sites directly. On the other hand, direct access made up 59.06% visits to mainstream COVID-19 media. Such differences suggest that HAC media sites do not have a large segment of loyal readers that navigate directly to the sites and instead encounter this content incidentally on social media. Lastly, we see that search engines played a relatively important role as access points to alternative media – with 27.80% of all access, they feature as more important than directly navigating to the alternative media homepage (a similar share for mainstream media).

Whereas social media serve as important access points to HAC media, Figure 5 makes clear that this access route limits the amount of total HAC consumption. In contrast, although direct HAC access is less common, it is of crucial importance as people consume much HAC pages. Figure 5 is based on all participants that visit HAC media at least once, and creates groups based on whether individuals used a specific intermediary or not. It shows that individuals who directly accessed HAC media had the highest average HAC media consumption, with an average of 74.45 HAC pages visited. This is in sharp contrast to those who visited HAC media at some point but never through direct access, with an average of 9.71 pages – less than one-seventh. This suggests that although directly accessing HAC media is relatively uncommon, those who do spend much more time on these sites.
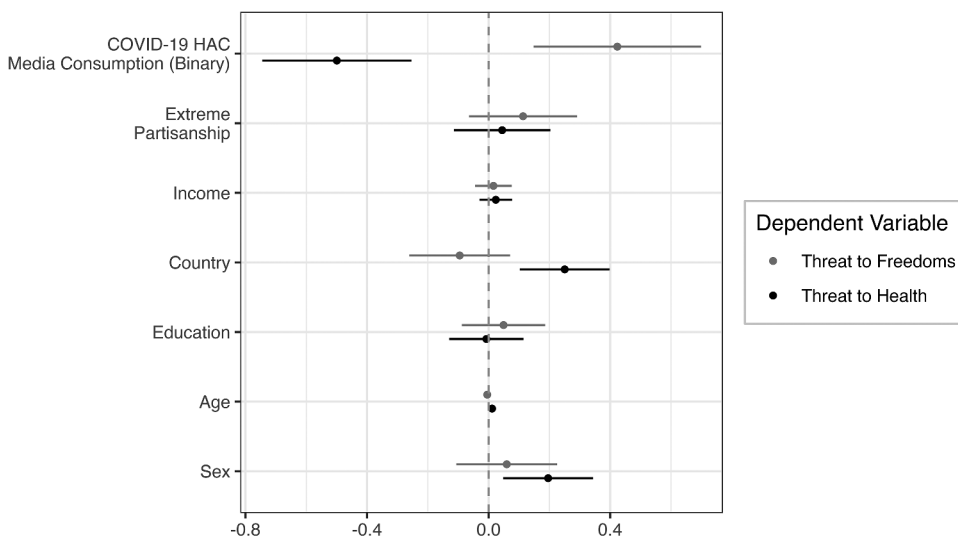
Figure 6. Models predicting the effect of hyperpartisan, alternative, and conspiracy (HAC) COVID-19 media consumption on threat perceptions.

How Did Hyperpartisan, Alternative, and Conspiracy Media Consumption Relate to COVID-19 Threat Perceptions?

To investigate the relationship between HAC COVID-19 media consumption and attitudes toward COVID-19, participants were surveyed again directly *after* the webtracking period had concluded. This second survey-wave was conducted in May 2020, and corresponds to a period when lockdown restrictions were beginning to be lifted in Switzerland and Germany. Here, participants were asked how much they believed COVID-19 posed a threat to their health and to their personal freedoms.

Figure 6 showcases two OLS linear models estimating the effect of HAC COVID-19 media consumption on threats to health and freedoms. The models show that even after controlling for the influence of age, sex, income, education, country-level effects, and extreme partisanship, HAC COVID-19 media consumption has a strong and significant effect on both threat perceptions. The modeled effect on threats to health is negative: participants who consumed HAC COVID-19 media at least once are estimated to believe COVID-19 is 0.499 less of a threat to their personal and family's health (p<0.001) than participants who never consumed this content. The opposite is true for threats to personal freedoms – participants who consumed HAC media are estimated to believe COVID-19 is 0.423 more of a threat to their personal freedoms (p<0.01) than those who did not.

Discussion

This study makes the case for studying hyperpartisan, alternative and conspiracy (HAC) media as a singular expression of anti-establishment sentiment, and does so by analyzing its individual-level consumption during the first wave of the COVID-19 pandemic in Germany and Switzerland. Using a combination of panel and webtracking data, we present three key pieces of evidence, detailing 1) who consumed HAC COVID-19 media during this time; 2)

how these consumers accessed HAC media online; and 3) how HAC media consumption relate to participants' subsequent opinions of the crisis. In doing so, we sketch a nuanced portrait of the individuals who consume this anti-establishment content.

Regarding the volume of content consumed, our study provides some important descriptive insights. We show that 15% of the sample visited HAC media at least once. This number is especially high considering that during the pandemic period untrustworthy websites saw a significant drop in their traffic (Altay, Nielsen & Fletcher, 2022). While exposure was more widespread than expected, repeated consumption was highly concentrated: the top 2% of the sample accounted for 75% of visits to HAC media. This finding closely mirrors previous work on fake news, showing that a handful of users are responsible for the vast majority of engagement with this type of content (Grinberg et al., 2019). Little evidence of "echo chambers" was found – most participants registering HAC media access mostly consumed a diverse media diet prominently featuring mainstream news media.

Past survey research has highlighted the role that lack of media (Heft et al., 2020) and political (Schulze, 2020) trust play as drivers to HAC media. In this study, we demonstrate that political trust is an important predictor of HAC COVID-19 media consumption. The links detailed here between political trust and HAC media supplement previous evidence of such a relationship – individuals who feel they cannot trust the political system turn to HAC media for content that mirrors their own critical views of politics (de León et al., 2022; Schulze, 2020). Those most skeptical of politics likely find a home in the highly critical articles, opinions, and videos found in HAC media (Mari et al., 2022), with our findings showing that this was also the case during the dawn of the pandemic. It supports the proposition of an anti-establishment dimension uniting these diverse sites, drawing in individuals looking for this type of information. It points to possible evidence of selective exposure, where citizens seek out information that is congruent with their distrust of the government (Stier et al., 2020), which is present in the anti-establishment nature of HAC media. Additionally, we show that participants located at the extreme of the political ideology spectrum were more likely to consume COVID-19 content from HAC media sites than those at the center of the spectrum. This corroborates recent work that has argued that during the pandemic, extreme ideological boundaries became more diffuse when it came to HAC media, and specifically conspiracies, in the early months of the pandemic (Eberl et al., 2021). Lastly, our results show that HAC media is consumed by older participants, and by those with lower income but higher education. An explanation of why media trust was an insignificant predictor of HAC media consumption potentially lies in the dynamics between political and media trust, as the two are often interrelated, pointing to similar latent attitudes (Ariely, 2015).

Our results show that social media was *the* key entry point to HAC COVID-19 media. This finding extends to the individual level what other accounts have suggested with aggregate social media engagement data (Boberg et al., 2020; Yang et al., 2020): social media is key in exposing participants to untrustworthy information, including during the pandemic. The increased exposure to HAC media through social media, even when compared to mainstream media, can be explained through several factors. First, the internal workings of the algorithmically curated feeds present in social media favor news that elicit strong emotional reactions (de León & Trilling, 2021). HAC media have been documented to proliferate in these environments – hyperpartisan content is often conflictual, and conspiracies paint the world in broad strokes of black and white (Sturm

Wilkerson et al., 2021). Second, the networked logic of social media likely allows like-minded individuals to connect and share information – among these, HAC sites. Third, HAC media sites likely actively use the reduced gatekeeping barriers of social media to promote their content and grow their audiences (Xu et al., 2020). All explanations, however, hinge on the idea that social media, as an intermediary between user and content, has the power to incidentally expose users to content they might not have directly sought out or seen elsewhere. Despite the importance of social media, our analyses also reveal that the most avid consumers of HAC media are not the ones accessing it through these platforms. Instead, it is the small fraction who directly navigated to HAC media sites that had the highest consumption of this content, despite direct access being the smallest intermediary.

Lastly, this study sheds light on the relationship between HAC media consumption and attitudes toward COVID-19. By re-interviewing participants after the webtracking phase of the study was concluded, we assess the relationship between consumption of HAC media and individuals' threat perceptions of the virus – both the threat it poses to the health system and the threat it poses to personal freedoms. We show that higher consumption of HAC COVID-19 media during lockdown was a strong predictor of subsequent threat perceptions: it was a negative predictor of threat to the health system, and a positive predictor of threat to personal freedoms. Past work has shown that reduced threat perceptions to health and increased threat perceptions to personal freedoms are strong predictors of individual lack of engagement in preventative health behaviors, and rule following during the pandemic (Ball & Wozniak, 2021; Schneider et al., 2021; Sobkow et al., 2020). Therefore, these results suggest that the content published by HAC media posed a direct threat to both the public's understanding of the virus – by downplaying its severity – as well as government efforts to curb infection rates – by presenting the measures as a threat to individuals' freedoms.

This study is not without its limitations. While webtracking presents a significant improvement in media consumption measurement, it fails to capture information exposure on mobile devices, which are an increasingly important source of information. Unfortunately, we can only speculate as to whether systematic differences in HAC media consumption exist between desktop and mobile browsing. Future studies should address this, especially in light of the growing use of social media on mobile devices, which we have shown to be a key access point to HAC media. Secondly, the research design employed does not allow for causal claims. Considering our findings that HAC media consumption is significantly related to threat perceptions, future work should aim at disentangling whether HAC media leads to a rise in perceptions of a crisis, or whether individuals with certain perceptions of the crisis select into HAC media. The same can be said about political trust: does distrusting politics lead people to HAC media, or does the consumption of its content encourage skeptical attitudes – or is it a mutually reinforcing circle? Lastly, by focusing on the individual-level, our study largely ignored the content produced by HAC media. Future research should be conducted on this front, observing the coverage and framing of specific stories across hyperpartisan, alternative, and conspiracy media.

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data availability

The data will be made available upon request by contacting the corresponding author

Open scholarship

This article has earned the Center for Open Science badges for Open Data and Open Materials through Open Practices Disclosure. The data and materials are openly accessible at https://osf.io/uyv4p/.

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