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News When it Matters:
Its Sharing, Online Formats, and Attitudinal
Consequences During Elections and Crises

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Acknowledgements

This dissertation is not what I thought it would be. It is not what I thought it would be when I smiled into my computer screen three years ago, suited up from the waist up, pyjamas from the waist down, in what would be a very consequential Zoom interview. And it is not what I thought it would be six months ago when I could still not see the way out of the dissertation-writing labyrinth and peer-review maze. However, it is everything I could have hoped it would be. Rather than the perfect execution of a meticulously planned research design, it is an account of competing research interests and the curiosity to tackle questions in response to real-life events around me. It is an account of my development as a researcher, dipping my toes – and sometimes diving head-first – into new methods, finding my voice in between the convoluted academic jargon, and experimenting with new perspectives.

For that, I am grateful to a couple of people that have been key these last three years. To my PhD project collaborators, Mykola, Sasha and Teresa, who taught me so much about teamwork, patience and perseverance. I'm thankful to Susan and Damian, whose enthusiasm for research was an unending source of inspiration. I'm grateful to my WhatsApp PhD support group (David, Philipp, and Nico) whose collective lamenting made everything a little easier, and to my two cats, Marmot and Niesen, whose blissful unawareness of this very suffering brought me down to earth. I'm thankful to Chiara, the best cohort buddy–roomie–officemate–coauthor I could have asked for. And the rest of my adopted IKMB family – Ani, Maryna, Franziska², Trix, Bea, Tobias – who made this process such a joy. I am additionally obliged to Prof. Dr. Peter Van Aelst for agreeing to review this dissertation and his comments on elements of this work during the 2022 Milan Summer School.

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Contents

Acknowledgements	1
Introduction	4
Paper 1. Electoral News Sharing	43
Paper 2. The News Sharing Gap	61
Paper 3. On Issue Survival	82
Paper 4. Hyperpartisan, Alternative, and Conspiracy Media	
Users	95
Paper 5. News, Threats, and Trust	129

Abstract

In this dissertation I present a collection of five research papers that further our knowledge of the digital news environment, shining light on how new technologies, such as social media, allow for greater user agency in the dissemination of political news (papers 1 and 2) and have led to the emergence of new formats of political news media (paper 4), exploring also the attitudinal consequences of engaging with this content online (papers 3, 4 and 5). I focus on key moments of fluctuation – elections and crises (namely, the COVID-19 pandemic) – painting a picture of online news media production, engagement, and effects in moments when political communication arguably matters most.

Introduction

In my late 20s, I am living in a completely different news media environment than my mother did at this age – hell, a completely different news environment than my older siblings saw (to be fair, they are in their early 40s already). No longer are we reliant on turning to the evening news during dinner, or opening up the *Listin Diario* in the morning to be informed of what is going on. We stumble across news on social media as we scroll past pictures of the latest pregnancy and cat pictures, while being given the option to instantly share it with hundreds of our contacts; we consume a growing number of niche media sites that now finance themselves on user donations; and algorithms play a growing role in determining what is most relevant for our interests.

And of course, claiming I am the first person to notice this would be scientific malpractice: a tsunami of metaphors has flooded political communication research in hopes of conceptualising this type of online engagement, getting more creative than the older ‘mass communication’, ‘two-step flow’ (Katz, 1957) or ‘gatekeeping’ (Shoemaker & Vos, 2009) models that have

dominated the communication literature so far. From the descriptive ‘high choice media environment’, to the play on existing words – *gate-watchers* (Bruns, 2018) – to the more creative ‘curated flows’ (Thorson & Wells, 2016), and ‘wayfinding’ (Pearson & Kosicki, 2017), communication scholarship has grappled with how to understand and conceptualise news media engagement in a digital world. They paint a picture of an information source that has grown in diversity, splintering into a vast ecosystem of interconnected nodes, each capable of shaping narratives and influencing public opinion. These metaphors capture the complexity and dynamism of the digital media landscape, where traditional gatekeepers are challenged by an army of gate-watchers, where news flows are no longer linear but curated, and where individuals constantly navigate a sea of information.

Such changes have meant that we have had to rethink how we understand the relationship between audience and news. We have had to rethink *how individuals get to news media*, exploring the differential effects of ‘modes’ (Möller, van de Velde, Merten, & Puschmann, 2020), ‘avenues’ (Wojcieszak, Menchen-Trevino, Goncalves, & Weeks, 2022), or ‘journeys’ (Vermeer, Trilling, Kruikemeier, & de Vreese, 2020) in news consumption. With the growth in popularity of new media formats such as those present in alternative, hyperpartisan, and conspiracy media, we have had to rethink *what content people are engaging with* (Nie, Miller, Golde, Butler, & Win-neg, 2010). Furthermore, we have had to rethink *the role of actors* beyond the classical journalist and reader, theorising about the effect of algorithmic

curation and social media connections that have a growing say in what information we are exposed to. We have also had to rethink how all these changes shape the world of politics and public opinion.

This is where the contribution of this dissertation lies. It adds to the body of knowledge in political communication by delving into the intricate dynamics of media engagement and media effects within the landscape of our evolving digital news environment. In an era characterised by unprecedented technological advancements and the proliferation of online platforms, it becomes crucial to question the validity of existing approaches linking the media with the public. Theories such as agenda-setting, journalistic gatekeeping (Shoemaker & Vos, 2009), news framing (De Vreese, 2005), videomalaise (Robinson, 1976), the virtuous circle (Norris, 2000), media appeals to the ‘median reader/voter’ (Harold, 1929; Mullainathan & Shleifer, 2005), and the ‘news gap’ (Boczkowski & Mitchelstein, 2012) must be submitted to microscopic inspection before a wholesale transplant into the online setting can be conducted. This dissertation is united by this call to action, exploring some of these classical notions of the relationship between the media and the public in the face of this high-choice media environment (Van Aelst et al., 2017), providing valuable information on the intersection between online news media and politics. It leads us to ask – in such a digital environment, does news matter in the ways we thought it did twenty years ago?

Like all research, however, this dissertation is a story of circumstances – moments that shape the information and political realities of a given time.

Specifically, I grapple with how the external shocks produced by elections and crises helped to mould engagement with news and its subsequent effect on individual-level attitudes. This dissertation’s focus on ‘extraordinary’ moments – elections around the world, as well as the COVID-19 pandemic – stems from the idea that during these moments, access and engagement with political information become even more important. How a population reads and shares political information in our rapidly transforming online world can tell us a lot about engagement during the moments that matter the most. In an era characterised by an increasing frequency of ‘once in a lifetime’ crises and highly consequential elections, it is imperative to understand the dynamics of online media consumption and its impact on political attitudes. By examining these pivotal moments, this research aims to uncover patterns, mechanisms, and the underlying factors influencing how individuals interact with and interpret political news online. It provides answers to how some existing dynamics – such as selective exposure, media framing, agenda-setting, and news sharing – take place during these high-stakes moments. Ultimately, the insights gained from this study can contribute to our understanding of the complex interplay between online media, politics, and public opinion, providing valuable knowledge for policymakers, journalists, and citizens alike.

This introduction will discuss the uniting elements that bring the different studies in this dissertation together. First, I explain the importance of understanding the changes that news engagement has undergone in the online world. Specifically, I focus on three key areas: news sharing on social media,

the expansion of existing news formats, and the normative concerns surrounding these developments, especially during crises and elections. Second, I dive into the attitudinal consequences of this digital news ecology, exploring how different aspects of its use are related to crucial political attitudes during moments of significant upheaval. How elections and the COVID-19 crisis transformed political engagement and attitudes is, therefore, the focus of this section, documenting how I understand attitudes such as political trust, issue salience, and threat perceptions, their importance, and their relationship to media consumption during extraordinary moments. Lastly, I provide a brief summary of the studies included in this dissertation, and discuss the implications and limitations raised by my work.

The Online News Media Ecosystem

What we can learn from news sharing

Social media platforms play an increasingly important role in our information ecosystems: as a space where users from all over the world can read and discuss political ideas, sites such as Facebook have become a key source of political news. Through sites such as Facebook, individuals are both exposed to the latest political news and, as an audience, are empowered to interact and further disseminate the content to an unprecedented degree (Picone, 2018). While news dissemination is nothing new (Brundidge, 2010; Schmitt-Beck, 2003), an individual's ability to share news has always been

limited by the size of their immediate social circle. With the expansion of the internet, this constraint has been lifted, initially through website-specific functionalities (Baym & Shah, 2011) and the use of email (Berger & Milkman, 2012; Boczkowski & Mitchelstein, 2012), but even further through the rapid growth of social media use, where it takes mere seconds to share the news with a lengthy list of contacts. With the expansion of these ‘personal publics’ (Schmidt, 2014), lists of contacts that easily and routinely are exposed to the content shared or generated by a user, individuals now share news at an unrivalled pace.

It is no surprise then that news sharing was speculated to “be among the most important [developments] of the next [decade]” (Olmstead, Mitchell, & Rosenstiel, 2011), captivating both political scientists and media scholars alike. The ability for online audiences to quickly spread news stories has meant that it has come to be considered “the most valuable form of user engagement” (Larsson, 2019, 329). This is a perspective shared from several angles. For journalists, sharing represents increasingly valuable clickstream traffic, as well as insights into audience preferences for stories. For social scientists, news sharing can represent more than an engagement metric – as a measure of story dissemination, it can provide insights into the dynamics of public attention online (Haim, Kümpel, & Brosius, 2018). News sharing can tell us much about the news environment (Steensen & Westlund, 2021; Trilling, Tolochko, & Burscher, 2017), providing insights into what is capturing a social media public’s attention (Ma, Lee, & Goh, 2014).

Despite its argued importance, there are several aspects of political news sharing that remain under-studied – areas which this dissertation aims to address. Specifically, the considerations detailed above suggest that news sharing can shed light on classic questions of political communication, such as the divergence in the preference for political news between audiences and publishers. Scholarship has held for decades that journalists are more keen to write and engage with politics than audiences. This phenomenon has been termed the “news gap” by [Boczkowski and Mitchelstein \(2013\)](#), highlighting the disparity between the production and consumption of political news ([Boczkowski, Mitchelstein, & Walter, 2011](#); [Choi, 2021](#)). Nevertheless, in today’s digital media landscape, there is more to engagement than readership, the typical audience measure taken in these studies. News sharing not only represents a behaviour distinct to that of reading, but that has more potential downstream consequences: through sharing, users can increase the incidental exposure of their social media contacts ([Feezell, 2018](#); [Weeks, Lane, Kim, Lee, & Kwak, 2017](#)), playing a crucial role in the erosion of the media’s gatekeeping function, potentially shifting attention and information beyond editorial preferences ([Thorson & Wells, 2016](#)).

While considerable research exists on why citizens choose to share news ([Kümpel, Karnowski, & Keyling, 2015](#)), there is a lack of studies addressing whether there is a discrepancy between the news shared by users on social media and the news published by news media organizations. Given the expanded range of media choices and user selectivity in today’s digital news

landscape (Van Aelst et al., 2017), it is possible that the divergence between editors and news consumers has increased. To comprehensively understand the relationship between news production and distribution in today's digital society, it is imperative to integrate the role of news sharing into the broader framework of the news gap. This dissertation therefore aims to answer the question of how social media platforms shape the differences in political interest by news producers and news consumers, in the form of sharing.

There has also been little to no research on how events – specific time points such as crises or elections – impact online audience engagement with political news in the form of political news sharing. The potential sharing to shape the news agenda outside of editorial preferences (Cardenal, Galais, & Majó-Vázquez, 2019) means this question has valuable implications for how the public consumes information during these key moments. Past work has shown that key moments of intense political focus minimise the discrepancies in the interest in politics between journalists and news readers (Boczkowski & Mitchelstein, 2013). Nevertheless, this proposition has yet to be tested in the online world in the shape of news sharing. How events such as crises and elections shape the dissemination of political news is a crucial question to understand the current media landscape. It is possible that, due to the high selectivity and personalisation on social media, users will opt out of political news completely, not being exposed to it and not sharing it, cancelling out the equalising effects that have been observed in past research. On the other hand, it could be that we observe a growth in the inequality of political news

access and sharing, with those interested in political news radically increasing the amount of political news they are both seeing and sharing, while those who are not tuning out. It is therefore crucial to understand the changing dynamics of political news sharing during key events (de León & Vermeer, 2023; León, Vermeer, & Trilling, 2023).

New Formats of News Media

From a supply side, we have seen significant growth in the sheer number of online media sites available (Nie et al., 2010). This has taken place both as existing newspapers moved steadily online as a result of the falling profit margins from print media, but also the birth of digital-only outlets (Prior, 2007). The lower production costs of online media, including reduced overhead costs, has made it significantly easier for news producing website to emerge online (Baum, 2003). These sites not only don't have the initial investment costs associated with print media, but also require a much smaller public to maintain a profit margin. Scholars have highlighted how this has allowed for the growth of media sites representing niche political ideals (Nie et al., 2010). While in the past, large media organisations had to appeal to the median point of the ideological spectrum – as this represented the biggest potential market (Harold, 1929; Mullainathan & Shleifer, 2005) – the expansion of the internet allowed for the growth of sites that could cater to niche ideological positions represented in smaller fractions of the population, allowing for further 'saturation of the taste-space' (Nie et al., 2010).

Such a fracturing has allowed for the growth of semi-professional media pages that present their content as news, yet do not hold their reporting to the standard expected from large news organisations. One such type is the so-called ‘alternative’ news media. In stark contrast to the traditional objectivity expected of journalists (Coyer, Dowmunt, & Fountain, 2007), these outlets boldly position themselves as purveyors of truth, claiming to cover events and stories willfully ignored by ‘mainstream’ media (Larsson, 2019). In doing so, alternative media position themselves in opposition to the ‘mainstream’ media, which is perceived as corrupt, or following specific political agendas. In this positioning, alternative media usually adopt a strong anti-establishment stance (Hartleb, 2015), advocating against the prevailing political order, thereby presenting a strongly one-sided agenda (Barnidge & Peacock, 2019). Creating a space for extremist interpretations of current events, they cater to a public that seeks news narratives contradicting the perceived mainstream discourse (Holt, Ustad Figenschou, & Frischlich, 2019). In filling these crucial political information gaps (Heft, Mayerhöffer, Reinhardt, & Knüpfer, 2020), alternative news outlets straddle the line between journalistic principles and political activism, adopting reporting and argumentation styles that mimic journalistic standards while embracing an activist interpretation of events (Mayerhöffer & Heft, 2022). Presenting themselves as a corrective to what they view as dominant public discourse emanating from mainstream media (Holt et al., 2019), these sites attract audiences with strong ideological beliefs and a keen interest in politics (Müller & Schulz,

2021).

Alternative media, however, is just one side of bigger anti-establishment information phenomena taking place online. Other media sites, with similar dubious or ‘untrustworthy’ information standards, have proliferated throughout the online news-sphere, without being explicitly ‘alternative’. One such type is ‘hyperpartisan’ websites. These sites do not take aim at the ‘mainstream media’ as their boogymen, but rather specific political ideologies and elites. As sites that provide news content embedded with ideological interpretations to the point of abandoning conventional norms of objectivity (Rae, 2021), hyperpartisan media “purport to be news outlets while promoting a narrow and skewed political agenda without making an effort toward a balanced representation of major political issues, events, or political actors” (Stier, Kirkizh, Froio, & Schroeder, 2020, 431). Similarly, the rise of conspiracy news media also speaks to the expansion of anti-establishment online media – as outlets dedicated to covering common conspiracies, they take aim at political and media elites to provide information that is sceptical of ‘official narratives’ and provide evidence of the existence of coordinated plots by evil actors. The arrival of the COVID-19 pandemic saw an expansion of this type of content, as conspiracy theories began linking health, financial, media, and political dimensions to an unprecedented extent.

While there has been a growth of research on each of these types of media sites, there has been a lack of work seeking to understand them collectively as part of a larger online information phenomenon. I argue that, especially with

COVID-19, the overlaps between alternative, hyperpartisan, and conspiracy media became so strong that trying to study each of these sites independently would inevitably lead researchers to miss a part of the bigger picture. Instead of getting caught up in the semantic and definitional differences of these sites, we should focus on what unites them: a strong anti-establishment discourse that emerged from all these new types of news media. Such anti-establishment positioning has been argued to drive a selective exposure effect, drawing in readers with high levels of scepticism towards mainstream media and politics (Strömbäck et al., 2020; Tsfati & Cappella, 2003). Because of the obscurity of these sites – as well as the desirability bias associated with self-reporting on their readership – work that has attempted to measure and conceptualize engagement with these media types falls short of achieving their goals. Therefore, one of the knowledge gaps that this dissertation aims to fill is to provide information on how online users engaged with these new types of online media. Such descriptive accounts are crucial for our understanding of the current online political information ecosystem.

Elections, Crises, and Normative Concerns of our Digital News Ecology

The expansion of the supply-side of media outlets online is compounded by the previous discussion on the empowering effects of social network sites. One of the core reasons facilitating the growth of this long-tail in the political information environment lies in social media. Firstly, social media platforms

empower users to share content, which has significant implications for the visibility and reach of political information. As discussed above, users have the ability to share news articles, videos, and other forms of content with their networks, thus amplifying their impact and potentially increasing their virality. This sharing behavior is often driven by emotional responses (de León & Trilling, 2021; Sturm Wilkerson, Riedl, & Whipple, 2021), with sensationalist and enraging content garnering more shares from users (Sturm Wilkerson et al., 2021). As a result, content that evokes strong emotional reactions tends to receive greater attention and engagement on social media, contributing to its growth and dissemination. It has been extensively documented that social media platforms serve as major sources of traffic for alternative and hyperpartisan media outlets, as users share and interact with their content within their social circles (Xu, Sang, & Kim, 2020). Secondly, the algorithmic curation employed by social media platforms plays a pivotal role in shaping the visibility and prioritisation of content. These algorithms are designed to optimise user engagement by showcasing content that is more likely to elicit reactions, comments, and shares (Fletcher & Nielsen, 2019). As a result, the algorithms often prioritise content that generates high levels of engagement, which frequently includes the sensationalist or polarizing political information found in hyperpartisan, alternative and conspiracy media.

Such radical expansion of the “long tail” of online news has fundamentally altered the supply of political media available online, giving rise to extensive speculation about the societal implications of these transforma-

tions. Concerns have emerged regarding three key aspects: The first is around the potential for individuals to disregard political information and become less politically knowledgeable and engaged (Lecheler & de Vreese, 2017; Prior, 2007; Van Aelst et al., 2017). With a vast array of online news sources to choose from, there is a risk that people may selectively consume content on topics that align with their preexisting interests, avoiding political news. As a consequence, this narrowing of information consumption can contribute to a decrease in political awareness and knowledge among individuals (Lecheler & de Vreese, 2017). The proliferation of online news sources, as well as the empowerment of individuals to share the news they see fit, has also facilitated the spread of misinformation. The decentralized nature of the internet and the ease of sharing information have given rise to a plethora of false or misleading content that can quickly circulate and reach a wide audience (Pennycook et al., 2020; Pennycook & Rand, 2021). The dissemination of misinformation poses a significant challenge to public understanding and decision-making processes. Individuals exposed to false or misleading information may form misguided opinions, make ill-informed choices, and contribute to the perpetuation of falsehoods.

Another pressing concern is the tendency of individuals to gravitate towards information that confirms their existing beliefs, such as the information provided in alternative, hyperpartisan, or conspiracy-driven media outlets (Guess, 2021; Stier et al., 2020). While it is natural for people to seek out information that aligns with their beliefs, the dominance of hyperpartisan

or conspiracy-driven content can further exacerbate polarisation and hinder constructive dialogue. Additionally, the growth and expansion of algorithmic curation of news have introduced a new set of challenges. Online platforms employ algorithms to personalise news feeds and recommend content based on users' preferences, past behaviour, and demographic information (Zuiderveen Borgesius et al., 2016). While this customisation can enhance user experience and satisfaction, it also raises concerns about the potential for algorithmic bias and the creation of 'filter bubbles' (Flaxman, Goel, & Rao, 2016). The algorithms may inadvertently reinforce existing beliefs, limit exposure to diverse viewpoints, and contribute to the echo chamber effect. As a result, algorithmic curation poses the risk of further entrenching individuals in their own information bubbles, hindering a holistic and balanced understanding of political issues.

These considerations become even more important during moments when citizen opinion and participation are crucial: in this dissertation, these are periods of elections and crises. The role of the media and individuals' 'need for orientation' are integral during crises and elections. In times of crisis, such as natural disasters or public health emergencies, people rely on the media to understand the unfolding events, often to preserve their own lives and ensure the safety of their loved ones (Van Aelst et al., 2021; Westlund & Ghersetti, 2015). Similarly, during elections, individuals turn to the media to acquire the necessary information that enables them to cast an informed vote and participate meaningfully in the democratic process (M. McCombs & Weaver,

1973; Zaller, 2003). The media assumes a crucial role in fulfilling this need for orientation. They act as the disseminators of vital information, ringing the “burglar alarm” by alerting individuals to important developments and making sense of complex events (Zaller, 2003). Through their reporting, analysis, and investigative journalism, the media provides essential context, explanations, and interpretations that assist the public in comprehending the significance and implications of ongoing crises and electoral processes. However, such a role is compromised in today’s high-choice media environment, as individuals may be more inclined to consume content that aligns with their existing beliefs, inhibiting exposure to diverse perspectives. This can lead to increased polarization and a reduced understanding of the broader political landscape. Additionally, the rise of hyperpartisan, alternative and conspiracy media during elections can contribute to the spread of misinformation, distort public discourse, and undermine trust in the electoral process. Similarly, in times of crisis like the COVID-19 pandemic, understanding what information individuals are exposed to online becomes paramount.

These considerations have far-reaching implications during key moments such as elections and crises. They influence the formation of public opinion, the spread of misinformation, the polarization of societies, and the trust in institutions. Navigating the complexities of the media landscape during these critical periods requires media literacy, critical thinking, and a collective commitment to ensuring accurate, balanced, and trustworthy information reaches the public.

Attitudinal Consequences of this Digital News Ecology

A large part of this dissertation is dedicated to understanding the interplay between online media consumption and political attitudes that have implications for our democratic society. As with all other things in this dissertation, this political dimension is situated within extraordinary situations: elections and the COVID-19 pandemic.

One of the attitudes addressed is political trust (De León, Makhortykh, Gil-Lopez, Urman, & Adam, 2022). This is a difficult one to define. Many have described trust as being less of an attitude, and more of a feeling. Particularly, I draw from Easton (1975) to understand political trust as citizens' belief that the political system, and not just the current elected politicians, has their best interest at heart, and will work to represent them (Van der Meer & Zmerli, 2017). I combine this more democratically-focused stream of literature with work that has argued for the pragmatic role of political trust during crises (Hetherington & Rudolph, 2008). Wars, natural disasters, and terrorist attacks (the emergencies that dominated the literature pre-2020) require the government to take collective action, employing response measures that are detrimental to some in the pursuit of collective goods (Hetherington & Nelson, 2003; Hetherington & Rudolph, 2008; Marien & Hooghe, 2011). Governments are reliant on the compliance and the support of the population – no one likes being manhandled by American TSA agents, but we put

up with it because we believe that collectively it will prevent another 9/11. Such beliefs require trust in the political system.

The COVID-19 pandemic is an especially important case study of political trust and crises: populations around the world were (for some – still are) asked to make unprecedented sacrifices to their social lives, employment, and schooling. A government’s ability to impose such measures is partially contingent on the population’s trust in the state to protect their safety and interests. Investigating changes in this trust, and how they relate to information consumption online, therefore, became an urgent task.

Another political dimension in the spotlight of this dissertation is issue salience (de León, 2023). Issue salience has been a focus of public opinion scholars for a long time (see, e.g. RePass, 1929) – capturing how important citizens hold given social issues to be on the political agenda to them personally, public issue salience holds an important role in the study of public opinion (Dennison, 2019). Similarly to political trust, issue salience has been studied in relation to crises. Work has detailed the fluctuating nature of issue salience – a zero-sum game between different issues –, a dynamic that is exacerbated during moments of intense (inter)national scrutiny on particular problems (Hutter, Kriesi, & Vidal, 2018; Zhu, 1992). Such moments have been linked to displacements of previously salient issues, as the media centred on COVID-19 to the detriment of other political issues such as climate change (Rauchfleisch, Siegen, & Vogler, 2021) and migration (Fretwurst & Günther, 2022). Under the auspices of agenda-setting theory, such a focus by

the media is classically linked to salience in public opinion (M. E. McCombs & Shaw, 1972). I take the COVID-19 pandemic to turn issue displacement on its head, instead asking how and for whom do issues *survive* during moments of crises. Such an understanding is not only crucial to the case study of the COVID-19 pandemic – shedding valuable light on the xenophobic underpinnings of the links between migrants and disease – but also for understanding politics in moments of crisis. Whether and how political issues are adapted to emergency situations, how links are drawn between a new political reality and issues that are at the core of a party’s programme, informs how these issues develop in the aftermath of the emergency, when everything is ‘back to normal’.

In contrast to issue salience and political trust, two long-studied phenomena that were transformed with the arrival of the pandemic, the last political focus of this dissertation are attitudes that emerged during the pandemic. These are perceptions that the pandemic presented a threat to one’s health, and the perception that the pandemic was a threat to one’s personal freedoms. These political opinions were born as a result of the pandemic – unique attitudes that previously did not hold any space on the political and public agenda. These perceptions, representing the intrusion of health policy into the arena of public opinion in an unprecedented manner, are a key focus of this dissertation.

Threat perceptions are crucial in shaping public opinion during crises, an insight long recognized in the terrorism literature, (Albertson & Gadarian,

2015; Hetherington & Nelson, 2003; Landau et al., 2004), and more recent work on the COVID-19 pandemic (Kritzinger et al., 2021; Pérez-Fuentes, Molero Jurado, Martos Martínez, & Gázquez Linares, 2020). During the pandemic, how threatened we should be by the virus became a key point of political contention: prominent figures, like former American President Donald Trump, infamously claimed that the virus is “no worse than the flu”, a claim repeated by many in Europe. At the elite level, arguments as to the actual severity of COVID-19 led to protracted debates on policy solutions. At the individual level, people’s perceptions of the severity of the virus influenced their willingness to abide by these policy solutions (Schneider et al., 2021).

COVID-19 not only threatened people’s health but their freedom. The unprecedented government response, including lockdowns, compulsory mask-wearing, and limitations on gatherings, made many perceive the virus as a direct challenge to their personal liberties (De León et al., 2022; Sobkow, Zaleskiewicz, Petrova, Garcia-Retamero, & Traczyk, 2020). This sentiment was particularly prevalent among individuals on the extremes of the political spectrum, who equated the granting of emergency powers in countries like Germany and Switzerland with a shift towards authoritarianism. Accusations of “Corona-Diktatur” (Corona Dictatorship) became widespread among discontent segments of civil society, who demanded an end to restrictions and the restoration of personal freedoms, becoming a common theme in resistance to COVID-19 policies (Heinze & Weisskircher, 2022; Plümper,

Neumayer, & Pfaff, 2021).

Understanding both the development of these perceptions and the downstream effects they have on other attitudes was therefore crucial. In this dissertation, I address how these perceptions were informed by media consumption – particularly, readership of hyperpartisan, alternative, and conspiracy media –, as well as the effects it had on other important political attitudes, such as political trust.

What unites the political currents in this dissertation is an attempt to sketch a population in flux. The COVID-19 pandemic, despite (or perhaps because of) its devastating toll on human life, provides a unique opportunity to study how new cleavages are forged in the blast oven of crisis: how existing attitudes are transformed and how new ones are born. It tells of the story of potential political entrepreneurs, of new media with new narratives competing with established organizations in determining the messages that individuals will use to see the world. It shows how political interpretations during moments of mass uncertainty are vulnerable to online information. This perspective is, in turn, informed by the studies detailing changes in political news engagement at the aggregate level – although they focus on elections, they showcase how variable attention can be, with waves of interest and virality during moments when information access is essential.

Summary of the Five Articles That Comprise this Dissertation

This dissertation is split into two set of articles. The first deal with the relationship between online news media and politics from an aggregate perspective, focusing on elections as case studies. The second set brings the analysis down to the individual level, focusing instead on the COVID-19 pandemic.

The first paper – “Electoral news sharing: A study of changes in news coverage and Facebook sharing behaviour during the 2018 Mexican elections” (published in *Information, Communication and Society*) – tackles how the 2018 Mexican elections impacted the publishing and sharing of political news on Facebook. The study expands classical notions that journalists are more interested in political news than audiences (the ‘news gap’) to the digital era, taking news sharing on Facebook as a measure of audience interest. Along with documenting the transformation that the digital news environment undergoes from a supply perspective – with a significant increase in political news production –, the findings suggest that online audiences on the demand side are more interested in political news than previously documented.

The second paper sought to replicate this finding across different contexts. In “The News Sharing Gap: Divergence in Online Political News Publication and Dissemination Patterns across Elections and Countries” (published in *Digital Journalism*) a similar research design is expanded to a selection of

elections in eight different countries (Australia, Austria, Brazil, Germany, the Netherlands, Romania, Spain, and the United Kingdom). I find that similar patterns of heightened political interest, in the form of political news sharing, can be found across these diverse settings. In fact, during election periods, when looking at news sharing, the demand for political news far outpaces the supply of this information. This has implications for how we understand the online information environment – there seems to be a logic that is quite different from the understanding that spawned the original theory of the news gap. In this study, I reflect as to the logic of political information virality and what it might mean for our information ecosystems.

The third paper also focuses on engagement with news; however, it takes us from aggregate news engagement metrics to the individual level, focusing on the COVID-19 pandemic. In “On Issue Survival: News Media and How Political Issues Remain Salient in the Face of Crisis” (published in the *International Journal of Public Opinion Research*), I propose the notion of issue survival – how political issues remain salient despite large-scale attention being dedicated to the pandemic. Taking migration as a case study, I argue and find evidence that issues remain relevant when individuals can mentally associate ‘displaced’ issues with the ongoing crisis. The media, through networked agenda setting, play a crucial role in establishing these connections between issues. By combining panel survey data with individual-level web-tracking of media consumption, this study provides nuanced evidence on the dynamics of public opinion during periods of widespread uncertainty, em-

phasising the crucial role of media consumption in shaping perspectives on pre-existing issues.

While the focus of the last three studies, big national outlets (i.e. ‘mainstream media’) are not the only media type this dissertation engages with. In paper 4, I investigate the dynamics of what I term hyperpartisan, alternative, and conspiracy (HAC) media – niche media sites that played a key role in the infamous ‘infodemic’. In “Hyperpartisan, Alternative, and Conspiracy Media Users: A Portrait” (major revisions requested at *Political Communication*) I paint a picture of the users of such niche media sites while providing an argument as to why these seemingly separate media types are part of the same information phenomenon. To comprehensively understand HAC media users during the pandemic, I investigate 1) the demographic characteristics of HAC media consumers, 2) their access patterns to HAC media, and 3) the relationship between HAC media consumption and opinions on the COVID-19 pandemic.

In the fifth and final paper, I address these different types of media in a single study, assessing the relationship between mainstream, alternative, and public service news readership and political trust during the pandemic. In “News, threats, and trust: How COVID-19 news shaped political trust, and how threat perceptions conditioned this relationship” (published in the *International Journal of Press/Politics*), I explore both the direct relationships between media consumption and political trust, as well as the moderating effects that threat perceptions had on these relationships.

Implications and Limitations

This section outlines some of the important implications for understanding our relationship with the digital news environment. It addresses three areas, implications from an aggregate level, from the individual level, and methodological implications. It ends by highlighting the limitations of the dissertation, suggesting paths for further research.

Several conclusions can be drawn by taking a birds-eye view of the digital news environment, as I do in papers 1 and 2. By collecting the ‘universe’ of all articles published by leading outlets in several countries given country, alongside detailed social media sharing metrics, I am able to provide important insights about what news topics captivate social media publics during elections. The results of papers 1 and 2 suggest that worries about decreased political news engagement on social media should be readdressed under careful light. Across the majority of countries in these studies, I find that political news is highly shared throughout Facebook, preferred over other topics that are traditionally understood to be audience favourites. Taking sharing as a measure of audience engagement shows that a different dynamic is playing out on social media platforms when compared to the previous theories of political news engagement suggested by formulations such as the ones found in the ‘news gap’. They also attest to the growing power of online actors in deciding the news agenda – with large gaps between the focus of journalists and the focus of online publics, these studies have powerful implications for

the gatekeeping power of media organisations. These implications, however, do not mean we can do away with concerns about political news disengagement online. How we understand news sharing as an aggregate measure is key here. With shares by article, we do not know if the content was shared by an individual user, a partisan Facebook page, or bots trying to inflate viewership of certain news. Further research is needed to fully understand who is driving these large fluctuations in political news sharing during key events such as elections.

These studies also reveal how reactive social media publics are to key events such as elections – the fluctuations that political news sharing undergoes are drastic, far outpacing the shift in journalistic attention to the topic of politics. This raises questions about the dynamics of online attention – while there is a surge in political news sharing during elections, it is likely that this attention quickly shifts elsewhere, following a viral logic of an audience that can quickly bring a topic to the forefront of the Facebook Newsfeeds.

This dissertation also takes a flip perspective – focusing on the individual level rather than the aggregate –, researching how specific individuals engage with news online, and how this relates to attitudes on politics. The headline takeaway is quite simple: news consumption (still) seems to matter. Throughout three studies focusing on the COVID-19 pandemic, I show how digital news consumption was linked to crucial political attitudes during this moment of crisis. While they all have their own nuances, the main takeaway

is that how news is presented can have measurable impacts on individual attitudes. Specifically, paper 5 shows the potential of public service media in garnering political trust during moments of crises, supporting ideas of a virtuous circle with this type of news consumption. Paper 3 highlights how the framing by conservative and tabloid news media of the pandemic as related to migration can potentially lead to the development of xenophobic attitudes, speaking to both theories on issue framing and networked agenda setting. Paper 4 shows how consumption of the content produced by hyper-partisan, alternative, and conspiracy media is related to threat perceptions of the pandemic. Such takeaways are crucial during crises such as the COVID-19 pandemic, showing that how these events are covered can potentially have tangible consequences for public opinion during these moments.

The last implications that I would like to highlight are methodological. This collection of studies put on display innovative computational strategies for understanding the online digital news ecology. From an aggregate perspective, it shows how scalable automated content classification strategies, paired with web scraping, can be used to understand news across a variety of different languages and contexts (de León, Vermeer, & Trilling, 2023; Makhortykh et al., 2022). Such large-scale data collection allows us to observe the shapes and flows of political news online at a level that was not possible ten years ago. At an individual level, the dissertation shows the promise of combining digital trace data collection with country-level samples to paint a more complete and accurate picture of news engagement (Gil-López et al.,

2023), a notoriously difficult challenge (Prior, 2007). This allows us to gain a more precise idea of the consumption of the big players in media systems (eg de León, 2023; De León et al., 2022), but also of the obscure ‘long-tail’ of online news usage, such as hyperpartisan, alternative and conspiracy media use. Combining these computational strategies with classic survey research exponentially augments the conclusions we can draw, allowing for detailed individual level conclusions.

It is important to acknowledge some of the limitations that this dissertation suffers from, as this can suggest future areas of improvement and research. The first set of limitations are methodological. Firstly, the empirical strategies used throughout this dissertation do not allow for establishing causal claims. This is especially important to highlight for the individual-level studies on COVID-19. While numerous techniques were used to isolate the relationship between news consumption and individual-level attitudes (e.g., employing panel studies, using important control variables in regression analyses, relying on web-tracking rather than self-reported media consumption), this falls short of the benchmark set by (pseudo-)experimental research. Secondly, one of the challenges tackled by all the works presented here is one of measurement. In the first set of articles, this is done by collecting all the articles published by major news publishers in order to create a ‘universe’ of articles. Nevertheless, such claims should be taken with a grain of salt – with the expansion of news types and formats, we might no longer be able to see these big media houses as an accurate representation

of a country’s media system. For the individual level studies, I argue that the use of webtracking allows us to capture users ‘actual engagement with news’. Nevertheless, the increasing use of mobile devices makes this claim less credible – and with the increasing pace of methodological innovations, academic research will have a hard time making this claim true. This means that we must understand our news engagement measurements – no matter how fine-grained and computationally savvy they might be – as just another (albeit more accurate) sample of news consumption, as we will never be able to truly capture ‘all’ news media engagement.

The second set of limitations is substantive. At no point does the dissertation directly connect the aggregate and individual-level approaches in a single study. The dissertation could definitely benefit from a study that makes use of both aggregate news-sharing measures and individual-level engagement in a single study, bringing these two approaches together in a holistic manner. This could be done, for example, by combining aggregate news-sharing metrics with individual-level digital data donations to understand whether fluctuations in aggregate-level news-sharing are reflected in private newsfeeds. Secondly, the studies in this dissertation treat news engagement (whether through sharing or readership) in isolation from activities by political actors. A question can be raised as to whether the relationships observed are driven by, for example, sensationalist hyperpartisan coverage, or by exposing individuals to the opinions of political leaders and parties they already support. These would be two different mechanisms – the first driven by new infor-

mation and journalistic slant, the second by partisan cue-taking. It could, of course, also be both. Future research should invest in more systematic comparisons between media effects and partisanship effects on the variables under scrutiny here – issue salience, political trust, and threat perceptions.

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Paper 1

Electoral news sharing: A study of changes in news coverage and Facebook sharing behaviour during the 2018 Mexican elections

de León, E., Vermeer, S., & Trilling, D. (2021). Electoral news sharing: A study of changes in news coverage and Facebook sharing behaviour during the 2018 Mexican elections. *Information, Communication & Society*, 26(6), 1193-1209.

Electoral news sharing: a study of changes in news coverage and Facebook sharing behaviour during the 2018 Mexican elections

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ABSTRACT

Patterns of news consumption are changing drastically. Citizens increasingly rely on social media such as Facebook to read and share political news. With the power of these platforms to expose citizens to political information, the implications for democracy are profound, making understanding what is shared during elections a priority on the research agenda. Nevertheless, to the best of our knowledge, no study has yet explicitly explored how elections transform news sharing behaviour on Facebook. This study begins to remedy this by (a) investigating changes in news coverage and news sharing behaviour on Facebook by comparing election and routine periods, and by (b) addressing the ‘news gap’ between preferences of journalists and news consumers on social media. Employing a novel data set of news articles ($N = 83,054$) in Mexico, findings show that during periods of heightened political activity, both the publication and dissemination of political news increases, the gap between the news choices of journalists and consumers narrows, and that news sharing resembles a zero-sum game, with increased political news sharing leading to a decrease in the sharing of other news.

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1. Introduction

News sharing on social network sites (SNS) has risen to a position of prominence in our understanding of digital news. With platforms such as Facebook allowing users to instantly share news articles to large, personal audiences, citizens increasingly rely on SNS to find and engage with news, while media organizations simultaneously make use of news sharing to reach larger publics. Moreover, as a key source of political news and information (Nelson & Webster, 2017), news sharing does not only raise questions for the study of journalism, but also poses implications for democracy. A growing field has therefore explored what drives news sharing, analyzing features of the content

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shared, and characteristics of users that share news (Orellana-Rodriguez & Keane, 2018). Much less has been said about the effect particular contexts have on news sharing.

We know from a rich field of agenda-setting that changes in context can have an impact on journalists' coverage of, and citizens' attention to, news topics (Kepplinger & Habermeier, 1995; Kepplinger & Lemke, 2016). This is also the case with elections (Tewksbury, 2006): Scholars have studied elections, finding drastic changes in both the coverage of political news, and in the amount of political information consumed by citizens. There is therefore reason to believe that such moments of heightened political competition could impact news sharing. So far, research has used news sharing to understand the development of specific political periods, from the Arab Spring (de Fatima Oliveira, 2012) to Danish elections (Ørmen, 2019); nevertheless, there have been little-to-no efforts to explicitly explore how these events change news sharing behaviour away from routine moments.

Elections have not only been shown to have an impact on journalists' production of news and consumers' engagement, but also on the divergence in these respective groups' preferences. By building on the notion of the 'news gap' – suggesting that news consumers seem to be less interested in reading political news than editors are in publishing it (Boczkowski & Mitchelstein, 2011) – we not only address how news sharing changes during electoral periods, but also whether significant variance exists between journalists' preferences and news consumers' choices. We take a comparative approach to examine the effects that the presence of an election campaign has on the publication and consumption of political and non-political news. We focus on the understudied case of Mexico to examine: To what extent is political and non-political news content published and shared on Facebook during campaign periods versus routine periods?

We combined Facebook sharing data with an original data set of news items from an election (March–July 2018) and a routine (March–July 2019) period ($N = 83,054$) and used automated content analysis to analyze the data.

This study provides various contributions. First, we research how an election can change the supply side of the news ecosystem. Second, we address the demand side of news ecosystems, evaluating how audience engagement on social media drastically shifts between electoral and non-electoral periods. Third, we analyze how elections shape the rift between journalists' and news consumers' preference for political news in the 'news gap'. Overall, by comparing election and routine periods, the findings contribute to the conversation on the generalizability of communication research taking place in isolated settings (Kepplinger & Habermeier, 1995; Kepplinger & Lemke, 2016), providing evidence for strong, contextual effects on news engagement on social media.

2. Theoretical background and related research

2.1. Political news production: election vs. routine periods

There are numerous reasons why political news is different during election periods (Druckman, 2005; Strömbäck, 2005). Zaller (2003) proposed that increased coverage of political news during election periods is an example of media adhering to what he calls 'the Burglar Alarm standard', according to which journalists 'call attention to matters requiring urgent attention, and ... do so in excited and noisy tones' (p. 122). This is

reflected in more recent empirical work. Van Aelst and De Swert (2009) show that media coverage of political news differs substantially between election and routine periods, with an upcoming election generating election news, boosting political coverage, and reducing soft and sensational news. Vliegthart et al. (2011), analyzing news in the United Kingdom and the Netherlands from 1990/1991 to 2007, found a stronger primacy for political parties during election periods compared to routine times. This is supported by agenda-setting work, which suggests that key events, such as disasters or elections, drive coverage away from other topics and towards these events (Kepplinger & Habermeier, 1995).

Other scholars have argued that today's media environment has led to a *permanent campaign*, suggesting blurred lines between election and routine periods (see e.g., Larson, 2016; Ornstein & Mann, 2000; Vergeer et al., 2013). Yet, recent empirical findings have predominantly indicated profound differences between election and routine periods in politicians' usage of Twitter (Vasko & Trilling, 2019) and Facebook (Ceccobelli, 2018).

Few studies specifically address both election and routine periods to examine online political news coverage. Here, we explore political news on Facebook by focusing on the context of Mexico. We pose the following first research question:

RQ1: To what extent do election periods increase the amount of political news being *published* online?

2.2. Political news sharing: election vs. routine periods

Voters increasingly rely on SNS for news and information about politics (Nelson & Webster, 2017), accessing news by following links on SNS, and sharing it to their own networks. News sharing on social media can be explained by three groups of features (Orellana-Rodriguez & Keane, 2018): user (e.g., demographics), content (e.g., article topic), and context (temporal and spatial aspects). Regarding *user* features, the number of 'friends' or 'followers' (Bakshy et al., 2011), activity on social media platforms (Choudhury et al., 2010), and news consumption preferences (Hermida et al., 2012), among others, have been shown to affect news sharing. When studying *content* features, previous research has taken a news-value-based approach, contending for structural characteristics making some stories more 'shareworthy' (Karnowski et al., 2021; Trilling et al., 2017). Literature following this tradition has focused on characteristics such as article topic and article frames. Regarding topics, research has shown that audiences are more likely to share non-political articles, such as on lifestyle (Trilling et al., 2017). Despite this lack of interest in politics, research has shown that readers seem to be less interested in sharing political news than editors are in publishing it (Bright, 2016). Studies have journalists and social media editors are aware of these considerations, with journalists recognizing the higher engagement entertainment news receives (Lischka, 2018). Research on the role of frames is less conclusive. For instance, Trilling et al. (2017) and García-Perdomo et al. (2018) find that a human-interest frame and conflict frames increase sharing. In contrast, Valenzuela et al. (2017) find no effect for human-interest frames and even a negative effect for conflict frames.

The literature on *context* effects on news sharing is sparse, especially as pertaining to elections. While previous research has looked at individuals' news consumption habits during elections (Ørmen, 2018) and how news content itself changes within an electoral

context, these studies fall short of addressing how these sharing patterns diverge from non-electoral routine periods. Recent work has shown how unexpected events lead to spikes in news sharing (Salgado & Bobba, 2019), suggesting that changes in context are indeed tied to changes in news sharing. Moreover, recently, Vasko and Trilling (2019) analyzed 285,456 tweets by Members of Congress during and after the 2016 U.S. elections. The results indicate that, during a routine period, politicians tweet more about hard news, compared to the campaign period or the lame duck period. There is however a need to address whether and how these identified relationships on news sharing are product of actual consumer and publisher behaviour, or can be attributed to the particular context being investigated.

Citizens' involvement with politics fluctuates in conjunction with election cycles. Numerous models of democracy (Ferree et al., 2002; Strömbäck, 2005) concede that the involvement of ordinary citizens is not continuous but often limited to participation in elections (or, maybe, in specific protests). The term 'monitorial citizen' was first coined in the 1990s by Schudson (1998). He advocates for a model in which, rather than trying to follow everything, citizens monitor politics for events that require responses. Citizens only become active once the media ring the 'Burglar Alarm' (Zaller, 2003). Continuous involvement on a high level, he argues, would be an unrealistic expectation.

It is not our aim to make any normative claims about what role we believe citizens should or should not have, but there is some evidence that citizens indeed behave differently during election periods. Neudert et al. (2019) found that European elections (i.e., in France, Germany, and the United Kingdom, in 2017), generate large amounts of political news coverage on Twitter. Nevertheless, this comparative hypothesis has yet to be addressed when it comes to online engagement with news. Thus, if there is more political content available (a reasonable assumption, given the heightened political activity) and citizens are more motivated to interact with it, then we would expect the sharing of political news on social media to spike in an election context. Because of the assumptions laid out by the 'monitorial citizen' approach to the understanding fluctuation of citizen engagement, we pose the following research question:

RQ2: To what extent do election periods increase the amount of political news being *shared* on Facebook?

2.3. Closing the news gap?

We also aim to understand the connection *between* the production and the dissemination of political news. Ten years ago, Boczkowski et al. (2011) introduced the 'news gap' – the idea that readers seem to be less interested in reading political news than editors are in publishing it (Boczkowski & Mitchelstein, 2013). They examined journalists' and citizens' news choices in eleven online newspapers from six countries in Western Europe, Latin America, and North America, including Mexico. The results indicate a major gap: journalists selected considerably more hard news as the most newsworthy stories than their audiences. While their measure of audience interest is based on clicking behaviour, others have argued that clicking on news is not equivalent to newsworthiness or interest (Costera Meijer & Groot Kormelink, 2015). We believe that while this limitation does exist, click activity and article consumption at the aggregate level do contain some signal of audience interest.

Today, consumers are not only exposed to news, but also share them (Kümpel et al., 2015), pushing research to highlight the existence of a ‘social news gap’ between news reading and news sharing behaviour (Bright, 2016). Here, news shared on SNS is different from news consumed directly through online platforms. These changes have reframed the ‘gap’ for media organizations and society at large.

As Trilling et al. (2017) have argued, the concept of ‘newsworthiness’ can be extended to a concept of ‘shareworthiness’. Based on a large-scale analysis of the sharing of Dutch news articles on Facebook, they find evidence that traditional criteria of newsworthiness play a role in predicting the number of shares. But they also argue that newsworthiness and shareworthiness are not identical – ‘one needs to extend and modify’ (p. 45) the former and the ‘relative importance’ (p. 45) of news values such as distance, negativity, positivity, conflict, human interest, and exclusiveness may differ between newsworthiness as perceived by journalists and shareworthiness as perceived by the audience. Moreover, their analysis suggests that news items covering social affairs, as well as culture, and entertainment, are shared more often than others, including political news (Trilling et al., 2017). Here, again, we can see signs of a potential gap. One of the possible explanations for this behaviour lies in people’s desire to avoid sharing news that may potentially be controversial (Valenzuela et al., 2017). Moreover, work interviewing social media news editors suggests that even though these actors are aware of the audience’s preference for entertainment news, they still strive to provide a balanced diet of soft and hard news (Lischka, 2018).

Boczkowski et al. (2012) also indicate that the ‘news gap’ changes during periods of heightened political activity, such as elections. The results indicate that the gap between journalists’ and consumers’ preferences is smaller during an election period. Work on divergence between news publication and sharing has been contradictory, with some finding minimal evidence of a gap (Martin & Dwyer, 2019), and others suggesting it does manifest itself on social media (Bright, 2016). While a comparative approach has been taken with regard to the ‘news gap’ at large, the same cannot be said for the ‘social news gap’. For example, Bright (2016) did find evidence of a divergence in the reading and sharing of political news, however, the study was not comparative in nature. With previous work arguing that the ‘news gap’ shrinks during a period of heightened political activity, we pose the following hypothesis:

H1: The ‘news gap’ between the production and the dissemination of political news on Facebook diminishes during election periods.

2.4. More of politics, less of everything else?

Our final research question concerns whether the sharing of political news comes at the expense of sharing non-political news content, or whether it has no meaningful impact. It is likely that news sharing is essentially a zero-sum game: The amount of articles that citizens share may be fixed; and if they share more articles on politics, they inevitably cut back on their sharing of other topics. Two strands of literature support this argument. First, research on media use suggests that people have a fixed time budget allocated for media use (Ha & Fang, 2012). Using more time to browse the internet, hence, would lead to less time available to, for instance, watch television or read a book.

Dimmick et al. (2004) argue that the internet indeed has such displacement effects and that these can be explained by the *theory of the niche*: if there is a large overlap between the gratification opportunities that two media offer, the one that is perceived as superior will displace the other, unless it finds a different niche.

Applied to our topic of investigation, this could indicate that the time citizens allocate to sharing links will remain constant, and if they already got their gratifications (e.g., social recognition, relaxation) from sharing political news, this will be at the expense of sharing other content.

RQ3: Does news sharing resemble a *zero-sum game* (where an increase in sharing of political news will decrease that of non-political news) or a *cumulative practice* (where an increase in shared political news does not have a meaningful impact on other news sharing)?

3. Data and methods

3.1. Case

We analyze political news coverage and sharing behaviour on Facebook during the 2018 Mexican elections and compare it to a routine period a year later. Reports on Mexican Facebook use place it as the country with the fifth most Facebook users in the world, and that over 63% of users report to sharing news regularly (Newman et al., 2019). The 2018 Mexican elections have also been widely recognized as witnessing unprecedented levels of online engagement (Glowacki et al., 2018), something that is especially true on Facebook (de León & Trilling, *in press*). Mexican electoral laws also establish a clear-cut four-month campaign period for the presidential elections that allows us to easily identify the start and end point of the official electoral period.

On election day (July 1st, 2018) Mexicans not only voted for the presidency, but for hundreds of other representatives, making it the largest democratic exercise in the country's history (Greene & Sánchez-Talanquer, 2018). The election featured a third-time bid by left-wing Andrés Manuel López Obrador (AMLO), who brought the issues of widespread poverty, rampant corruption, and devastating violence to the forefront of the campaign. While the campaign did feature high degrees of polarization among the electorate, AMLO led by a comfortable margin throughout, with the anti-AMLO vote being split by two competing establishment candidates (Garrido & Freidenberg, 2020). This resulted in the least contested election in decades, with a clear and overwhelming victory for AMLO and his MORENA party. While the focus of this study is not on the particularities of this political process, we provide these details in order to contextualize our work and to provide boundary conditions for our work.

3.2. Sample

The sample consists of a novel data set of news articles published throughout the entirety of the electoral campaign period (March–July 2018), and a four-month reference period a year later (March–July 2019) from five leading outlets in Mexico ($N = 83,054$), *El Universal*, *Milenio*, *Excelsior*, *Proceso*, and *El Financiero*. None of these outlets are 'digital born', all being online versions of established, quality print papers, with

decades of existence and a country-wide reach. With the exception of Proceso, which is known for its left-wing slant, these outlets are not characterised by ideologically-driven coverage. These outlets are all active on Facebook, but have diverging number of followers on their pages: while Milenio, Excelsior, and El Financiero had around 1.5 million Likes each in 2019, El Universal and Proceso had above 4 million. Following de León and Trilling ([in press](#)) articles were collected using a web-scraper that makes use of ‘Archive.org’. To be included in the sample, the news outlet had to be featured among the leading online newspapers in the country (Newman et al., 2019) with at least one daily snapshot on Archive.org for both the election campaign and routine period.

3.3. News topic classification

We classified articles into six distinct topic categories: news on (1) *Politics*, (2) *Crime and Disasters*, (3) *Culture and Entertainment*, (4) *Economic and Business*, (5) *Sports*, and (6) *Other* (news on technology, religion, the environment, and all other articles that did not fit into previous categories). We used supervised machine learning to classify news articles into these categories (Trilling et al., 2017). For this purpose, a random stratified sample of 2,000 articles were manually coded. Two coders were trained and tasked with manually annotating these articles. 140 randomly selected articles were coded by both, allowing for the calculation of an intercoder reliability (Krippendorff’s α) of 0.79. This sample was then split into training material (80%) and testing material (20%). To train a supervised machine learning classifier to distinguish between these six topics, a pipeline was established to test three distinct text-preprocessing steps, six different classification algorithms, and varying hyperparameter combinations, resulting in 18 different classifiers (Appendix 1). We tested each of these algorithms on the unseen testing data, reporting the precision, recall, and f1-score for each (Appendix 2). Based on these results, we identified the Support Vector Machine using full texts (no pre-processing) as the best-performing classifier, meeting standard performance benchmarks, with precision and recall scores for each topic >0.75 . The algorithm was then used to classify the full sample of news articles.

3.4. News publication and sharing

We operationalized editorial preference for specific topics to be a simple count of the number of articles published by topic – something only possible with large inclusive samples of the news outlet. If journalists do prioritize political news, this should be reflected in the quantity of political news published. We gathered Facebook data from CrowdTangle, a SNS monitoring service, linking each article to the number of Facebook *shares* received. Specifically, the querying returned information for each ‘public’ post that included the respective article link, and information on how many times the post itself was interacted with by private accounts. Similar to comparable studies, we cannot distinguish the reason behind a share: some shares may be generated by clicking on a button on the news site itself, others by re-sharing content from someone’s timeline or from a group. We will re-visit this aspect in the discussion.

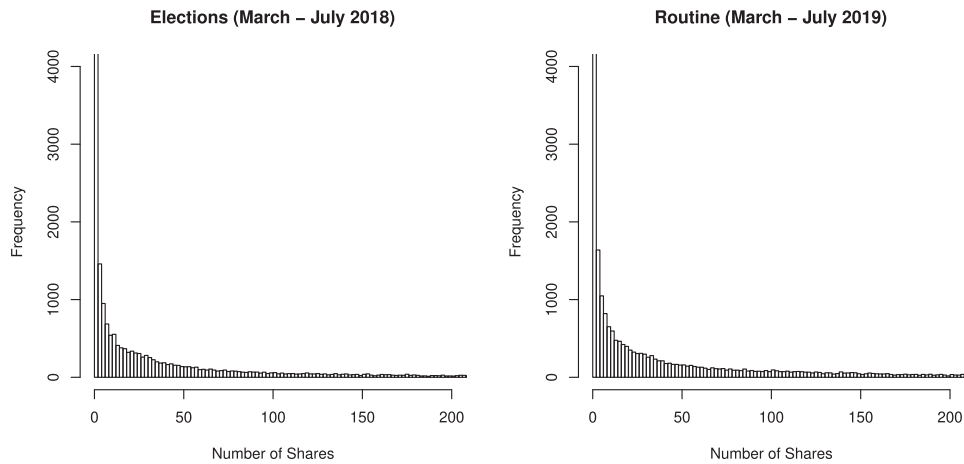


Figure 1. Negative binomial distribution of shares received by news articles.

Note: For better readability, the number of shares are cropped at 200 and at a frequency of 4000.

3.5. Analytical strategy

We take two approaches to analyze our data. We take a descriptive approach to answer RQ1 and H1. News articles are aggregated by period and topic, followed by a calculation of the relative share by topic. Evaluating fluctuations in the share of news articles published by topic allows us to establish changes in patterns of publication, quantifying the heightened attention to political news during the campaign period.

Second, we evaluate changes in news sharing. Here, we use classified characteristics to empirically estimate the number of shares each article will receive. This mirrors the approach that Trilling et al. (2017) took in their aforementioned study on ‘shareworthiness,’ where they predicted the number of shares using negative binomial regression models. These models allow us to account for the count distribution of the sharing data, where a vast majority of articles receive 0 shares (Figure 1), and control for the influence of other variables, such as the presence of these news sites on Facebook, as the outlet has been shown to be one of the major drivers of sharing (Karnowski et al., 2021; Trilling et al., 2017). We then compare both periods.

4. Results

4.1. Changes in online publication behaviour

Table 1 displays summary statistics of the final data set by showing both the share of articles by topic for each period, as well as the aggregate sharing behaviour that each topic received, allowing for some immediate observations. First, there was a shift in the overall number of articles published (+8,000 in the election period). News about crime, culture, economy, and other topics only changed by a couple of hundred articles– the vast majority of the increase thus lies in news about politics (+4789) and sports (+1636). By looking at the relative share of articles by topic, political news increased from 32% to 37% of the articles being published. These results indicate that during election times, journalists are more interested in covering the political grapevine (RQ1).

Table 1. Distribution of articles published and shares by article topic.

	Topic	Articles		Share				
		Total	Percent	Mean	Median	Max.	Total	Percent
Elections (March–July 2018)	Crimes	7748	17.1% (–2.9)	163.64	1	36,663	1,267,848	14.9% (–10)
	Culture	9841	21.9% (–2.7)	160.80	0	240,395	1,582,357	18.6% (–6.6)
	Economy	3658	8.1% (–1)	116.70	0	30,121	426,887	5% (–1.6)
	Other	1931	4.3% (–0.5)	181.78	1	32,802	351,018	4.1% (–3.7)
	Politics	16,852	37.1% (+5.1)	279.55	0	86,212	4,711,060	55.4% (+21.5)
	Sports	5355	11.8% (+1.9)	31.30	0	29,232	167,602	2% (+0.4)
	Total	45,385	100%	187.44			8,506,772	100%
Routine (March–July 2019)	Crimes	7519	20% (+2.9)	419.36	23	59,077	3,153,181	24.9% (+10)
	Culture	9174	24.5% (+2.7)	346.76	6	107,353	3,181,185	25.2% (+6.6)
	Economy	3414	9.1% (+1)	243.61	0	30,462	831,674	6.6% (+1.6)
	Other	1780	4.7% (+0.5)	555.57	13	117,366	988,909	7.8% (+3.7)
	Politics	12,063	32% (–5.1)	355.74	11	36,221	4,291,265	33.9% (–21.5)
	Sports	3719	9.9% (–1.9)	54.09	1	20,625	201,160	1.6% (–0.4)
	Total	37,669	100%	335.75			12,647,374	100%

Article publication and Facebook sharing by topic, for election and routine periods. Changes between periods indicated in parentheses. Minimum was 0 for all topics in both periods. Note that the Median values may seem remarkably low, but are fully in line with other research on news sharing on Facebook, as especially in non-English and non-international contexts, most news articles do not gain any traction (see Figure 2 in Trilling et al., 2017).

Table 1 also allows us to address RQ2, examining *sharing* behaviour during election periods. A first observation here is the shift in total shares received: Articles in the Routine (2019) period received over four million more shares than those in the Election (2018) period, even though less articles were published in the former compared to the later. There also is a drastic shift in the extent to which political news is shared. While for both periods, political news received the greatest percent of shares, there is a drastic change in the proportions received: it comprised 55% of all shares during elections, and decreased to 34% in the routine period. Furthermore, while the total shares for all topics almost doubled from the electoral to routine period, the total shares of political news *dropped* from 4.7 million to 4.3 million. Evidence for disengagement with political news can also be found in the mean number of shares received by each topic: in the electoral period, political news held the highest mean of shares – in the comparison period, however, the mean of shared political news was lower than news about crime, other topics, and almost equal to culture news. We, therefore, see a drastic increase in the amount of political news being shared on Facebook during elections.

We now address H1 on whether electoral periods lead to a closing of the ‘news gap’ between the publishing and sharing of political news online. To do so, we must first establish the existence of a ‘news gap’. During the routine period, political news received the largest amount of engagement both in terms of journalistic coverage as regards total articles written on the subject, as well as the largest number of total shares. While this might be interpreted as evidence against the existence of a news gap, the number of total shares could be the product of the very fact that there are more political articles produced about politics. We, therefore, turn to metrics that account for this: the mean and median number of shares received by each topic. For politics, both the mean (355.74) and median (11) number of shares are below the equivalent matrices for crimes (419.36 and

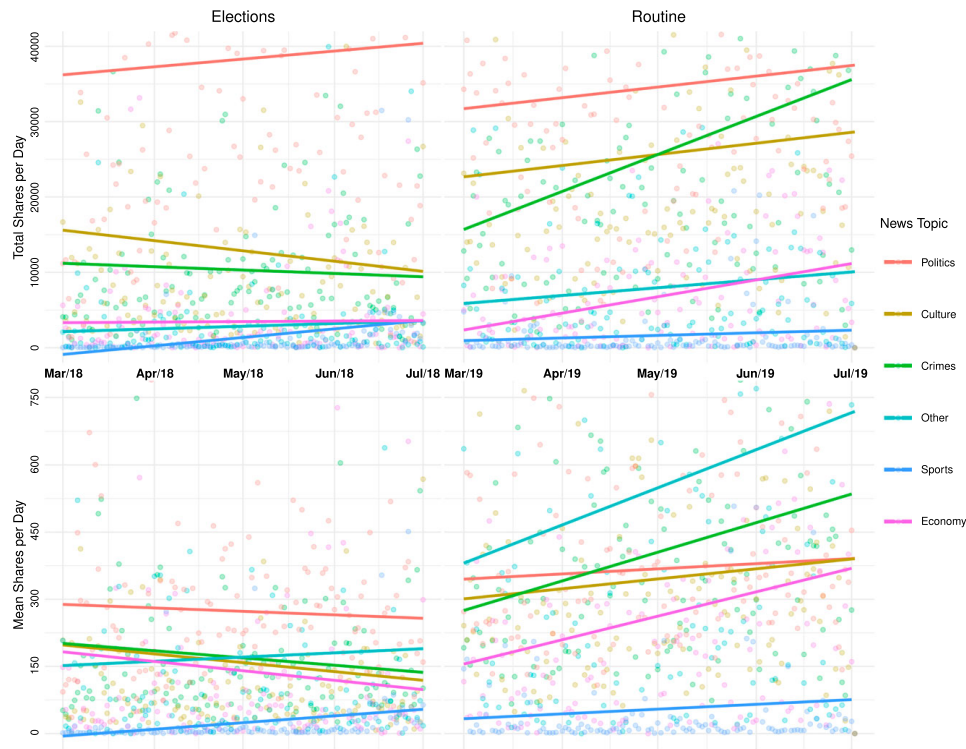


Figure 2. Over-time visualization of changes in news sharing by topic.

23), and other (555.57 and 13). Therefore, we find evidence of a gap during the routine period – in total, journalists preferred to write about politics, while on average, Facebook users preferred other topics.

Does this gap close during elections? As discussed previously, the electoral period witnessed large shifts in political sharing behaviour, with political news sharing increasing by 21.5 points: from making up 33.9% of news shared during the routine period to 55.4% during elections. Turning to the mean and median of shares by topic, we observe an increase in the sharing of political news during elections relative to other topics in the same period. The median sharing of political news (11) was below other (13) and crime (23) news during the routine period. During the elections, the median sharing of these topics are still ahead of politics, but the gap has significantly reduced: politics, with a median of 0 shares, is shared on average almost as much as other (1) and crimes (1). During the elections, political articles had the highest mean sharing of all topics, while in the routine period this mean was below other and crimes. Therefore, looking at both average measures of sharing shows a closing in the ‘news gap’.

4.2. Changes in electoral sharing behaviour

Table 2 displays the results of three negative binomial models predicting the relationship between news topics (politics as reference category) and sharing statistics, for both the election and routine periods. The results are in the form of Incidence Rate Ratios (IRRs): for every one unit increase in the independent variable, the expected value of the dependent variable, shares, is obtained by multiplying by the IRR. Specifically, the

Table 2. Negative binomial regression models predicting the number of shares on Facebook.

	Model 1 Elections (March–July 2018)	Model 2 Routine (March–July 2019)	Model 3 Interaction (Both Periods)
<i>Topic</i>			
Crime	1.040 [0.945, 1.145]	1.314*** [1.214, 1.423]	1.631*** [1.491, 1.783]
Culture	1.072 [0.978, 1.176]	1.173*** [1.088, 1.263]	1.362*** [1.252, 1.481]
Economy	0.404*** [0.356, 0.460]	0.829*** [0.745, 0.922]	0.730*** [0.648, 0.822]
Other	1.527*** [1.300, 1.807]	2.378*** [2.074, 2.727]	3.068*** [2.629, 3.580]
Sports	0.206*** [0.184, 0.231]	0.165*** [0.149, 0.183]	0.211*** [0.188, 0.237]
<i>Controls</i>			
Length	1.000*** [1.000, 1.000]	1.000 [1.000, 1.000]	1.000*** [1.000, 1.000]
El Universal	0.607*** [0.544, 0.676]	3.110*** [2.829, 3.420]	1.318*** [1.228, 1.415]
Excelsior	0.332*** [0.295, 0.374]	1.133* [1.021, 1.256]	0.532*** [0.492, 0.575]
Milenio	0.765*** [0.683, 0.855]	1.323*** [1.193, 1.466]	0.912* [0.846, 0.983]
Proceso	3.844*** [3.382, 4.373]	3.089*** [2.765, 3.451]	3.415*** [3.136, 3.719]
Days since T0	1.003*** [1.002, 1.004]	1.005*** [1.004, 1.006]	1.004*** [1.004, 1.005]
Period: Elections			0.641*** [0.597, 0.689]
<i>Interactions</i>			
Crime * Elections			0.514*** [0.455, 0.580]
Culture * Elections			0.605*** [0.541, 0.678]
Economy * Elections			0.635*** [0.541, 0.746]
Other * Elections			0.415*** [0.336, 0.512]
Sports * Elections			0.825* [0.712, 0.957]
Constant	112.097*** [99.042, 127.074]	112.272*** [100.988, 124.816]	154.549*** [141.087, 169.295]
N	45,385	37,669	83,054
Log Likelihood	−146,940.800	−172,302.600	−320,892.400
θ	0.084*** [0.001]	0.137*** [0.001]	0.105*** [0.001]
AIC	293,905.500	344,629.300	641,820.800

Note: IRRs (incidence rate ratios) with confidence intervals in brackets. Politics used as reference category, Routine used as reference category. Values < 1 indicate a negative effect, values > 1 indicate a positive effect. AIC: Akaike information criterion.

* $p < .05$; ** $p < .01$; *** $p < .001$.

IRRs ‘represent the change in the dependent variable in terms of a percentage increase or decrease, with the precise percentage determined by the amount the IRR is either above or below 1’ (Piza, 2012, p. 3). Therefore, positive effects are those above 1, while negative effects are below 1. Since our variables of interest are binary – an IRR of 1.28 leads to a 28% increase in the number of expected shares (thus, 128% of the original value), while an IRR of 0.90 leads to 90% of expected shares (a 10% decrease).

Model 2 on the routine period shows that news on crime, culture, and other are shared significantly more than news on politics, receiving 31%, 17% and 138% ($p < .001$) more shares than a news article on politics, respectively. In Model 1, on the electoral period, news on crime and culture are not different from politics at a statistically significant level. News on other topics receive 53% more shares than political news ($p < .001$). The results show that going from the routine to electoral period, all news topics are shared less often relative to political news – only sports increased in shares.

Model 3 evaluates whether the shifts *between* models are statistically significant by using a pooled model where each topic is interacted with the electoral period. When switching from routine to electoral period, the performance of each news topic relative to political news worsens significantly: the IRR for crime news drops by 0.514 ($p < .001$), for culture by 0.605 ($p < .001$), for economy by 0.635 ($p < .001$), and for other news by 0.415 ($p < .001$). These results provide evidence that sharing political news increases significantly in the run-up to elections. These results confirm H1, indicating that during electoral periods, there is a large and significant spike in how Facebook

users share political news, arguably closing the gap between journalists and citizens' interest in political news.

4.3. Zero sum or cumulative

Our evidence suggests that news sharing resembles a zero-sum game. Table 2 shows that in the electoral period, political news sharing increased relative to all other news topics (except sports). This is a relationship that is yielded statistically significant by the interaction effects in Model 3. If the relationship was cumulative, we would not expect such strong decreases in the sharing of non-political topics relative to political ones, but rather for them to remain stable since increased political news sharing would not come at a cost to the sharing of other news. This is a relationship that can be more intuitively observed in Figure 2.

5. Conclusion and discussion

This study seeks to understand how elections shifted the Mexican national news environment by evaluating changes in the publication and sharing of political news on Facebook. The results reveal four main findings. First, journalists' interest in political news spikes during elections, while the coverage of other news remains stable. Second, there is a dramatic growth in political news sharing during elections. Third, we find support for the notion that the 'news gap' between the public's and the media's interest in political news is significantly reduced during elections. Fourth, the increase in sharing political news during elections has a detrimental effect on the sharing of other news types, suggesting that news sharing resembles a zero-sum game.

In this study, we asked how elections change the publication of political news (RQ1). Our results provide evidence for the notion that journalists are more prone to cover politics during periods of heightened political activity (Van Aelst & De Swert, 2009), because there is more going on (Druckman, 2005), and because political stakes are higher (Strömback, 2005; Zaller, 2003). During the 2018 Mexican electoral period, there was a notable increase in the amount of news articles produced about politics in comparison to the same period a year later. Nevertheless, this increase did not come at the cost of other news production, as suggested by Van Aelst and De Swert (2009)– the amount of news produced for all other topics barely deviated from one year to the next.

We also ask how elections change political news sharing habits (RQ2). We provide evidence that the presence of elections significantly increases the number of political news being shared, which is in line with theories on political engagement fluctuation during elections (Zaller, 2003). We theorize that this dramatic increase is fueled by two complementary processes. First, it's a result of citizens engaging with the crucial political conversation dominating the news. The second process behind this drastic change in news sharing is simply how *un*-popular political news is during routine periods. People's general hesitation to share political news has been discussed in detail within numerous other studies (e.g., Trilling et al., 2017), with findings pointing to the fact that, because of the risk of inciting controversy, political news is not as shared as other less controversial topics, especially on 'strong-tie' social networks such as Facebook (Valenzuela et al., 2018). Our results suggest that elections mitigate at least part of this

controversy-avoidance, making political news a topic shared at least as much as Entertainment and Culture.

We also build on the notion of the ‘news gap’ (Boczkowski & Mitchelstein, 2011), hypothesizing that the news gap would diminish during election periods (**H1**). We find a large difference between the publication and the sharing of political news during routine periods, in contrast to Martin and Dwyer (2019), but in line with Bright (2016) and Boczkowski and Mitchelstein (2011). This supports the idea that a divergence exists between what news publishers choose to publish, and, in this case, what audiences share across social media. While a trend that might be worrying for democratic processes, fears of audience disengagement are somewhat quelled when looking at the electoral period. Similar to Boczkowski and Mitchelstein (2011), we find that this ‘news gap’ is significantly reduced during elections: while journalists’ interest in political news increases, it is far outpaced by the increase in political news sharing behaviour.

Lastly, in this study we ask whether increases in the sharing of political news during elections comes at the cost of the sharing of other types of news (**RQ3**). We find preliminary evidence that it did. This interpretation has its theoretical underpinnings in studies positing that individuals have a limited time budget they are willing to allocate to media (Ha & Fang, 2012). Moreover, agenda setting theories and case studies on disaster response lay out similar expectations at the aggregate level, where attention to specific agendas and topics come at the direct expense of others (Bright & Bagley, 2017; Jonkman et al., 2018; Zhu, 1992). Our results suggest that similar mechanisms are at play for the sharing of political news during elections – heightened dissemination of political news by individuals will make them more likely to not share other types of news, simply because politics is what is occupying their limited attention, leaving less space for other news items.

Despite the contributions, the paper has certain limitations that should be addressed in future research. The first regards our Facebook sharing data: our study does not account for concerted efforts to boost specific content, either through automation or paid workers. As the study focuses on an electoral period, where political actors might benefit from the proliferation of particular news stories, it is not inconceivable that such behaviour took place. On the other hand, Theocharis and Jungherr (2021) highlight that the fear of so-called bots is generally over-stated. Our study cannot disentangle where the shares originate. Most likely, some shares originate from publisher’s websites, others are re-shared links from somebody’s Facebook friends, Facebook groups, or otherwise suggested content on someone’s timeline. This means that a holistic interpretation of what drives news sharing needs to take into account not only the user’s agency, but also the role of network ties and Facebook’s recommendation algorithms. In particular, as Lischka and Garz (2021) pointed out, these affordances are not stable over time. The major change in the Facebook algorithm that they describe is outside of the time period we study, but also dos Santos et al. (2019) point out that (unknown) algorithm tweaks make estimates of the influence of specific features on news sharing unstable over time. Hence, such changes in the platform’s affordances can offer an unobserved alternative explanations that can at least partly explain our findings. One may speculate, for instance, that in 2019, a reconfiguration of the affordances may have contributed to the higher amount of shares compared to 2018.

Our findings have to be interpreted in this light, and are contingent on the current setup of the Facebook ecosystem. This limitation is hard-to-impossible to overcome, but complementary research, such as qualitative studies in which users are observed in a natural setting over an extended period of time, may help contextualize our findings. Second, even if sharing, in general, is done by ordinary humans Facebook's algorithms have some agency here: they influence which news items are distributed and prioritize showing certain content.

Finally, while we do believe that a simple aggregated count of all articles published by topic is an indicator of the attention and importance attributed to a specific news topic, this method diverges from Boczkowski and Mitchelstein (2011) and Bright (2016), who use a combination of article placement on the front page of news site, and the amount of time the article spent on the front page to calculate journalistic priority.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Paper 2

The News Sharing Gap: Divergence in online political news publication and dissemination patterns across elections and countries

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The News Sharing Gap: Divergence in Online Political News Publication and Dissemination Patterns across Elections and Countries

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ABSTRACT

Are journalists and Facebook users equally interested in political news? Introducing the conceptualization and measurement of the “news sharing gap”, this study compares the sharing of political news by Facebook users to the production of political news by news media organizations. To paint a broad picture of these differences, we compare the news sharing gap (a) across election and routine periods and (b) across eight countries: Australia, Austria, Brazil, Germany, the Netherlands, Romania, Spain, and the United Kingdom. Analyzing 265,714 articles shared over 12 million times on Facebook, findings show that elections are broadly linked to increases in political news publication, but even larger increases in political news sharing. The study reveals how, overall, political news is shared more often than news publication patterns would suggest, proposing higher political interest by Facebook users than previously thought. In most cases, political news sharing far outpaces political news production in the form of a “negative” news sharing gap, with the relative demand for political news (in the form of news sharing) being higher than the supply. Lastly, building upon previous work, we propose and validate a distant supervised machine learning method for multilingual, large-scale identification of political news across distinct languages, contexts and time periods.

KEYWORDS

News sharing; social media; elections; machine learning; comparative research

Introduction

Past work has argued that systematic differences exist in the interest afforded to political news by journalists and their audiences (Boczkowski and Mitchelstein 2013). Most of this work has focused on readership as the primary metric of audience demand for news; with the rise of social media, however, new forms of news engagement have emerged beyond readership. This is the case with news sharing—today, on social media, users can easily redistribute news items to extensive networks well beyond a news organization’s original and intended audience (Kümpel, Karnowski, and Keyling 2015). Because of the

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implications news sharing has for online information networks, it is paramount to understand not only differences between news publication and news readership but also differences with *news sharing*.

Therefore, in the current study, we explore whether journalists are more interested in publishing political news than social media users are in sharing it. Building on the idea of the “news gap” (Boczkowski and Mitchelstein 2013), de León, Vermeer and Trilling (2021) examined what journalists choose to publish and what audiences choose to share on social media in Mexico. The results indicate that during election periods, political news was shared at a rate far outpacing political news publication. This raises questions on whether the traditional news gap, where journalists are understood as more interested in politics than the general public, can be directly extrapolated to alternative measures of audience engagement, such as news sharing. In this article, we examine how audiences on Facebook challenge the classical understanding of the “news gap.”

Expanding the work conducted by de León, Vermeer and Trilling (2021), we propose the conceptualization and measurement of the *news sharing gap*—the extent to which the interest in political news diverges between journalists producing news and social media actors disseminating it. We argue that this gap is dynamic by nature, standing in stark contrast to the relative stability of institutionalised media companies. To understand these patterns, we make use of the useNews dataset (Puschmann and Haim 2020)—with 265,741 articles shared over 12 million times on Facebook—to estimate the prevalence and size of the news sharing gap in eight countries: Austria, Australia, Brazil, Germany, the Netherlands, Romania, Spain, and the United Kingdom.

In *The News Gap*, Boczkowski and Mitchelstein (2013) showed that elections significantly reduce the differences between journalists’ and readers’ interest in political news. During these moments of heightened political attention, the gap between editorial and audience supply and demand for political news become more evenly matched, reducing the news gap. We pose that the news sharing gap might witness similar—if not greater—fluctuations, as past work has shown the outsized effect elections have on political news sharing (de León, Vermeer and Trilling 2021; de León and Trilling 2021). Therefore, for each country in our sample, we compare the development of the news sharing gap between election and routine periods.

By doing so, we contribute to our understanding of digital journalism in three critical ways. First, we aim to understand the extent to which engagement with political news differs across periods of varying political activity in relation to the attention afforded by journalists. Second, we contribute to comparative communication scholarship by extending the measure to eight countries in both the Global North and South. Finally, methodologically, studying news dissemination patterns is complex. We showcase how computational methods can help conduct large-scale analyses of the links between journalism and social media. We provide a methodological approach based on distant supervision machine learning to distinguish political from non-political news, allowing for automated classification of political content across languages, countries, and contexts. In doing so, we are not only able to provide sophisticated insights into news sharing patterns around the globe, but we also contribute to a research agenda on social media news engagement that allows for large scale country-period comparisons.

The News Gap: From Reading to Sharing

A significant stream of scholarship focuses on the gap in preferences between journalists and news consumers, where journalists consider stories about politics to be more newsworthy than others (Fishman 1980). Despite this ample supply of political news, citizens choose to read non-political news content instead (Prior 2007). As a result, Boczkowski and Mitchelstein (2013) introduced the notion of the “news gap” between the *publishing* and *reading* of political news. Several studies have generated comparable evidence of a significant gap between consumers’ news preferences (as measured by the number of clicks, visits, or views) and the news items editors or journalists deem important (Boczkowski, Mitchelstein, and Walter 2011; Boczkowski and Peer 2011; Choi 2021). Recent work has expanded the conceptualization of the news gap to include moments of large-scale crisis, such as the COVID-19 pandemic. In their study of the pandemic coverage, Masullo, Jennings, and Stroud (2021) identify key differences between the topics covered by news organization and individuals’ self-reported preferences for news topics in the United States—what they term the “crisis coverage gap.” Their findings broadly support previous understanding of the news gap. They show that while consumers routinely voiced a preference for “soft” news focusing on measures taken by local grocery stores and fact-checking information, news outlets oversupplied “hard” COVID-19 topics on the economic impact of the virus and how measures were affecting businesses.

Today, journalists are no longer the sole gatekeepers of news—on social media, citizens are incidentally exposed to news shared by connections and can share news themselves (Nelson and Webster 2017). News sharing, therefore, impacts incidental exposure (Feezell 2018; Weeks et al. 2017); is tied to the normative echo chamber concerns (Thorson et al. 2021); and is a crucial element in the erosion of the gatekeeping function of the media, with social media actors empowered to shift attention and information beyond editorial preferences (Thorson and Wells 2016). While there is considerable research about why citizens choose to share news (Kümpel, Karnowski, and Keyling 2015), hardly any work has addressed whether there is a difference between the news that users share on social media and the news published by news media organizations. With its enhanced media choice and user selectivity (Bennett and Iyengar 2008; van Aelst et al. 2017), today’s digital news landscape may increase the likelihood of divergence between editors and news consumers. We, therefore, propose that to correctly understand the relationship between news production and distribution in today’s digital society, we must bring the role of news sharing into the folds of the news gap.

To understand the relationship between news sharing and publishing, we put forward the idea of a distinct “news sharing gap”—the difference between what journalists choose to publish and what social media audiences choose to redistribute. Such a gap needs to be understood in relation to the user environment provided by social media more broadly, and Facebook specifically, as its technical aspects and affordances shape how today’s online information flows occur. Platform affordances, the “perceived” and “actual” features of social media, “determine just how the thing could possibly be used” (Norman 1988, p. 9), therefore redefining the boundaries of how news can be engaged with and disseminated. This includes the availability of basic

technical features, such as a “share” button (Gerlitz and Helmond 2013), as well as more abstract notions of scalability (Boyd 2010), and “affective” affordances that influence how users can engage emotionally with news content (de León and Trilling 2021; Sturm Wilkerson, Riedl, and Whipple 2021). News sharing is also shaped by the content incentives placed in the “Like economy” (Gerlitz and Helmond 2013) and internal algorithmic curation promoting specific material (dos Santos, Lycarião, and de Aquino 2019).

Sharing therefore needs to be understood as behaviour that is distinct to that of reading, and that is responsive to the constraints and opportunities presented by social media platforms. In the past, scholars have been normatively optimistic about online audiences, proposing that articles are not shared if they are not first read (Bright 2016). Today, we know that the affordances of these platforms allow this not to be the case: in 2020 Twitter introduced a “*are you sure you don’t want to read this before sharing?*” warning to users attempting to do so (Twitter 2020). Social media platforms allow consumers to decide whether they want to share a story by glancing at a headline (Mosleh, Pennycook, and Rand 2020), with stories dominating online attention when they previously had little traction, and despite being of low quality (Caldarelli et al. 2020; Qiu et al. 2017). Furthermore, algorithmic curation has meant that ideologically extreme news sites on Facebook are the ones being interacted with the most (Hiaeshutter-Rice and Weeks 2021), despite only receiving a fraction of the readership of established news organisations.

When thinking about the dissemination of news on social media, and its difference from news publishing, it is also essential to understand that citizens looking to be informed are not the only actors sharing political news, as is a common assumption in the literature (Woolley and Howard 2017). The ease of communication, engagement and dissemination provided by platform affordances mean political actors have much to gain from social media and the sharing of particular information on these platforms (Bradshaw et al. 2020; Caldarelli et al. 2020; Farkas and Bastos 2018). As a result, politicians, bots, organizations, pages monetizing heated partisan engagement on news, campaign strategists, and activists play a key role in political news dissemination (Bradshaw et al. 2020). This type of dissemination, which goes beyond the ideal of the “citizen trying to share news with their friends,” has been linked to both the spread of misinformation and political propaganda (Shao et al. 2018), as well as to the spread of mainstream news (Santini et al. 2020). This is especially the case during elections (Howard et al. 2017; Shao et al. 2018). Therefore, when engaging with the aggregate sharing counts that social media companies supply for these analyses, we cannot assume that it is conformed uniquely of engaged citizens.

Lastly, the high-choice media environment—which has long been the suspected culprit for decreasing political news readership (Prior 2007)—may very well have a different effect on political news sharing. Previous research focusing on the links between individual-level traits and news sharing has shown that it is those with high political interest that are most likely to share any kind of news (Karnowski, Leonhard, and Kümpel 2018; Wadbring and Odmark 2016). As such, these individuals have an outsized impact on what information is redistributed. Additionally, partisan strength has been shown to be a strong predictor of overall news sharing (Weeks and Holbert

2013). More recent work has confirmed this relationship, as well as in relation to misinformation, with partisan polarization being the main sharing driver (Osmundsen et al. 2020).

Taken together, the idea of the news sharing gap aims to conceptualize the diverging interests in news between journalists and consumers while recognizing that news sharing follows distinct patterns. The implications for journalism are straightforward: the existence of this gap should directly inform how media organizations are either over- or under-serving news to their publics. The ramifications, however, go beyond this. The existence and perpetuation of a news sharing gap has implications for our understanding of online audiences in dynamic democracies. Increasingly, work in the digital sphere has argued that the information people can counter online—whether selectively or incidentally—can influence their involvement in political processes. Significant discrepancies between journalists and what is being distributed on social media can have an impact on a citizen's perception of what is important and what is currently happening in the world. More importantly, however, it links back to Prior's ideas of information inequality. People who rely on social media platforms as their main access point to news may be presented with a distorted picture of the news agenda. It puts the media agenda into the hands of those most politically interested, the most vocal, and those who feel they have a stake in politics.

To understand the news sharing gap, it is necessary to look beyond a single time period and country. We focus on the political context, as de León, Vermeer, and Trilling's (2021) findings showed that different political seasons resulted in large changes in the differences between political news production and redistribution: election campaigns increase political news sharing to an extent that far outpaces its production by media organizations. We, therefore, explore whether this is a pattern that extends beyond a single case study.

Elections Periods vs. Routine Periods

First, to examine the dynamics of the news sharing gap, we compare routine and election periods for news production and dissemination.

The Production of Political News

First, we discuss the role of time periods, particularly how election campaign periods can impact news production. There are numerous reasons why election campaign periods are unique (van Aelst and de Swert 2009). On the supply side, political parties and candidates draw more media attention to reach voters. On the demand side, voters read more political news, hoping to determine which party is closest to their own political preferences. Since journalists are confronted with more active political parties and candidates, as well as a more attentive electorate, their importance increases during electoral campaigns (Druckman 2005) as they provide voters with sufficient political information (Strömbäck 2005).

However, not all elections are the same. Although it has since come under criticism (Nielsen and Franklin 2016), Reif and Schmitt (1980) indicated differences between first-order elections (e.g. national parliamentary and presidential elections) and second-order elections (e.g. municipal elections and European elections), as there is less at stake during second-order elections. As a result, second-order elections are met with lower levels of participation and with voters who are less prepared to accept political news as important. Therefore, these types of elections might have a differential effect on political news production.

Few studies have compared election and routine periods to examine changes in political news coverage. According to van Aelst and de Swert (2009) media coverage of political news differs substantially between these, with an upcoming election boosting the coverage of politics in the news. Vliegthart, Boomgaarden, and Boumans (2011) found a stronger primacy for political parties during election campaign periods compared to routine times. Zaller (2003) argues that increased coverage of political news during election periods is a way of media adhering to “the Burglar Alarm standard,” according to which journalists “call attention to matters requiring urgent attention, [...] in excited and noisy tones” (p. 122).

The question remains as to whether this is a pattern that can be traced across numerous contexts. Here, we aim to examine the extent to which the production of political news varies across routine and election periods, including general elections (e.g. in Brazil), legislative elections (e.g. in Austria), and provincial elections (e.g. in the Netherlands). We pose the following question:

RQ1: To what extent does the production of political news differ across time (election vs. routine periods)?

The Dissemination of Political News

To date, literature on news sharing in election periods is sparse. While previous research has examined citizens’ news sharing habits during elections (Ørmen, 2019), they do not address how these dissemination patterns differ from routine periods. It is essential to compare differences in dissemination patterns between election periods and routine periods because it can help understand the so-called audience turn in journalism (Meijer 2020). For instance, most news organization track how much time news consumers spent on which news and their engagement through clicking, sharing, and commenting. Building on the notion of the social news gap, de León, Vermeer, and Trilling (2021) examined the gap between the production and the dissemination of political news on social media. Focusing on the context of Mexico, they found that a divergence exists between what journalists choose to publish and what audiences choose to share on social media, which is particularly true for political news. Interestingly, this gap dramatically reduces during election periods. In other words—during election periods—journalists’ interest in publishing political news increases but is far outpaced by the increase in political news sharing behaviour.

Taken together, the current study aims to examine to what extent the dissemination of political news varies across time. We aim to understand whether the findings

of de León, Vermeer, and Trilling (2021) might apply to other elections in the rest of the world. Therefore, we pose the following research question:

RQ2: To what extent does the dissemination of political news on Facebook differ across time (election vs. routine periods)?

Differences across Countries

Besides addressing the effect of political seasons, we address differences across countries. In this study, we focus on Austria, Australia, Brazil, Germany, the Netherlands, Romania, Spain, and the United Kingdom.

The Production of Political News

Election campaigns have attracted a great deal of attention in comparative communication research. Various scholars have examined how national election campaigns are portrayed across different news systems (Esser and Strömbäck 2013). With increased modernization and professionalization across the globe, there are disparate theoretical positions on whether journalistic practices and news media content have become similar or maintain distinctive characteristics. Some propose that news production has become increasingly homogenized across countries (due to the secularization of politics and transnational media conglomerates, see Kaid and Strömbäck 2009; Murray 2005; Swanson 2004). Empirically, scholars find that differences across countries have diminished: Shoemaker and Cohen (2006) established that across ten countries, approximately two thirds of all news stories focused on the same topic, like Kaid and Strömbäck (2009) study on 22 countries. Other scholars claim that notwithstanding the factors that might steer global journalism towards convergence, journalistic practices and news content differ because countries have distinct media cultures, influenced by political and legal systems (McQuail 1987; Merrill 2009). With this background, we ask:

RQ3: To what extent does the production of political news differ across countries?

The Dissemination of Political News

Country-differences might not only affect journalistic practices, but also news dissemination patterns. Yet, we have comparatively little evidence of this. Recently, Trilling et al. (2022) examined news sharing behaviour in four multi-party systems covering significant variation across countries in Europe. They found that, despite their different media systems and political systems, the underlying processes and sharing patterns in the four countries are remarkably similar. In the current study, we extend the comparative analysis beyond a framework centered on merely European countries to understand the dissemination of political news. We pose the following research question:

RQ4: To what extent does the dissemination of political news on Facebook differ across countries?

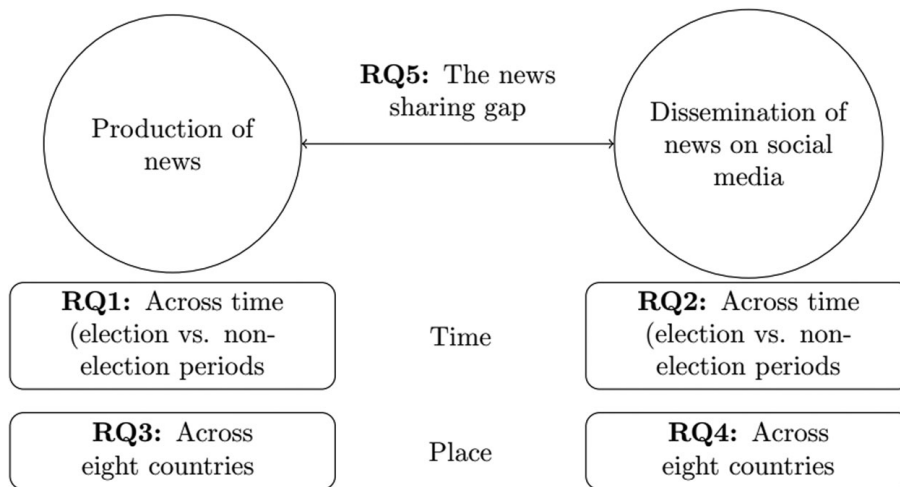


Figure 1. Overview of research questions.

The overarching aim of this study is to examine the production and dissemination of political news across time and context. This helps us examine the “news sharing gap” and understand whether journalists are more interested in publishing political news than social media users are in sharing it. This results in the final research question:

RQ5: To what extent does the news sharing gap differ across (a) time (election vs. routine periods) and (b) countries?

An overview of our research questions is presented in [Figure 1](#).

Method

Data

We utilize the useNews dataset (Puschmann and Haim 2020) to examine how the publication and sharing of political news changed from routine to electoral periods in eight countries (see Table 1). The useNews dataset supplies (a) scraped news media content, and (b) Facebook engagement metrics for these. We focus on Austria, Australia, Brazil, Germany, the Netherlands, Romania, Spain, and the United Kingdom. In all countries, Facebook is the most popular social media platform for news (Newman et al. 2020).

Topic Classification

To classify the topic of news items as political or non-political, we use a three-step process to build supervised machine learning classifiers (see [Figure 2](#); Flaxman, Goel, and Rao 2016; Guess 2021) that takes a distant supervision approach to training (Go, Bhayani, and Huang 2009). Instead of producing a training dataset based on manual classification of news articles, we rely on “distant” cues that are present in article-URLs. We exploit the fact that many news sites have explicit “political” and “non-political” sections that are reflected in each article URL (e.g. “www.elperiodico.com/es/politica/”

vs. "www.elperiodico.com/es/cultura/"). We therefore use the signals provided by journalists themselves as our tool to decide whether an article is political or not. To maximize the number of articles used for training, we made use of the entire useNews dataset, which is split into two periods: from 01/09/2018 to 31/10/2019, and from 01/11/2019 to 01/09/2020.

First, we identified all news websites that have an explicit political section on their website that is reflected in the construction of the web page URLs. With these sites, we inductively annotated all sections that contained more than 200 articles, manually classifying each as either political (e.g. `"/politics/"`), non-political (e.g. `"/celebrities/"`), or unclear (e.g. `"/national/"`; see [Appendix 1](#) for the full list of labelled sections). Using this process, a total of 154,832 political and 388,283 non-political articles were identified, while for 486,857 articles this was unclear. A total of 778,286 articles belonged to news sites without explicit political URL-tagging (see [Appendix A, Table 3](#)).

Second, news sites with political sections in their URLs served as the training material for the classifiers. Here the `Quanteda R` software package was used to work with the Document Feature Matrices (DFMs) provided by the useNews project. All articles were pre-processed by stop word removal and stemming. First, a keyness analysis was conducted to gauge the difference between the two political and non-political corpora, showing significant differences ([Appendix 3](#)). Next, classifiers were trained using the Naive Bayes algorithm. For each country period, articles were split into a training (75%) and test (25%) set, resulting in 16 classifiers (one for each country period), with performance above .82 F1-score for all models except for the Netherlands (see [Appendix 2, Table 4](#) for details). To validate the classification method, for each country we withheld a URL-classified site, trained the classifier on the remaining sites, and then tested their performance against the withheld site, revealing F1-scores above .79 ([Appendix B, Table 6](#)). Classifiers were also validated on a stratified random sample of articles that were manually annotated as political or non-political, revealing F1-scores above .82, except for the Netherlands ([Appendix 2, Table 5](#)). We decided to keep the Netherlands in the sample despite low classifier performance because of the high precision.

Third, these trained classifiers were used to categorize (a) those articles in sections labelled as "unclear," and (b) articles of websites that did not have explicit political sections in their URLs. An overview flow chart of the full approach is presented in [Figure 2](#).

As we are interested in election campaign periods as well as a comparable routine periods, a 67-day time-interval around each country's election day (spanning from 60 days before the election to 7 days following the election), as well as a comparable 67-day routine period were selected (except for the Netherlands, [Appendix 1, Table 1](#)). In the selection of the 67-day comparison period, we ensured that the election and routine period contained a comparable number of news articles, that it took place before major developments of the COVID-19 crisis, and that there was not another election taking place. For our analysis, we sampled only those articles falling within these two time periods, resulting in 265,714 articles.

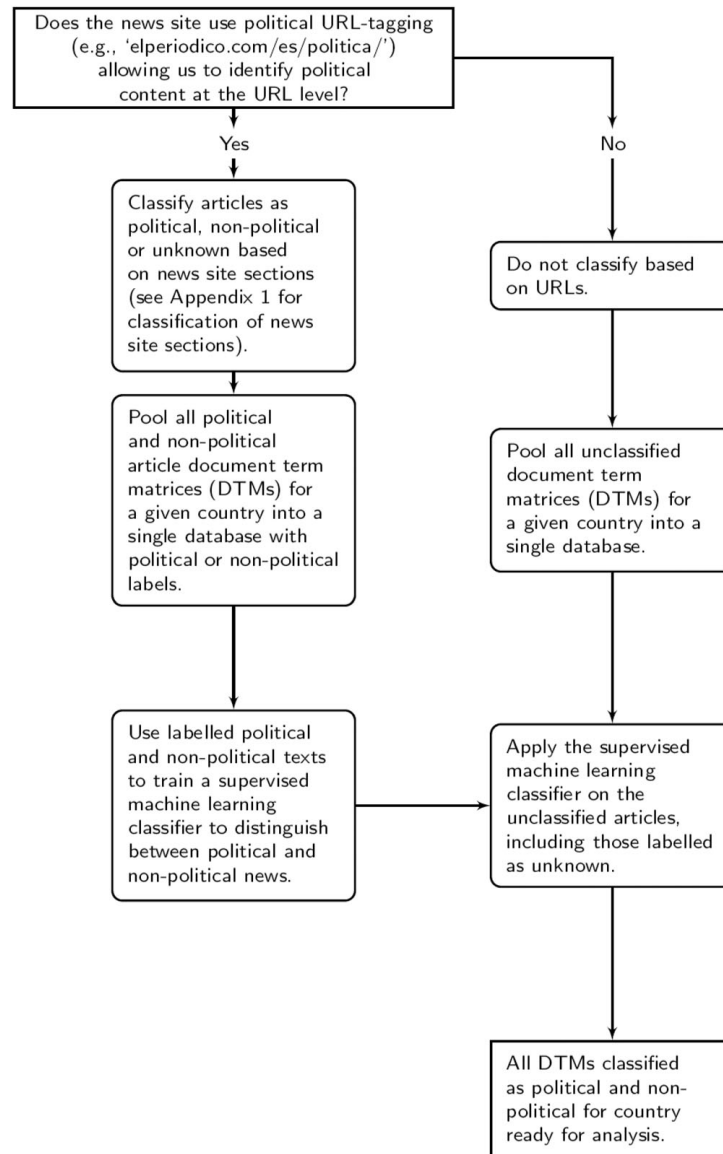


Figure 2. Flow chart of article classification strategy for a given country/period.

Analytical Strategy

Our analytical strategy is split into three parts. First, we provide an account of journalistic interest in politics, by describing the fluctuation of the total number of articles dedicated to politics relative to all other news articles.

Second, to assess how election periods impact the sharing of political news, we compare the sharing of political news during election periods to routine periods. We do so using two measures: first, the percent of total shares that were given to political news, and, second, by estimating what percent of political articles produced during the period were shared at least once. As a robustness check, we also construct a series of negative binomial regression models (one per country), predicting the amount of shares a given article will receive based on whether the article is political or not, and whether it was published during an election (see Appendix 5).



Figure 3. Changes in production patterns of political news across time and countries.

Third, we create an explicit measurement of the news sharing gap. This measurement takes a single day as the unit of analysis and is a three-step calculation: (1) calculating the percent of political articles published on a given day; (2) calculating the percent of shares given to political news in that day; and (3) subtracting the percent of political shares from the percent of political articles. This provides a number between -1 and 1 , where all positive values represent days where journalists had a stronger focus on politics than Facebook users, while negative values represent days when Facebook publics had more interest in politics than journalists. This results in a news sharing gap per day, per country, per period. We explore changes in the gap by assessing its fluctuation across country-periods, as well as empirically evaluating changes between political periods using t-tests.

Results

The Production of Political News

We begin by addressing the production of political news. We aim to understand to what extent the production of political news differs across time (routine vs. election periods) (RQ1) and countries (RQ3). The results are visualized in [Figure 3](#), with full descriptive statistics in [Appendix 1, Table 2](#).

The top half of [Figure 3](#) visualizes the percent of articles on the topic of politics, for both election and routine periods, while the bottom half visualizes the total number of articles available for each period. In five countries, the production of political news



Figure 4. Changes in dissemination patterns of political news across time and countries.

increased during election periods. This increase was quite small for three countries (Australia, Austria, and the United Kingdom +6%). The increase was somewhat larger for Romania (+8%) and Brazil (+18%). On the other hand, three countries witnessed a *decrease* in the share of political news (Germany –6%, Spain –3%, and the Netherlands –0.2%). Germany and the Netherlands are also the two countries in the sample with lower-level elections, with the Dutch provincial elections, and the European Parliament election in Germany. While the effects of elections on news production are not identical across different contexts, the shifts are not drastic: except for Brazil, all changes between political periods were below 8%. This speaks to the relative stability of political news publishing. Further to this point, we see that political news represents around 30% of news produced for most countries, across both periods. Exceptions are Brazil (39% for elections, 21% in the routine period), the United Kingdom (21%, 18%), and Romania in the routine period (18%). An extreme outlier here is the Netherlands with only 5.11% and 4.89% political news. This is likely a product of low recall.

The Dissemination of Political News

We turn to the dissemination of political news (**RQ2** and **RQ4**). The results are visualized in [Figure 4](#). The top row of [Figure 4](#) shows what percent of news sharing was for political articles. Unlike political news *publishing*, which was relatively stable across both countries and time-periods, the *sharing* of political news in our sample varies drastically both across countries and time periods. Across countries, we see that

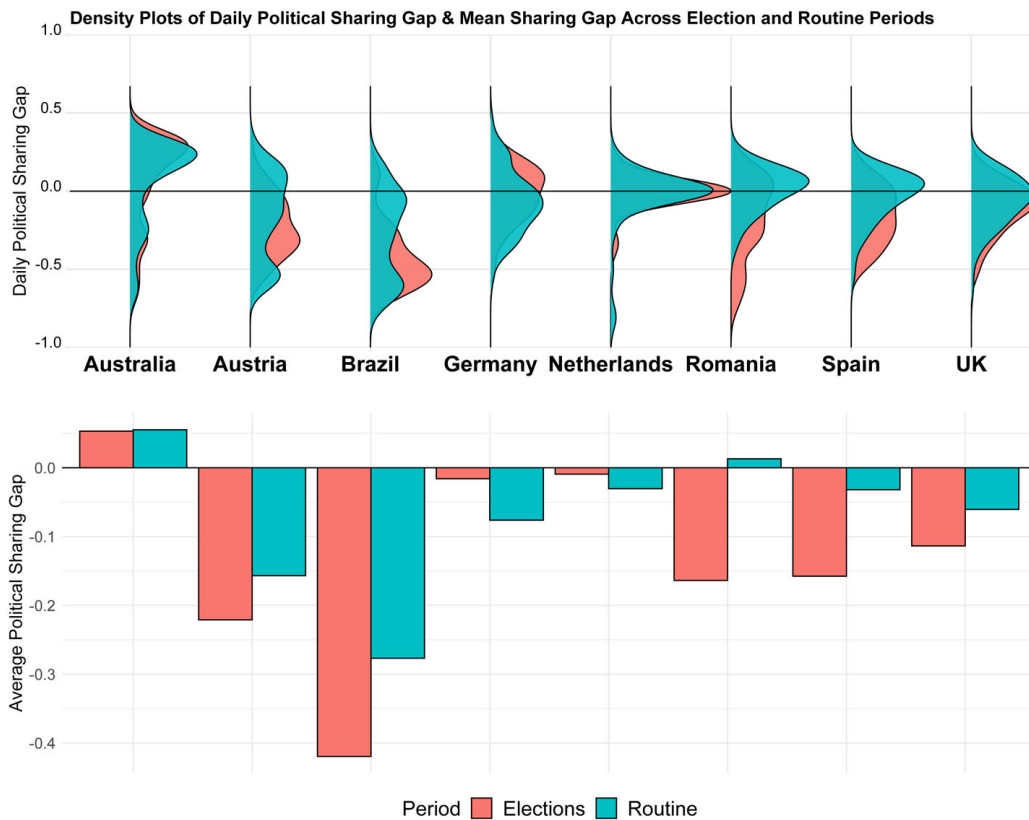


Figure 5. The news sharing gap across time and countries. Negative numbers indicate more sharing than publishing, while positive numbers indicate more publishing than sharing.

political news represents as little as 7% of all news sharing in the Netherlands (routine period), and as much as 89% in Brazil (election period), with a lot of variation in between. This pattern stands in stark contrast to the cross-country stability present in political news publishing by journalists, where we consistently see that political news consistently represents around 30% of all articles published.

We now turn to changes across time periods, which also display much more variability than news publishing. The row of [Figure 4](#) indicates that for seven countries, the dissemination of political news increases during the election period. For some, the difference is small (Australia +3%), but for most the change is substantial: the Netherlands +9%, Romania +29%, the United Kingdom +11%, Austria +19%, and Brazil +43% all increased their political news sharing by 9% or higher. While this follows the general pattern established for political news publishing—an increased focus on politics during elections—the rate of change is much higher for political news sharing.

Germany is the only country where we see a decrease in political news sharing (38% to 25%); however, it is also one of the countries which witnessed a decrease in relative political news production during elections. This points to a reduced interest in the political affairs taking place during the European Parliamentary election by both journalists and Facebook users.

The bottom half of [Figure 4](#) visualizes the percent of political news articles *shared at least once*. This analysis allows us to account for the influence that a handful of

political articles “going viral” might have—at the aggregate level, one political article receiving tens of thousands of shares while the rest receive zero would make it seem like there is broad interest in political news, when there is not. By treating political articles on a binary “was shared or was not shared,” we can account for this. We observe that changes are not as strong in the bottom plot—overall, only around 25% of political articles were shared at least once, showing that during elections, we do not see an increase in the percent of articles shared. This tells us that even though not more political articles are shared, political articles represent a bigger portion of all the sharing taking place during elections. This means that the political articles that *are* shared received a much wider reach: increases in sharing during elections are due to specific political articles being shared more, and not more political articles being shared.

Lastly, as a robustness check, we modelled the effect of elections on political news sharing while controlling for the outlet-level effects and the attention given to politics in the week each article was published. Found in Appendix 5, the results generally confirm what is reported here, with election periods leading to drastic increases in political news sharing.

The News Sharing Gap

Finally, we address changes in the news sharing gap in response to **RQ5**. As the gap takes a single day as the unit of analysis, we can compute its concentration in density plots. We have done so in the top row of [Figure 5](#). The first observation we make is the spread distribution of the news sharing gap. Instead of converging around specific values across all countries, the news sharing gap is spread across numerous values throughout each period. It showcases how in some days, newspapers wrote up to 50% more about politics than people shared news about politics, while on others there was 90% more interest in sharing politics than there was news coverage. This spread distribution is the case for both routine and election periods. This speaks to an inherent fluctuation, where in no country we see that the gap is always favouring journalists or Facebook publics.

A second insight from [Figure 5](#) is that in all (except three of 16 cases) the news sharing gap is either non-existent, or in most cases, *negative*. This suggests two things: First, in some cases, journalistic and publics’ interest in politics align quite well (the case for Germany and the Netherlands); second, that in most countries, Facebook publics were routinely more interested in sharing political news than journalists were in covering it. This is contrary to older accounts of diverging interest between journalists and readers, where journalists have been shown to over-emphasize political news. The evidence here suggests that across all countries in our sample (except Australia), Facebook publics are routinely as interested in political affairs as journalists, if not more so. Robustness checks using a more conservative estimation method confirmed results (Appendix 4).

A third main observation is that there is a pronounced shift in the size (and at times, direction) of the gap between election and routine periods: elections result in larger differences in political interest between Facebook publics and journalists. In

most cases, the news sharing gap was larger during elections than during the routine period, with Facebook publics showing an even greater preference of political news.

To gauge whether these differences between election and routine periods are significantly different, we perform a series of t-test between the news sharing gap for each period within each country. These are reported in the bottom row of [Figure 5](#). Here, three countries (Brazil, Spain, Romania) see statistically significant changes ($p < .001$) in the news sharing gap, with the UK being significant at the $p < .055$ level. The biggest change comes from Romania, with a $-.18$ change in the news sharing gap, followed by Brazil ($-.14$), Spain ($-.12$), and the UK ($-.05$). Australia, Austria, Germany, and the Netherlands do not see any statistically significant changes from one period to the other. Austria witnessed an increase in interest by Facebook publics relative to journalists during elections ($-.06$). Interestingly, we observe the opposite pattern for Germany and the Netherlands, with Facebook publics being more interested in politics than journalists during *routine periods* as compared to elections. Lastly, while Germany follows the first pattern of a lower news sharing gap during elections, this country is the closest to completely not having a gap, both for routine and election periods.

Discussion

In the current study, we introduce the notion of the *news sharing gap* to conceptualize differences in interest in political news between journalists and publics on Facebook. To do so, we investigate changes between the news that users share on social media and the news published by news media organizations (a) across time (election vs. routine periods) and (b) across eight countries (Austria, Australia, Brazil, Germany, the Netherlands, Romania, Spain, and the United Kingdom). Using a sample of the useNews dataset (Puschmann and Haim 2020) consisting of 265,714 URLs shared over 12 million times on Facebook, this study adds to existing literature in two ways. First, by empirically exploring engagement with political news across periods of varying political activity in relation to the attention afforded by journalists. We show that the news sharing gap is mostly negative, with Facebook publics being more interested in sharing political news than journalists are in producing it, a relationship that is exacerbated during periods of elections. Second, we make a methodological contribution by providing a method for large-scale political news classification that allows for easier cross-country comparisons using distant supervision machine learning.

The results describe changes in political news publication during elections. Work on the journalistic coverage of politics during elections has argued that attention to politics increases during these key moments (Druckman 2005; Strömbäck 2005; Vliegenthart, Boomgaarden, and Boumans 2011; Zaller 2003). Here we find that the attention afforded by journalists to political news during elections varies significantly by country. In most cases, we do observe that elections are linked with a higher relative share of political news; however, we find that this change is more muted than normative accounts on the role of the press during elections suggest that it is. In our eight-country sample, we observe a range of change from routine to election periods—most countries witnessed increases in political coverage; in some, namely Romania and Brazil, this change was starker, while in others, the Netherlands, Spain

and Germany, there was a decrease in relative news about politics. The picture painted by our results is one of stability rather than dynamism—there are little-to-no dramatic swings in the coverage of politics, with average political coverage being similar during elections and routine periods. Explanations for cases diverging from this pattern might lie in system-level variables: Brazil, with the biggest change between periods, stands out for its presidential political systems and lower professionalism in journalism, while Germany and the Netherlands, with the least change, both belong to the Democratic Corporatist media systems.

We also focus on political news *sharing* across countries and political periods. Here, there is much more variation in the amount of political news sharing from routine to election periods than there is variation in the publication of such. Elections have a strong influence on political news sharing, with these periods coinciding with spikes in the sharing of political news, supporting previous work in interest in political news sharing during elections (de León, Vermeer, and Trilling 2021; de León and Trilling 2021). This finding has consequences for our understanding of online public attention to elections: classical theories of public opinion, such as Zaller's monitorial citizen (Zaller 2003), seem to be reflected in the sharing of political news on Facebook, with citizens becoming acutely engaged with politics in key periods. Nevertheless, we find that these increases in the sharing of political news are diverse and could be conditioned on country-level factors. Germany and the Netherlands, the countries with the least consequential elections in the sample, are also the countries where we see no significant change in political news sharing, for example.

Comparing the relative changes in publication and Facebook sharing patterns of political news we can address the overarching question of whether journalistic and Facebook user preferences diverge systematically in the form of a *news sharing gap*. Calculating the distance between journalist and sharing political interest, we explore how this gap varies along the lines of country and political periods. Previous work has signalled that a "news gap" exist between political news preferences between journalists and consumers, both in reading (Boczkowski and Mitchelstein 2012; Masullo, Jennings, and Stroud 2021) and sharing (de León, Trilling and Vermeer, 2021; Bright 2016) habits. The results presented here suggest that the news sharing gap follows quite different patterns, calling into question the extent to which traditional understanding of the news gap take place on sites such as Facebook. We find that in most countries, in both routine and election periods, the news sharing gap is *negative*, with Facebook audiences showing more interest in political news than media organizations. This stands in contrast with past accounts detailing how publics are less interested in "hard" news than journalists, both during routine times and elections (Boczkowski and Mitchelstein 2013), as well as during periods of crisis (Masullo, Jennings, and Stroud 2021). We also find that elections have a significant impact on the news sharing gap, increasing Facebook attention to political news at a speed that far outpaces its publication. This confirms what de Leon, Vermeer and Trilling (2021) found previously, highlighting that audiences on Facebook are a lot more susceptible to large swings in topical attention than media organizations.

The fact that the gap is negative (with Facebook publics sharing more political news than journalists produce it) even during routine periods is a puzzling conclusion,

considering past work showing journalists' preference for political news, as well as the concerns over citizen disengagement with political reporting. We argue, however, that these results make sense once we reconceptualize political news sharing as a process that is distinct from other traditional forms of engagement that are usually measured through article clicks or self-reported interest. Here, the notion of virality plays a key role: with increasing polarization worldwide, it is easy for large scale indignation to spiral a political news article to an enormous audience as more people partake in the collective action of resharing news. Moreover, with the aggregate count of sharing, it is important to remember that mixed into these data are not only the shares awarded by common folk wishing to inform their group of friends of an issue they hold close at heart: these statistics also include redistribution by political actors themselves with massive following bases of like-minded partisans, as well as other actors (such as influencers, political commentators, and Facebook pages or governments themselves) with some vested interests in politics. Following this reasoning, we should understand that different actors have different weight on the Internet. While this might make sense for readership metrics, where one click on an article is the same regardless of who you are, this does not apply to news sharing. Instead, the relationship is closer to exponential: a share by someone with a large network of likeminded, politically interested people can generate much more consequent sharing than someone with only a couple of friends.

Lastly, we contribute to the field of digital journalism by showing how computational methods can be used to analyse and compare multilingual news content. To increase awareness of what computational methods have to offer, we use an automated content analysis approach and show how computational methods can aid journalism studies. More specifically, by using cues provided in the structure of news websites, we were able to classify political texts across eight countries and six different languages in an efficient and accurate manner.

Nonetheless, a few shortcomings should be noted. First, the CrowdTangle data provided in the useNews dataset only captures all shares of *public posts*. Therefore, our conclusions cannot be extended to include sharing of news articles directly by private profiles, or the sharing of news articles contained in a private post. Second, we have analysed a variety of elections (from presidential to provincial, and from federal to European)—a future avenue of research is to compare the same election types, in order to explore more specific case studies. Lastly, our results are influenced by our automated classifiers, as the crux of our empirical strategy hinges on the successful identification of political news. While we have taken numerous precautions to ensure that our classifiers perform at acceptable levels, it is nonetheless possible that misclassification of articles plays a role in our final description and models.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

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Paper 3

On Issue Survival: News Media and How Political Issues Remain Salient in the Face of Crisis

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On Issue Survival: News Media and How Political Issues Remain Salient in the Face of Crisis

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Abstract

What happens when a crisis such as COVID-19 fully occupies the political and media agenda? Do previous political concerns, such as those on migration, remain salient? Here, I propose and validate a model of *issue survival* during times of crisis. I argue that issues remain salient when individuals are able to cognitively link “displaced” issues with the ongoing crisis. Such connections between displaced issues and the crisis can be influenced by the media, who, through a process of networked agenda setting, help establish connections between issues. I test this model on the salience of migration during the COVID-19 pandemic in Switzerland and Germany. Leveraging panel surveys administered before and during lockdowns, I show that the issue of migration was displaced during the crisis. Nevertheless, as proposed by the model, this decline in issue salience did not occur for individuals connecting migration to the pandemic. Combining panels with individual-level media consumption data obtained through webtracking, I provide evidence that issue survival was significantly related to the consumption of news stories linking migration to the COVID-19 crisis. The study raises questions about the flow of public opinion during moments of mass uncertainty and highlights the key role media consumption can play in understanding previous issues in new a light.

Introduction

Literature on issue competition holds that there is a limit to the number of societal problems the public considers to be of concern (Zaller, 1992). Such a limit creates a zero-sum system of issue competition, where increased attention to a particular issue serves to displace others (Zhu, 1992). Large-scale crises create conditions that are especially ripe for issue displacement (Dennison, 2019): posing threats to the immediate safety of citizens, events such as terrorist attacks, and declarations of war momentarily refocus citizens’ attention on a new societal problem. Such changes are to be expected—as deeply shocking events, it is no surprise that the amount of time citizens spend thinking about terrorism increases in the aftermath of an attack. Moreover, the media frenzy that accompanies such events leads to increased attention to the issue (Brosius & Kepplinger, 1981). Because of the zero-sum structure of the public agenda, however, such a spike in attention to the crisis is inevitably tied to other issues momentarily losing attention and importance (McCombs & Zhu, 1995).

While much has been said about public issue salience and its importance for public opinion (Dennison, 2019), as well as the displacement product of its competition dynamic (Brosius & Kepplinger, 1981; Zhu, 1992), less has been written about how societal problems remain salient *despite* a crisis. In this article, I aim to remedy this by proposing a model for *issue survival* during large-scale crises. Such considerations—whether and for whom an issue remains salient despite an overwhelming crisis—are crucial for the understanding of

public opinion fluctuation, as well as for policy prescriptions and political debate following crises.

Based on theories of issue voting and framing (Jacoby, 2000), I argue that during moments of large-scale crises, issues remain salient when individuals can connect pre-crisis problems to the crisis itself. Creating a link between the crisis issue that is dominating public, political, and media agendas with a displaced pre-crisis issue allows individuals to more readily be reminded of this problem and believe it is worthy of attention. The model suggests that such issue relationships are influenced by media consumption—drawing on literature on networked agenda setting (Vargo & Guo, 2017) and news framing (Leeper & Slothuus, 2018), I argue that the media has a strong capacity to transfer issue links to the general public. These issue connections then serve to maintain the salience of these issues. These effects, I argue, need to exist despite the influence of existing political ideology, which is a driving factor behind what societal problems individuals hold to be of most importance. This idea is represented in Figure 1.

To test this proposition, I focus on the case study of migration issue salience during the first Wave of the COVID-19 pandemic in Germany and Switzerland. Making use of two panel-survey Waves collected before and during the first COVID-19 lockdown in both countries, I demonstrate that the arrival of the pandemic was indeed linked to a small but significant drop in issue importance. Regression analyses predicting change in migration salience as a function of holding attitudes linking migration to the COVID-19 crisis—namely believing that migrants spread the virus more quickly than

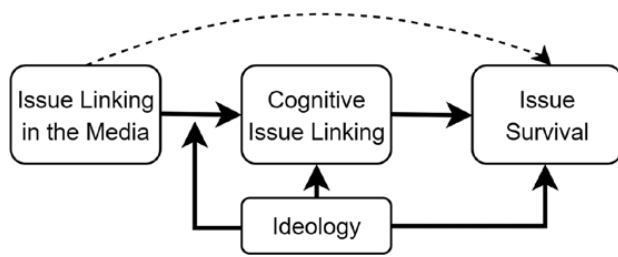


Figure 1. Theoretical Model of Issue Survival.

other citizens—confirm that such issue connections increase the salience of the issue, despite a general trend toward less salience. Combining these panel Waves with individual-level observational data of participants' actual online news consumption, I measure how exposure to tabloid and conservative news (due to their sensationalist coverage of migration—see Maurer, Jost, Haßler, and Kruschinski [2019]; Niggemeier [2018]) linking migration and the COVID-19 crises increased perceptions that migrants were more likely to spread the virus. These results provide initial evidence for the proposed model, suggesting that the media plays an important role in providing issue connections during a crisis, which in turn influences the likelihood of an issue remaining on the public agenda.

Theoretical Framework

Issue Displacement and Agenda Setting During Crises

What issues the public hold to be politically important is a key question for the study of public opinion. Informing key questions of policy preference, political mobilization, and party competition, issue salience is highly relevant to crucial political outcomes (Dennison, 2019). Caring about an issue, however, takes effort. While in an ideal world citizens would be engaged with many political issues, the reality is that there is a limited number of topics individual citizens can pay attention to at a given time. An idea grounded in general apathy toward politics (Zaller, 1992) and the cognitive limits of the human mind (Miller, 1956), research has suggested that the public agenda can only concentrate on a finite number of political problems (McCombs, 2002; Shaw & McCombs, 1972). Issues therefore compete for salience (Zhu, 1992).

While the salience of these issues fluctuates according to a multitude of issues, they are especially responsive to “prominent events or problems” that “focus national attention” (Dennison, 2019, p. 442). As moments of national or international uncertainty, crises can skyrocket an issue to the forefront of citizens' concerns, refocusing the public's attention on the immediate threat and consequences of a crisis (Rozin & Royzman, 2001). In fact, in a review of the literature on public issue salience, Dennison (2019) argues that such events are the most consistent predictors of changes in salience, highlighting that “issue salience responds to actual events and their gravity” (442). However, a sudden increase in the salience of one topic can serve to displace the salience of issues that were previously on the public agenda (Zhu, 1992).

Crisis-induced displacement dynamics were observed during the COVID-19 pandemic—the focus of this study. In Belgium, Verachert, Stiers, and Hooghe (2022) showed that the arrival of the pandemic led to a significant reduction in

how much citizens cared about environmental issues, with similar evidence provided for the United Kingdom (Beiser-McGrath, 2022). Both argue that such effects are a product of increased concern over COVID-19, resulting in the displacement of environmental concerns.

While the exact mechanisms behind changes in issue salience are influenced by individual-level characteristics such as self-interest, social identification, and values (Krosnick, 1990), many scholars point to the key role played by media coverage. Agenda setting—the process through which news media “influence the importance placed on the topics of the public agenda” (McCombs & Reynolds, 2002)—plays a central part in determining the importance the public awards given issues, and therefore has important implications for public opinion. With Shaw and McCombs (1972) showing that the media have the power to shape “what we think about,” generations of agenda setting research has shown the important link between media coverage and issue importance (Iyengar & Simon, 1993; Liu & Chan, 2018).

The media also exhibits this zero-sum behavior, with focused coverage of one topic coming at the expense of others (de León & Vermeer, 2022; de León, Vermeer, & Trilling, 2021; Zhu, 1992). This, argues Zhu (1992), is a driving factor behind issue displacement in the public agenda. Not only do individuals not have the capacity to cognitively engage with more than a set number of issues, but the number of issues they receive information on also fluctuates in a zero-sum fashion because of the media's own logic. Brosius and Kepplinger (1981) suggest that changes in the news agenda can be characterized by “killer issues” (a new media topic displacing older issues) and “victim issues” (old media topics that are displaced). Crises are usually considered killer issues (Brosius & Eps, 1995), and one as large as the COVID-19 pandemic, by all means, has the ability to displace other issues in the media (Brosius & Kepplinger, 1981). Work in Switzerland has already revealed that this is the case. Rauchfleisch, Siegen, and Vogler (2021) showed that coverage of COVID-19 displaced coverage of environmental issues. Fretwurst and Gunther (2022) provide similar evidence for both the salience of environmental as well as migration topics, showing that during the first Wave of the pandemic, the coverage of COVID-19 drew significant attention away from both issues.

This study centers on the displacement of an issue that has become central to the structuring of European politics: migration. As a central issue for the development of the cleavages in Swiss and German politics (Ford & Jennings, 2020), migration presents an *unlikely* scenario for displacement. Research on the salience of migration has underscored its stability in public opinion (Dennison & Geddes, 2019), with this salience being “remarkably stable over time and robust to major economic and political shocks” (Kustov, Laaker, & Reller, 2021). While migration is an exceptionally stable issue, the COVID-19 pandemic was an exceptionally acute crisis. Despite its previous stability, emerging research has signaled that there has been some displacement of the migration issue during the pandemic. Research on policy development in Germany has documented how the onslaught of the pandemic meant policymakers spent a lot less effort on migration-related legislation (Knill & Steinebach, 2022). No evidence, however, has been provided on public opinion. Considering that we do see COVID-19 displace migration coverage in the media, that theories

of agenda setting argue this should translate to lowered salience at the individual level, and that previous work has already observed displacement effects on the environmental topic, we can hypothesize that crises are related to issue displacement broadly, and that the pandemic displaced migration salience specifically:

H1: During moments of crisis [the arrival of the COVID-19 pandemic], the salience of other issues [migration] on the public agenda decreases.

From Issue Displacement to Issue Survival

Cognitive issue linking and issue survival.

While a lot of literature has sought to understand how issues are displaced from the public agenda, less has inquired into the dynamics of issues resisting displacement. Understanding how issues persist in the face of extreme crisis is paramount, as it sheds light on the dynamics of public opinion during a crisis and is crucial for the policymaking following such times. This paper takes up these considerations to ask: for whom does issue displacement *not* occur? Here, I propose a theoretical model for the resistance of issue displacement—issue survival—during moments of crises where public attention undergoes substantial realignment.

The model rests on previous work that has highlighted how societal issues do not stand independently from one another—rather, as debate topics that occupy a shared space in the political world, they are interlaced and interdependent. Here, literature on issue voting is informative. How salient a given issue is for a particular part of the electorate will significantly depend on how individuals think about the issue—particularly, this salience is dependent on their ability to link an issue to an issue that is already important to them (Jacoby, 2000). In the United States, studies have shown how the issue of government spending, typically an issue “owned” by Republicans, becomes especially salient to Democrats when they are able to conceptualize the issue as affecting the accessibility of healthcare, an issue much more salient to Democratic partisans (Dancey & Goren, 2010; Jacoby, 2000; Petrocik, Benoit, & Hansen, 2003). In the context of the United Kingdom, Barnes and Hicks (2018) find a similar relationship with austerity, arguing that citizens’ interpretation and importance of austerity will vary with “systematic association of the deficit with other ideas” (342).

I argue that issue survival during a crisis is most likely to occur when and if citizens conceptualize the displaced issue in relation to the crisis currently occupying the attention of political debate. During the pandemic, survival of the migration issue therefore occurred for those who thought of the crisis through a migration lens. This could be manifested, for example, through the belief that immigrants are more likely to spread the virus. This xenophobic attitude has not only been documented during the COVID-19 pandemic (Elias, Ben, Mansouri, & Paradies, 2021; Reny & Barreto, 2022), but also throughout other epidemics (McCoy, 2020). Similarly, a common grievance linked to anti-migration attitudes is the idea that migrants and refugees are able to take advantage of state welfare programs (Fietkau & Hansen, 2018)—beliefs that the pandemic facilitated this process

as governments rolled out policies to counteract the negative impacts of the pandemic would keep migration salient during this crisis. Based on these suggestions, I hypothesize a link between issue survival and attitudes linking COVID-19 and migration:

H2.1: Cognitively linking the displaced issue [migration] with the crisis [COVID-19] increases issue survival.

Here, the role of existing ideological beliefs cannot be understated. Conservative right-wing parties in both Germany and Switzerland have long occupied the issue-space of migration. While the centrality of migration within conservatism is not new (Altemeyer, 1983; Cohrs & Stelzl, 2010), it was further heightened by the 2015 refugee crisis, with both parties on the moderate and far right making migration a key issue behind their political agendas (Gessler & Hunger, 2022). Much of their official party communication (Matthes & Schmuck, 2017) and legislative efforts (Hix & Noury, 2007), have therefore focused on this issue. This is also true of conservative voters. For this portion of the electorate, policy toward issues such as migrant integration and refugee aid have been front and center over the last decade (Gessler & Hunger, 2022). It is therefore possible that issue survival is more likely to occur for self-identifying conservatives, whether because of migration’s importance, or because of cues taken from conservative party elites during the pandemic. I therefore propose the following hypothesis:

H2.2: During moments of crisis [COVID-19], issues are more likely to survive for partisans [conservatives] for whom the issue [migration] is central to their political agenda.

Media cues, cognitive issue linking, and issue survival.

While the model for issue survival recognizes the importance of citizens cognitively connecting the displaced issue at hand with the bigger topic brought forward by the crisis, it also accounts for where these cues of issue network originate from. Both work on issue displacement and agenda setting argue that the information determining the public’s concern about specific topics originates at least partially from news readership (Zhu, 1992). This model of issue survival argues the same—during a crisis, news media plays a key role in influencing how individuals link previously salient issues to the new issue brought about by crisis, therefore guiding issue survival in public opinion.

Both literature on media framing and networked agenda setting has argued that the news media can transfer issue links to the public. Framing can confer a given issue-specific attributes by highlighting a specific item of a story, therefore guiding the reader’s thought process through strategies such as comparisons and personalization. Specifically, emphasis frames constitute “a message that provides an interpretation of an issue or policy by emphasizing which aspect of the issue is relevant for evaluating it” (Leeper & Slothuus, 2018, p. 154). Therefore, emphasis frames can, for example, emphasize migration when discussing crime rates (Kakavand & Trilling, 2022), or, relating to this paper’s case study, emphasize migration when discussing the pandemic, as well as reporting on political elites who hope to cue their public with these ideas (Bullock, 2020).

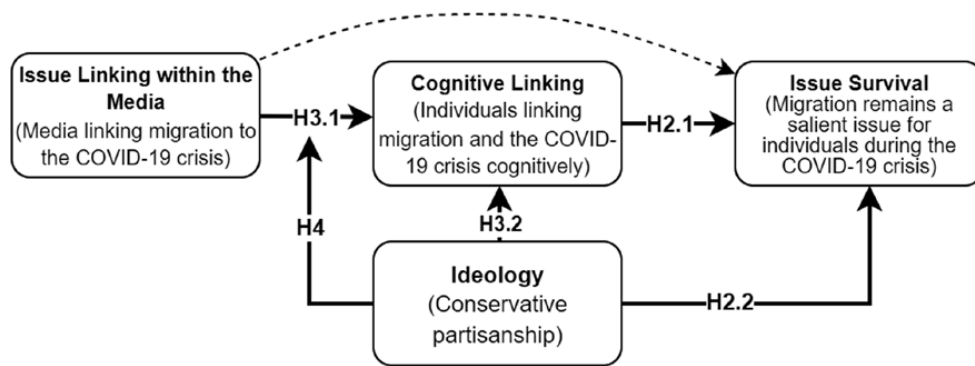


Figure 2. Theoretical Model of Issue Survival Specifying Migration-COVID Case Study and Hypotheses.

Studies on networked agenda setting suggest that the transfer of issue links from the media to the public is possible (Vargo & Guo, 2017). This type of (“third level”) agenda setting focuses on how the media links distinct issues within a story, and how these issue links are transferred to other media, politicians, and the public (Martin, 2021). Studies have shown that the media can guide how citizens make connections between different political issues (Vargo & Guo, 2017).

I argue that the transfer of these network links during a time of crisis also results in the transfer of issue salience for an issue that is otherwise a “victim” issue. Emerging work in Switzerland has shown that these issue networks were available in the first Wave of the pandemic, at least on the supply side of the equation. Fretwurst and Gunther (2022) document that a large part of the coverage of migration was in reference to the pandemic. Furthermore, instances of media linking migration and COVID-19 took place in both Switzerland and Germany, with coverage of COVID-19 outbreaks in refugee camps and migrant communities, as well as pauses in deportations. I therefore hypothesize that individuals consuming news that linked the “victim” issue of migration to the “killer” issue of the pandemic during the first Wave of COVID-19 when the pandemic was central to news and politics, will lead to individuals thinking about migration in terms of COVID-19, which in turn will help the issue remain salient.

H3.1: Consumption of news that links the killer issue [COVID-19] with the displaced issue [migration] has a positive effect on individuals evaluating the crisis [COVID-19 pandemic] through the displaced issue [migration] focus.

Individuals’ opinions are informed by cues from ideological elites. Whether a product of motivated reasoning—by which individuals use directional motives to arrive at ideologically consistent conclusions (Druckman, Leeper, & Slothuus, 2018)—or heuristic processing—by which individuals more easily adopt positions taken by elites due to reduced cognitive efforts (Eagly & Chaiken, 1993)—research generally supports the idea that messages from political elites can mold individuals’ opinions around specific issues (Bullock, 2020). The effect of elite cues has been found on a variety of political issues, with people adopting stances on a variety of issues (Bullock, 2020), including migration (Jones & Martin, 2017).

It is possible that elite cues played a role in cognitively linking the COVID-19 crisis to migration. Conservative parties, especially those on the far right, used the pandemic as a way to further push their anti-migration agenda, blaming migrants and refugees for the spread of the virus and the

economic downturn (Yerly, 2022)—a xenophobic trope well documented during other health crises—and also by claiming that the acceptance of refugees and migrants was a threat to public health (Pacilli, Pagliaro, Bochicchio, Scandurra, & Jost, 2022). Based on the elite cues literature, it is likely that these messages could have an effect on how individuals interpreted the link between COVID-19 and migration. Assuming that conservative partisans are more likely to (a) receive these messages, and (b) adopt their stance, I therefore hypothesize:

H3.2: Partisanship [conservative] is associated with individuals evaluating the crisis [COVID-19 pandemic] through a displaced issue [migration] focus.

Lastly, it is likely that political ideology does not only have a direct effect on the cognitive link between migration and the crisis but also *moderates* the relationship between the media and cognitive links. Past evidence on media effects shows that specific messages can have differential impacts on separate groups, depending on their preexisting beliefs (de León, Makhortykh, Gil-Lopez, Urman, & Adam, 2022; Oliver, 2002). Among these preexisting beliefs, political partisanship and ideology stand out as crucial: Whether media messages have an effect on a reader will likely be contingent on whether the messages are in line with the individual’s previous opinion on the subject (Oliver, 2002; Tsifti, Stroud, & Chotiner, 2014). I therefore hypothesize that:

H4: Partisanship moderates the relationship between media consumption and cognitively linking the displaced issue [migration] to the crisis [COVID-19].

Data and Methods

Data Collection

Panel survey data.

To test the proposed model of issue survival, I use a two-wave panel survey from large reputable online web panels (Dynata, GapFish, and demoSCOPE) in Germany ($N = 600$) and German-speaking Switzerland ($N = 606$). The first wave was conducted before the first COVID-19 lockdowns in March 2020. The second wave was collected between the 15th and 28th of May, with some attrition for both Germany ($N = 436$) and Switzerland ($N = 502$). With interviews before the height of the pandemic and during lockdown, I can document within-individual changes—precisely what is needed for a study on issue displacement during a crisis.

Webtracking data.

To quantify media effects, agenda setting literature has analyzed individual attitudes and media coverage separately, estimating effects through linkage analysis that combines aggregate content analysis of the media with self-reported media consumption (Miller, Goldenberg, & Erbring, 1979). This approach, however, is prone to numerous problems (for full criticism, see Scharkow & Bachl, 2017), including measurement errors of news consumption (Prior, 2009), and the fact that it is impossible to tell whether a given individual has consumed the specific stories that the effects are attributed to. To overcome this issue, I propose a more nuanced media measurement strategy. I combined the previously mentioned surveys with webtracking data capturing participants' actual online news browsing behavior. Between March 7, 2020 and May 26, 2020, participants consented to install a browser extension that captured their online desktop behavior. This plugin operated on a screen-scraping principle, meaning that it captured what participants were actually seeing, rather than just the URLs they visited, allowing me to assess exposure to specific stories. To illustrate the order of data collection, Figure 3 shows the logic of panel waves and webtracking, along with key pandemic dates in Switzerland and Germany.

It is important to discuss the ethical implications behind this research design, and the measures taken to safeguard participant privacy. First, the study required participants to give their consent to be tracked, with clear guidelines provided. Second, to protect sensitive information, the tracking method used a “blacklist” approach, where certain sensitive domains (such as banking, insurance, email, and pornography) were not tracked, as well as filters for identifying sensitive information on sites such as social media. Participants also had the option to pause the tracking for 15-min intervals and could drop out of the study at any point of their choosing. Third, all tracking data were stored following rigorous privacy guidelines, using encrypted internal university servers that involved a two-step procedure to match webtracking with the anonymized surveys. To further protect the data, all analyses involving the content itself were conducted on these encrypted servers, ensuring that it never left this secure space.

Not all participants consented to be tracked, which could potentially bias results if the profile of those who dropped out differs along variables of interest. This concern was addressed in a separate study, which found minor differences in political variables between participating and non-participating populations (Gil-López et al., 2023).

Additionally, an analysis of the demographic characteristics was carried out: The sample generally resembled the demographic distributions of both countries in terms of age. However, the samples had an underrepresentation of lower educated individuals and an overrepresentation (55%) of male participants.

Although we cannot confirm that participants installed the tracker plugin on all their main desktop browsers, the high volume of activity (more than 4 million recorded visits for all respondents) indicates heavy usage of the tracked browsers. Additionally, participants were thoroughly screened to avoid any potential issues—only those displaying at least five days of online activity on tracked browsers were included in the analysis, thus eliminating the possibility of participants installing the tracker but not utilizing that browser. This led to some attrition for both Germany ($N = 402$) and Switzerland ($N = 462$).

Variables of Interest

Survey measures.

To measure changes in the importance of migration, participants were asked in Waves 1 and 2, “how important is migration to you personally?.” Within-individual change was then calculated by subtracting Wave 1 values from Wave 2 values. While this measure is different from the traditional public issue agenda measures which ask respondents to list the five issues they consider to be most important for society (Cardenal, Galais, & Majó-Vázquez, 2019), the measure I use is less prone to fluctuation, as there is no zero-sum logic inherent to the question. It is therefore an arguably more conservative estimate.

To measure a migration interpretation of the pandemic, participants were asked to report how much they agreed with the statement that “the coronavirus is spread particularly quickly by migrants and refugees.” Robustness checks were carried out with an additional variable capturing migration interpretations of the pandemic, asking how much they agreed with the statement that “migrants and refugees in Germany/Switzerland do not comply with social distancing.” These analyses showed similar results.

To measure conservative partisanship, a binary variable was created from individuals' self-reported identification with political parties. For Germany, conservative partisanship included partisans of the far-right AfD and centreright CDU/CSU; for Switzerland, it included members of the far-right SVP and center-right CVP and FDP.

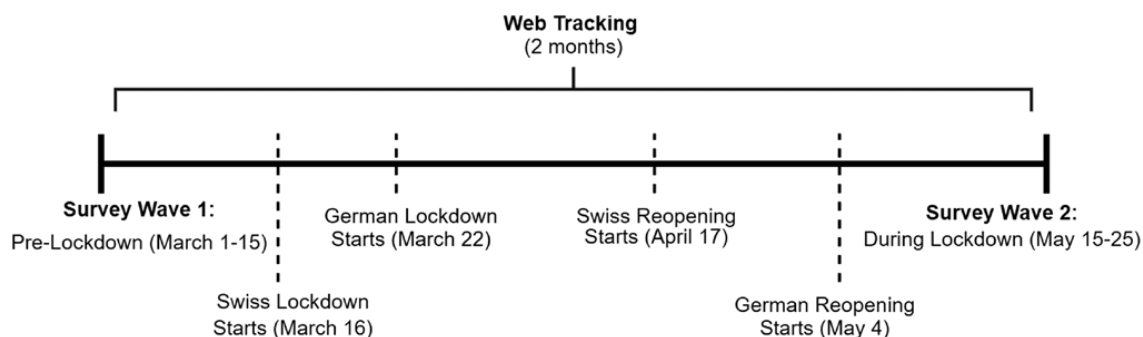


Figure 3. Organization of Survey Waves and Webtracking.

News consumption measures.

I measured the consumption of news linking the issues of migration to COVID-19 through the use of webtracking data collected. Here, I focused exclusively on tabloid and conservative outlets (CH: Blick, 20Minuten and Welt Woche; DE: Bild and Welt), as research has shown a propensity of these news formats to discuss migration in sensationalist and often negative terms (Maurer et al., 2019; Niggemeier, 2018). The readership variable is constructed through a three-step automated content analysis process based on methodology employed by networked agenda setting (Vargo & Guo, 2017). First, for each participant, I filtered websites visited to preserve only visits to these tabloid and conservative sites. Here, visits to home pages of news websites were also filtered, as it is possible for migration and COVID-19 news to appear as separate articles. Second, from these news site visits, I kept only those articles that dealt with COVID-19 and the pandemic by applying a keyword search. Each article must mention “COVID” or “corona” at least three times. Third, I applied a filter to these remaining articles on COVID-19 to keep only those discussing migration. For this, I applied a filter based on a list of previously validated (F1 score = 0.91) migration keywords (Lind, Eberl, Heidenreich, & Boomgaarden, 2019), keeping only news articles mentioning one of these keywords at least twice. I therefore only kept news articles that originated from a tabloid/conservative newspaper and mentioned both the topics of COVID-19 and migration. While the method is simple, recent work has highlighted the advantages of such dictionary methods on trace data when compared with supervised machine learning (e.g., de León & Trilling, 2021; de León, Vermeer, & Trilling, 2023), including their transparency and interpretability (Makhortykh et al., 2022).

To validate this approach, a random sample of 95 webpages were selected for manual inspection. A codebook was developed for this validation procedure, where news stories were coded as linking migration to COVID-19 when they actively create an association between the two issues. Therefore, a story that at one point mentions migration, and then ends by separately mentioning COVID-19 case numbers would not be coded, while a story reporting on how “Turkey does not accept migrant returns because of Corona” would be coded. Of the sample, 70 HTMLs correctly contained information linking migration topics with the COVID-19 crisis. This resulted in a precision of 0.74.¹

To provide a more concrete idea of the content analysis, I provide some examples (translated from German) of articles extracted for the manual coding employed for validation. They include articles linking migration to pandemic aid (“Federal government to protect 5000 refugees from Corona,” “The federal government wants to take over the costs for foreign corona patients,” “Thousands of asylum seekers submit applications despite corona border controls”), articles linking migration to increased infection numbers and

lack of social distancing (“Ellwangen: Riddles about the high number of corona-infected migrants,” “Procedure Initiated: Asylum seekers escape from quarantine home,” “Large-scale operation in Halberstadt – riots in the asylum home under quarantine,” “Refugee home in Saxony-Anhalt: Corona tests every 48 hours,” “At Schönefeld Airport: Quarantine breakers come to deportation prison!”), and articles discussing the effects of the pandemic on the asylum and migration systems (“Deportation of Afghan immigrants put on pause because of Corona,” “US immigration freeze with exceptions for farm workers,” “Turkey does not accept migrant returns because of Corona”).

To account for the possibility that the relationship is driven by general tabloid and conservative paper readership, an additional variable was created capturing total consumption of these media. Furthermore, it could be that the relationship is driven by general migration news readership, and not news linking the crisis to migration. It is therefore important to control for this variable, in order to separate our relationships of interest from simple agenda setting around the issue of migration despite the pandemic, and not in combination with it. To address this, I create a measure capturing general migration news exposure. This was done across a broader sample of news outlets, as the intention was to capture general attention to migration news consumption, and not the specific slant expected from tabloids and conservative news, taken from de León et al. (2022). A similar procedure for automated content analysis with followed, with the application of the migration dictionary created by (Lind et al., 2019). Following existing research using measures constructed through digital trace data (e.g., Guess, 2021), as well as for ease of interpretation, webtracking variables were split into four categories, based on their relative distribution: no consumption, low consumption, medium consumption, and high consumption.

Analysis

To answer Hypothesis 1 on the issue of migration losing salience during the pandemic, I conduct a *t*-test between Wave 1 (before lockdown) to Wave 2 (during lockdown). Considering the time period is nested within the same respondents, rather than simply cross-sectional, this is a conservative estimate of issue displacement. As a placebo test, I conducted *t*-tests on two other migration-related variables where no change is theoretically expected: perceptions that migration increases crime, and perceptions that migrants take jobs that would otherwise go to Swiss and German citizens. Such a placebo test allows us to rule out that there was no generalized drop in attitudes throughout the survey, and to show that issue salience works through its own mechanisms.

To answer Hypothesis 2.1 and Hypothesis 2.2 on whether migration issue survival is contingent on individuals linking the issue of migration to COVID-19 and conservative partisanship, I conduct a series of OLS regression analyses. In these, I model change in migration importance ($Importance_{i2} - Importance_{i1}$) as a function of a migration interpretation of the pandemic. To account for potential confounding variables, controls for demographic characteristics, general political interest, and migration issue salience in Wave 1. To account for country-level effects, I introduce a dummy variable that captures whether participants were interviewed in Switzerland or Germany.

To address Hypothesis 3.1 and Hypothesis 3.2 on the role that the media and conservative partisanship play on

¹ It should be noted that our sampling procedure (only taking cases predicted as positive) only allows for the estimation of how accurately the automated process is able to correctly assign positive cases, and not how well it is able to correctly identify them. Therefore, I can only provide evaluation metrics based on the rate of predicted positives—precision, described in the equation $Precision = \frac{TP}{(TP+FP)}$, and not the standard accompanying Recall and F1 Score. Here, TP signifies true positives (number of predicted positive cases that were indeed positive) while FP signifies false positives (number of predicted positive cases that were actually negative).

adopting a migration interpretation of the pandemic (the cognitive link between migrants and COVID-19 that is at the center of the issue survival model), I conduct a series of OLS regression analyses. Here, I model the likelihood of an individual adopting a migration interpretation of the pandemic as a result of readership of news connecting these two issues, as well as identifying as a conservative partisanship. To address Hypothesis 4 on the moderation effect of conservative partisanship on the relationship between media consumption and cognitive linking, an interaction effect is introduced between conservative partisanship and COVID-19-migration news consumption. I control for a number of potential confounders, including the ones listed for testing Hypotheses 2.1 and 2.2, but also webtracked consumption of tabloids, and total migration news read (as documented in Section 3.2). In an attempt to account for offline news consumption, controls for self-reported general news readership and public service viewership were introduced. All variables used in these analyses are presented in Table 1, along with their respective descriptive statistics.

Results

Figure 4 allows us to address H1 on the displacement of migration attitudes by illustrating the results of a two-tailed *t*-test on immigration importance from Wave 1, before lockdown, to Wave 2, during the lockdown. Here we can observe that migration attitude salience suffers a small (−0.15) but statistically significant ($p < .001$) drop from Wave 1 to Wave 2. With these results, I confirm H1, showing that the importance of migration dropped during the COVID-19 pandemic. Serving as a placebo test that the pandemic led to broad decreases in every migration relation attitude, Figure 5 conducts the exact same analysis but for migration variables where we have no theoretical expectation of change—perceptions that migrants increase crime, and that migrants take jobs that would otherwise go to the Swiss or German. Both variables show a small change of 0.052 and 0.046 that is not statistically significant ($p = .159$ and $.246$). Robustness checks where the analyses are performed individually for each country separately confirms the results.

H2.1 proposed that migration issue survival is contingent on individuals linking migration to COVID-19. Table 2 tests this hypothesis by displaying the results of an OLS model predicting changes in migration salience as a function of a migrant-centered interpretation of the pandemic—whether respondents believed that migrants were more likely to spread COVID-19—along with a series of control variables. The results show that a one-point increase in this belief leads to a 0.118 increase in migration salience from Wave 1 to Wave 2. This effect is in the expected direction, being tied with issue survival, and highly statistically significant ($p < .001$), despite controlling for potential confounders, including general political interest and numerous demographic characteristics. With these results, we can confirm H2.1, showing that migration-centered interpretations of the pandemic are related to issue survival. Table 2 also allows us to address H2.2, which expects that conservative partisanship is linked to migration issue survival. We see a positive (0.145) and significant effect ($p = .02$) of this variable, showing that identifying as a conservative partisan is associated with an *increase* in migration salience throughout the pandemic. Nevertheless, the effect of the Migration-COVID Issue link is significant and stronger, despite the partisanship variable, suggesting that thinking of the pandemic through a migration lens explains changes in migration salience above and beyond what conservative partisanship can.

The second part of the model on issue survival suggested that media plays a key role in forming the attitudes linking the “victim” issue (migration) with the “killer” issue (COVID-19). This argument resulted in H3.1, which suggests that consumption of news linking migration and COVID-19 is linked to the belief that migrants spread COVID-19 faster than the rest of the population. I test this in Model 1 of Table 3. We see that news consumption of this type has a positive (0.162) and significant ($p = .04$) effect on the migration interpretation of the COVID-19 pandemic, offering initial evidence to confirm H3.1. This model also addressed the suggestion that the effect could simply be the result of following tabloids and conservative news, instead of news linking migration and COVID-19. To account for this alternative explanation, I add control

Table 1. Summary Statistics for Variables Used in Analysis

Variables	Mean	SD	Min	Max
Key variables of interest				
Change migration salience	−0.10	0.95	−4	3
Migrant interpretation of the pandemic	2.27	1.24	1	5
Articles read linking COVID-19 and migration	1.33	0.80	1	4
Conservative partisan	0.28	0.45	0	1
Control variables				
Articles on migration read	2.18	1.17	1	4
Tabloid pages read	2.12	1.17	1	4
General news use	3.26	1.52	1	5
Public service TV news use	3.92	1.31	1	5
Age	47.32	15.29	18	75
Education	2.34	0.61	1	3
Gender (1 = Male, 2 = Female, 3 = Other)	1.43	0.50	1	3

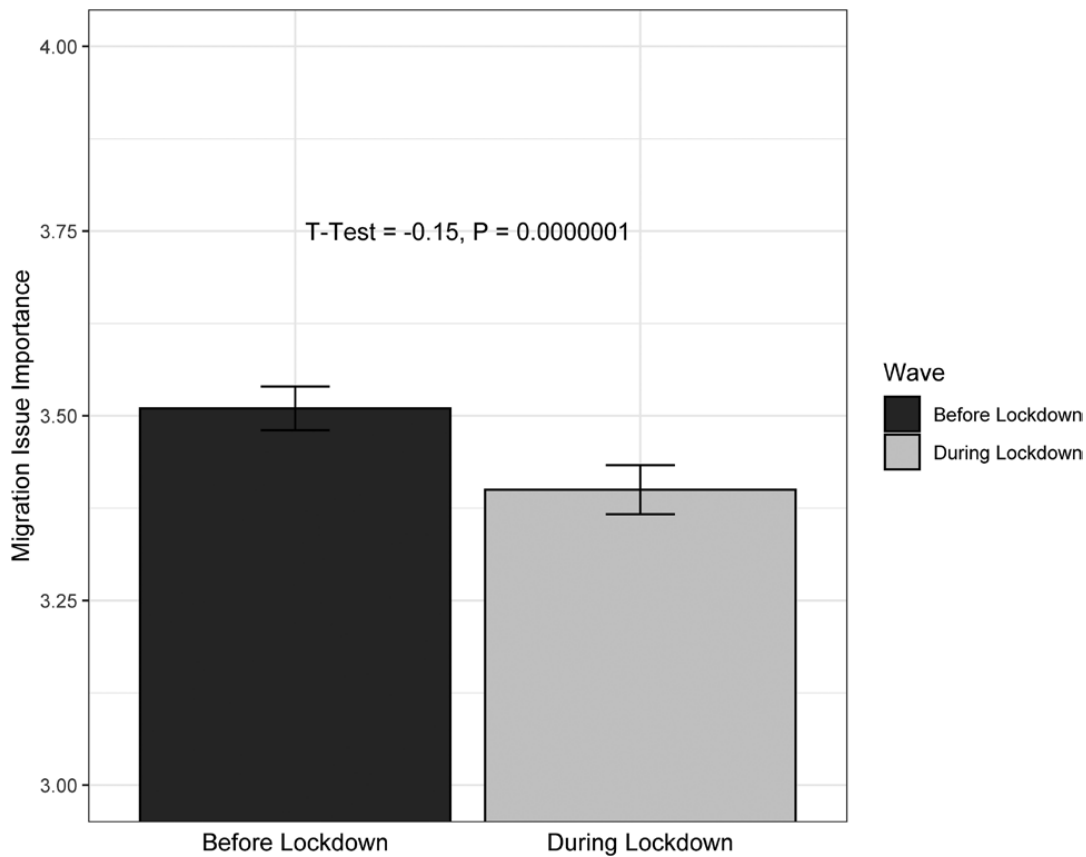


Figure 4. T-Tests Showing Change in Migration Issue Importance.

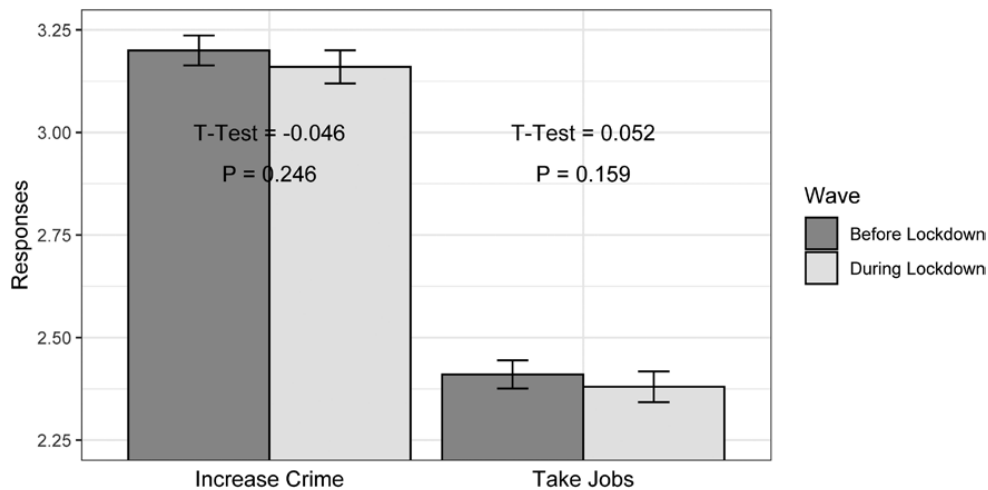


Figure 5. T-Tests Showing Change in Placebo Variables where no Change is Expected: Opinions that Migrants a) Increase Crime, and b) Take Jobs from Locals.

variables for the webtracked readership of these papers, leading to no significant effect. Furthermore, I control for total migration readership—here we see a *negative* and significant effect ($p = .02$), of about the same magnitude as our main variable of interest (-0.150).

Model 1 also allows us to evaluate H3.2 on the relationship between conservative partisanship—specifically, for whether an individual identifies with conservative (CVP in Switzerland and CDU/CSU in Germany) or far-right parties (SVP in Switzerland, AfD in Germany)—and a migration interpretation of the pandemic, as individuals could be receiving these

migration-COVID-19 cues from party elites, or previous ideological stances. As expected, this variable has a large (0.553) and significant ($p < .001$) effect on migration interpretation of the pandemic. Nevertheless, the main variable of interest remains significant despite this strong effect.

In Model 2 (Table 3), I control for potential confounders of these relationships. This includes the crucial variable of an individual's previous levels of migration importance. It is likely that individuals for whom migration was an important issue before the pandemic will adopt a migration interpretation of the pandemic. We find that this is the case, with a strong (0.282) and

Table 2. Model Predicting Change in Migration Importance as a Function of Migration-COVID Attitudes

	Dependent variable:
	Change in Migration Importance
Migration-COVID issue link	0.118*** (0.025)
Migration importance W_1	-0.539*** (0.031)
Conservative Partisan	0.145* (0.066)
Age	0.002 (0.002)
Education	0.019 (0.049)
Gender	-0.020 (0.058)
Political interest	0.099** (0.030)
Country	-0.081 (0.060)
Constant	1.147** (0.231)
Observations	811
R^2	0.275
Adjusted R^2	0.268
Residual SE	0.810 (df = 802)
F statistic	38.004*** (df = 8; 802)

Note: + $p < .1$; * $p < .05$; ** $p < .01$; *** $p < .001$.

significant ($p < .001$) effect on migration interpretations of the pandemic. Moreover, the model controls for self-reported news readership, public service television viewership, political interest, and key demographics (age, education, and gender). While both the main variables of interest were slightly reduced in their effect size (migration COVID-19 readership to 0.128, and conservative partisanship to 0.478), both relationships remain statistically significant to their previous levels. This allows us to confirm both H3.1 and H3.2.

Lastly, we turn to Model 3 of Table 3. By introducing an interaction effect between Migration-COVID Article Readership and Conservative Partisanship, we can evaluate whether the effect linking COVID-19 articles with a migration frame and the migration interpretation of the pandemic was moderated by ideology, as expected by H4. While the effect size is in the expected direction, the effect is statistically insignificant, leading us to reject the hypothesis. These results suggest that the effect of media consumption on a migration interpretation of the pandemic is not moderated by ideology—in other words, the effect of this news readership is the same for conservatives and non-conservatives.

As robustness tests, all models were recalculated with the use of an alternative measure of the migration interpretation of the pandemic: the idea that “Migrants and refugees in Switzerland/Germany do not adhere to the contact ban.” As reported in Supplementary Tables A1 and A2 in the appendix, while effect sizes change slightly, all the main variables of interest remained in the same direction, approximately the same size, and of similar statistical significance. Lastly, all models were rerun using robust heteroskedasticity-consistent standard errors. These include three versions: original White standard errors HC_0 (White, 1980); HC_1 , which adjust for degrees of freedom (MacKinnon & White, 1985); HC_2 , which adjusts for leverage values (MacKinnon & White, 1985); and HC_3 , which accounts for autocorrelation (White, 1984). As reported in Supplementary Tables A3 through A6, while standard errors shift slightly, all main

variables of interest remain statistically significant at their original levels.

Discussion

This paper proposes a model for understanding how societal issues remain politically salient to citizens in the face of large-scale crises—a process key to the understanding of public opinion. To do so, the case study of COVID-19 crisis is explored with a focus on the displacement of the issue of migration. I argued that migration remained salient to those who evaluated the pandemic through a migration lens, believing the COVID-19 crisis was linked to migration concerns. This belief, I argue, is related to individuals’ media use—specifically, the readership of sensationalist and conservative media framing the pandemic through a migration lens (e.g., reporting on refugee centers as breeding grounds for COVID-19). The model suggests that these relationships must provide an effect that goes above and beyond the effect that existing ideology (in the case of migration, conservatism) has on these relationships.

Following this logic, the study first shows that overall, migration was indeed displaced as an issue during the COVID-19 crisis. In line with other work on issue competition, as well as research on the public agenda during moments of crises (Brosius & Kepplinger, 1981; Dennison, 2019; McCombs & Reynolds, 2002), I identify a small yet significant drop in the importance of migration following the first COVID-19 lockdown in Switzerland and Germany—a clear shift in public opinion. Second, following the argument that issues survive large-scale crises when individuals can make a cognitive connection between the crisis and the displaced issue, I test the model by examining the effect that migration-centered interpretations of the pandemic—namely, that migrants and refugees are more likely to spread the virus—had on migration displacement. Results showed that individuals linking migration and COVID-19 saw the salience of migration *increase* during the pandemic. Here, I also show that conservative partisanship played a key role in issue survival. Third, with the use of individual-level web behavior data, the study provides evidence for the proposal that cognitive connections linking migration and pandemic are related to reading news that frames the COVID-19 crisis in migration terms. In line with work on networked agenda setting (Vargo & Guo, 2017), the results suggest that the media has the ability to influence not only *what* citizens think about but also how citizens connect issues. The evidence presented therefore suggests a relationship between pandemic-migration issue links in the media, pandemic-migration cognitive links at the individual level, and, finally, the survival migration as a politically salient issue.

Interestingly, there was no evidence suggesting that conservative partisanship moderates the relationship between media linking migration to COVID-19 and a cognitive migration interpretation of the pandemic. This suggests that the effect of such news readership is *not* dependent on ideology—the relationship occurs across conservatives and non-conservatives. This can likely be explained by the news sample selected for analysis: featuring prominent tabloids used by both the right and the left, it is likely that the potential effect was obscured by a lack of selectivity.

This paper provides important insights into public opinion during the COVID-19 pandemic. It shows that displacement did take place on the migration issue, in line with classical understandings

Table 3. Models Linking Media Consumption to a Migration-COVID-19 Interpretation of the Pandemic

	Dependent variable:		
	Migration Interpretation of the Pandemic		
	(1) Base	(2) Controls	(3) Interaction
Migration-COVID articles readership	0.162* (0.066)	0.128* (0.064)	0.091 (0.072)
Conservative Partisan	0.553*** (0.094)	0.478*** (0.093)	0.310* (0.171)
News readership (self-report)		-0.064* (0.031)	-0.064* (0.031)
Public Service Viewership (self-report)		-0.018 (0.034)	-0.018 (0.034)
Migration importance W1		0.282*** (0.044)	0.279*** (0.044)
Age		-0.001 (0.003)	-0.001 (0.003)
Education		-0.148* (0.069)	-0.153* (0.069)
Sex		-0.060 (0.084)	-0.064 (0.084)
Political interest		-0.155*** (0.046)	-0.153*** (0.046)
Total migration readership	-0.150** (0.046)	-0.099* (0.045)	-0.101* (0.045)
Total tabloid readership	0.035 (0.050)	0.033 (0.048)	0.035 (0.048)
Country	0.184* (0.085)	0.214* (0.088)	0.216* (0.088)
Migration-COVID articles Readership × Conservative Partisan			0.122 (0.104)
Constant	1.880*** (0.155)	2.089*** (0.339)	2.159*** (0.344)
Observations	828	815	815
R ²	0.067	0.152	0.154
Adjusted R ²	0.061	0.140	0.140
Residual SE	1.205 (df = 822)	1.154 (df = 802)	1.154 (df = 801)
F statistic	11.792*** (df = 5; 822)	12.017*** (df = 12; 802)	11.203*** (df = 13; 801)

Note: + $p < .1$; * $p < .05$; ** $p < .01$; *** $p < .001$.

of issue agenda fluctuation (Zhu, 1992). However, inquiring into the opposite mechanism—issue survival—is a fruitful exercise. This study shows that there are nuanced attitudes about migration that condition its displacement from the agenda: Specifically, an individual's ability to evaluate migration, not as something separate from the crisis, but rather something informing the pandemic, greatly increased chances of issue survival. This speaks to the malleability of political issues in a rapidly evolving political climate. Lastly, this study highlights the importance of media narratives accentuating the role of migrants and refugees during the pandemic. While a causal path cannot be established, results show that reading this type of content was related to a stronger belief in migrants' role in the pandemic—an attitude crucial to issue survival.

By themselves, these results are important, adding to the evidence of xenophobic attitudes during the pandemic; as a whole,

they tell a bigger story on the dynamics of public attention during a crisis. This model of issue survival therefore contributes to public opinion beyond the case study of the COVID-19 pandemic. It allows for an evaluation of public opinion during acute moments of crisis that incorporates both external cues, as well as preexisting beliefs and attitudes, in understanding what issues the public considers to be politically important during moments when all attention is focused on a dominant issue. Untangling how issues remain salient in such periods is important not only in understanding public opinion during crises but also in what follows, as issue survival plays a key role in setting the political agenda in the period proceeding a crisis.

It is important to recognize the shortcomings of this study. First, it is undeniable that political elites play a role in the linking of issues and, therefore, in issue survival. This study cannot

completely account for elite rhetoric or the effect that these cues might have had during this period, as the research design does not allow us to untangle the effect of partisanship from elite cues. Future research should aim to uncover more carefully separate news media effects from the effects of elite cues. Second, the study makes use of a combined sample of Germany and German-speaking Switzerland. Despite the overlaps in these countries' media markets, by combining these samples the study ignores contextual variables that might affect the relationships documented here. Third, the measure of migration issue salience is different from most studies in the literature, which usually employ a 'most important problem' item in measuring issue salience. Therefore, the changes registered here cannot be directly compared to these cases. Lastly, the research design employed for this study does not allow for the establishment of any causal claims. While I attempt to address potential confounding variables in the analysis, it is likely that there are more complex causal paths in the relationships documented here. Nevertheless, I hope this is the start of a research agenda that will more carefully prod at the causal dimensions of issue survival.

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Biographical Note

Ernesto de León is a PhD Candidate at the Institute of Communication and Media Studies, at the University of Bern. He is interested in questions related to political news consumption and its effect on political identities and behavior, as well as the role that social network sites play in an electorate's engagement with news.

Supplementary Data

Supplementary data are available at *International Journal of Public Opinion Research* online.

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Paper 4

Hyperpartisan, Alternative, and Conspiracy Media Users: A Portrait

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Hyperpartisan, Alternative, and Conspiracy Media Users: A Portrait

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Abstract

The digital-led transformation of the information environment has fuelled the meteoric rise of niche media sites whose loose information standards are often accredited with rises in polarization, conspiracy belief, and misinformation. This paper makes the case for the study of hyperpartisan, alternative and conspiracy (HAC) media, painting a nuanced portrait of these users during the COVID-19 pandemic by detailing 1) who consumes HAC media; 2) how they access HAC media; and 3) how HAC media consumption related to opinions on the COVID-19 pandemic. To do so, the study employs a unique combination of panel surveys taken before and after the first COVID-19 lockdowns in Germany and Switzerland, and webtracking data capturing participants' online behaviour. Our results show that those exposed to HAC media have a strong distrust of government, and place themselves at the ideological extremes. We demonstrate that social media was a quintessential entry point for such media, far outpacing its relative share for mainstream media. Lastly, we show that those who consumed HAC media developed distinct opinions about the threat posed by COVID-19. In follow-up surveys, respondents exposed to HAC media felt that the threat posed by the virus to health was a lot lower than those who were not. Instead, they believed COVID-19 posed a greater threat to their personal freedoms.

1 Introduction

The online ‘infodemic’ brought about by the global spread of COVID-19 is, to this day, one of the most concerning aspects of the pandemic (Zarocostas, 2020). The wave of conspiracies, hyperpartisan interpretations of the crisis, and misinformation that spread online raised concerns about the quality of information citizens were receiving, and the effects its consumption might have on public opinion and behaviour. This was especially concerning during the early days of the pandemic. During this time, when both governments and citizens were grappling for answers, consumption of such information has been argued to have had severe implications for individuals’ health, compliance with public health measures, and perceptions of the government (Allington, McAndrew, Moxham-Hall, & Duffy, 2021a, 2021b; Bursztyn, Rao, Roth, & Yanagizawa-Drott, 2020; de León, Makhortykh, Gil-Lopez, Urman, & Adam, 2022).

Hyperpartisan, alternative and conspiracy (HAC) media sites played a key role in the promotion and dissemination of this content. Hyperpartisan media, as sites with explicit ideological goals that override the conventions of objectivity in journalism have been under scrutiny due to their promotion of biased and polarizing content (Rae, 2021). This behaviour extended into the pandemic in the form of sites such as Politikstube and PI News accusing the German government of fabricating the crisis to concentrate power. Alternative media, as self-described correctives to the mainstream (Holt, Ustad Figenschou, & Frischlich, 2019), became hot-points for speculation about the reality of the pandemic (Boberg, Quandt, Schatto-Eckrodt, & Frischlich, 2020; de León et al., 2022), with regular content on Swiss swprs.org and German kenfm.de on how the media ‘propaganda machine’ was hiding the reality of the pandemic from its citizens. Conspiracy media, as sites dedicated to, or regularly promoting content related to conspiracy theories, were also prominent hosts of untrustworthy information (Chou & Budenz, 2020; Moffitt, King, & Carley, 2021), with sites such as Spirit Online and Kla TV promoting everything from miracle cures to prominent warnings of the ‘New World Order’. Together, HAC media sites account for a large share of the information that was of such high concern during the Infodemic.

While there is broad consensus that the information produced by these sites is problematic both at a societal level (Del Vicario et al., 2016; Swire-Thompson & Lazer,

2019) and in the specific context of the pandemic (Zarocostas, 2020), the evidence on who uses these sites, how they access this content, and its consequential relationship with political behaviour 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, produces systematical biases in analyses, especially in the context of the start of the pandemic. 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, Mayerhoffer, Reinhardt, & Knupfer, 2020; Mayerhoffer, 2021; Nygaard, 2020) and engage with users through social media platforms (Boberg et al., 2020; Sturm Wilkerson, Riedl, & Whipple, 2021; Thomas, McDowell-Naylor, & Cushion, 2022), it provides limited information on how individual users engage with such content in a broader population – a question which remains much understudied today. The second issue relates to studies that do focus on the individual-level: most of these studies rely on self-reports of HAC media consumption and exposure. Research has documented in detail how self-reported measures of media usage can suffer from recall and desirability biases (Parry et al., 2021; Prior, 2009; Scharkow, 2016). This problem only becomes more acute with niche HAC media websites whose readership is often socially frowned-upon (Muller & Schulz, 2021; Schulze, 2020). The third shortcoming comes from 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 hyperpartisan, alternative, and conspiracy media sites in the special context of the pandemic (DiMaggio, 2022; Eberl, Huber, & Greussing, 2021; Pereira, Silveira, & Pereira, 2020). Lastly, most work has been situated in ‘routine’ contexts – however, people’s online engagement with media changes drastically during periods of exceptional attention to the news (Leon, Vermeer, & Trilling, 2021), including the pandemic (Van Aelst et al., 2021). Individual engagement with HAC media during the COVID-19 pandemic – and specifically, during the first wave of the pandemic – is thus chronically understudied.

This study hopes to reassess past evidence with data that allows us to analyse actual observed participant consumption of HAC media, and subsequently link usage of such sites to individual level traits and attitudes. To do so, we make use of a unique combination of

panel surveys of nationally representative samples of Germany and German-speaking Switzerland paired with webtracking data which passively recorded participants' desktop web behaviour during a two-month period following first lockdowns in Europe. Such data allows us to provide real-world answers to three pressing questions on individual's 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 relates to access – as sites with niche publics, how individuals were exposed and brought into this content is crucial in understanding the reach of these sites. Webtracking of participants' browsing activity during a two-month lockdown period allows us to accurately record not only actual visits to these sites but also the 'real' navigation patterns that resulted in such exposure. The third area of focus centres on the relationship HAC media consumption has with key attitudes during the pandemic: participants' COVID-19 threat perceptions. Incorporating surveys taken after lockdown and following webtracking, we assess how HAC media consumption was related to perceptions that COVID-19 was a threat to individuals' health and whether it was a threat to personal freedoms.

2 Theory and Expectations

2.1 Hyperpartisan, Alternative, and Conspiracy Media

Many terms have been used to refer to the niche media websites that have emerged with the rise of digitalization and pose significant challenges to normative ideas of information consumption. This includes the rise of news media websites that deviate from classical understandings of journalism, but also 'bottom-up' blogs and mixed media websites that provide a platform to ideas that previously had none. Specifically, the adjectives of alternative (de León et al., 2022; Holt et al., 2019; Mayerhöffer, 2021; Muller & Schulz, 2021; Schulze, Mauk, & Linde, 2020), conspiracy (Bessi et al., 2015; Hindman & Barash, 2018) and hyperpartisan (Barnidge & Peacock, 2019; Pennycook, McPhetres, Zhang, Lu, &

Rand, 2020; Rae, 2021; Stier, Kirkizh, Froio, & Schroeder, 2020) have been employed to typify media sites producing content considered to be mis(or dis-)informing, conspirational, intentionally polarizing, or downright false.

While there is a lot in common between these sites, we argue that the different approaches used in defining and discussing these analytical categories are all useful in their own right. Take the conventional definition of ‘alternative’ media – news sites with a self-proclaimed opposition to the mainstream, serving as a corrective to an establishment they see as corrupt (Holt et al., 2019) – and compare it to hyperpartisan media – sites that provide news content embedded with ideological interpretations to the point of abandoning conventional norms of objectivity (Rae, 2021). While the overlap is clear, focusing exclusively on a single one of these categories would lead to the exclusion of sites that are of analytical interest as hyperpartisan sites are not necessarily alternative, and alternative sites are not necessarily hyperpartisan. Similarly, while alternative and hyperpartisan media are likely to occasionally feature conspiracy theories, they are distinct from media sites dedicated to such coverage. This includes an array of media sites promoting a mix of anti-system political, spiritual, and health conspiracies, without either a clear political orientation or a professed opposition to the mainstream news media (Hindman & Barash, 2018).

In this study, we propose that the similarities of these websites – namely, their anti-elite outlook and the normative concerns associated with their content – make it necessary to not study a single one of these categories, but rather all. Hyperpartisan, alternative, and conspiracy (HAC) media, therefore, recognizes an expression of a larger information phenomenon taking place online. Furthermore, this phenomenon is not limited to sites that fill all the categories of news, as has been done with alternative news. Increasingly, people get information from sites that do not try to present themselves as official news sources, but rather lie on a spectrum between an official-looking news website and mixed media blogs. Doing so allows us to capture the long-tail of information consumption online. Lastly, the context of COVID-19 made the importance of the HAC analytical category ever more apparent, with the blending of health misinformation, conspiracies of world domination, and opposition to the mainstream information sources taking place at both extremes of the ideological scale.

We argue that the use of the combined 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-ness 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. It immediately invokes desires for partisan interpretation of events, anti-elite attitudes, and general distrust of the media, in a way that other adjectives fail to do so.

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

Predictors of hyperpartisan, alternative, and conspiracy (HAC) media have been examined in disparate bodies of work. While studies have analysed these correlates individually, three variables stand out as playing a significant role along all these three media types. The first is trust in the media, understood as the level of confidence a participants have in what they understand to be in ‘the media’, as well as in commercial and public service news outlets (Adam et al., 2022). Audience-perspective work show 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, Shehata, & Andersson, 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, Castro, & Esser, 2021) hyperpartisan (Heft et al., 2020), and conspiracy media (Craft, Ashley, & Maksl, 2017).

Similarly, political trust is associated with HAC media consumption. Generally, citizens who believe that the government and political system is unresponsive to their needs, and that politicians do not have their best interests at heart, are more likely to seek out media that is supportive of 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 harbour 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. Studies have shown how most hyperpartisan news is selectively accessed by those with political leanings residing in the extremes (Stier et al., 2020). This includes both those on the left and the right of the political spectrum, with anti-establishment attitudes that draw extremes from both sides of the isle to these types of websites (Barnidge & Peacock, 2019).

We build on this body of work by a) reassessing the evidence with the use of webtracking data of participants’ engagement with these sites, b) combining hyperpartisan, alternative, and conspiracy media into a single category, and c) estimating whether these characteristics hold during the first wave of the pandemic.

2.3 How was Hyperpartisan, Alternative, and Conspiracy Media Accessed?

Our second focus is on individual access to HAC media. Past work has shown that individuals access mainstream media by directly visiting the sites (Moller, van de Velde, Merten, & Puschmann, 2020). Similarly, HAC media outlets can be accessed directly by individuals aware of their existence and actively interested in consuming its content. Considering recent observations on the low presence of news sites visits in individual media diets (less than 2 percents of the visits, (Wojcieszak et al., 2021)) and the prevalence of sites promoting mainstream views in individual level 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).

Under these circumstances, there is growing interest towards individual engagement with HAC media via information intermediaries. Such intermediaries, in particular social media and search engines, play an important role in today’s online world (Stier, Mangold, Scharkow, & Breuer, 2021). Serving as information gateways for their users, who are exposed to other information sources (e.g., legacy outlets, but also HAC media) through the intermediaries’ algorithms, social media and search engine can enable incidental exposure to HAC media. Unlike direct visits to HAC sites discussed above, incidental exposure does not necessarily involved intentional seeking of information coming from such sites; instead, individuals can stumble upon HAC content which is prioritized by the intermediary’s algorithms or their network of contacts (Thorson, 2020).

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, Roy, & Aral, 2018), and have shown how hyperpartisan media often result 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, Stecula, & Farhart, 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 to more carefully trace how this access occurs – a call that has been taken up for mainstream media (Scharkow, Mangold, Stier, & Breuer, 2020), but not with HAC media, especially in the context of the pandemic.

Unlike social media platforms which 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 the 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, Makhortykh, & Ulloa, 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, Urman, & Roberto, 2020).

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

Individuals’ understanding of the danger posed by the virus was crucial throughout the pandemic. Generally, those who understood the high threat COVID-19 posed to personal health and the healthcare system as a whole tended to more readily engage in protective behaviours, such as mask-wearing and social distancing (Schneider et al., 2021), and were later more willing to vaccinate (Fridman, Gershon, & Gneezy, 2021). Competing narratives about the actual danger posed by the virus emerged in the lead-up to lockdowns throughout the world.

Claims made by prominent actors, such as American President Donald Trump, that the virus ‘was not worse than the flu’ proliferated the idea that COVID-19 was actually not a threat to health. This had direct effects on preventative behaviours and health rule compliance, with reduced health threat perceptions leading to reduce compliance (de Bruin & Bennett, 2020).

Internationally, HAC media were key in proliferating the idea that COVID-19 did not pose a threat to health (Calvillo, Ross, Garcia, Smelter, & Rutchick, 2020; Recuero et al., 2022; Romer & Jamieson, 2021), with narratives of the health effects of virus being exaggerated by government and health officials featuring prominently on these websites. In this early stage of the pandemic, both evidence and opinions on the severity of the virus were

evolving, with little pre-formed and strongly held beliefs on this previously undebated subject. 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, Zaleskiewicz, Petrova, Garcia-Retamero, & Traczyk, 2020). This was a sentiment that was particularly prominent among actors on the extremes of the political spectrum, where the granting of emergency powers in Germany and Switzerland were equated with a move towards authoritarianism. Accusations of *Corona-Diktatur* (Corona Dictatorship) became widespread in discontent segments of civil society, whose calls for an end of restrictions and restoration of personal freedoms became a staple of COVID-19 policy resistance (Heinze & Weisskircher, 2022; Plumper, Neumayer, & Pfaff, 2021).

HAC media echoed and proliferated these sentiments. From criticism of restrictions as ‘the cure being worse than the disease’, to hyperpartisan takes 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.

3 Methods and Data

3.1 Sample and Data Collection

This study uses a combination of a panel survey and passively collected web-behaviour 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 took part 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 were accompanied by some attrition for both Germany (N=402) and Switzerland (N=462).

3.2 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 behaviour, recording not only the links visited by users, but also scraping the HTML 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, Metoui, Makhortykh, Trilling, & Moeller, 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-Bailón & Xenos, 2022), and b) allows us to run automated content analysis procedures to filter content and find previously unknown HAC media sites. This webtracked behaviour 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 behaviour. The advantages of such a novel setup have recently been discussed in detail (see Christner, Urman, Adam, & Maier, 2021; Stier, Breuer, Siegers, & Thorson, 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, email, 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 sceptical of such an approach. These concerns have received their own study, where we showed little to no systematic differences in political variables across participating and non-participating populations (*anonymous*). 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 resembles both countries' demographic distributions along the lines of age and income, however, there is an under-representation of lower-educated individuals relative to higher-educated ones, as well as over-representation (55%) of male participants (*anonymous*).

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 used 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 numerous days of online activity on tracked browsers were kept for the analysis, avoiding a situation in which participants install the tracker but never use that browser.

This project's webtracking plugin was transformed into an open-source tool now maintained by *anonymous* and available for free use.

3.3 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, Gentzkow, & Yu, 2019; Bach et al., 2021; Grinberg, Joseph, Friedland, Swire-Thompson, & Lazer,

2019; Guess, Nagler, & Tucker, 2019; Heft et al., 2020; Muller & Schulz, 2021; Schulze2020; 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 developed and applied to the behavioral data (see Appendix 2.1 for terms) – a list of domains was constructed. Third, existing content classification tools were used to detect populist radical right content and disinformation (see Appendix 2.1). Lists of domains in the webtracking data including content labelled as conspiracy, populist radical right, or disinformation were compiled. Lastly, the full browsing history (collapsed into domains) of the ten individuals with the most visits to these initial starting lists were hand-coded: five from Germany (two reporting to be on the far left, and 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 then 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 categorized websites as belonging to hyperpartisan, alternative, or conspiracy media on three levels: self-representation, structural features, and content elements of each site (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 labelling, 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 is available in Table 6 of Appendix 2.2).

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.

3.4 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 on the basis of the webtracking data. Second, we used navigation stamps available in URLs of the visited pages (e.g. ‘webpage.com/article-name/utm_source=Google’) to account for the cases when no information about the precursor web page was present (e.g. in the case the previous page was visited in the anonymous regime), as has been done in previous work (eg Wojcieszak et al 2022). To provide a meaningful interpretation of these results, we compare the intermediaries to HAC media to those of mainstream media.

3.5 Survey Variables

Based on the American National Election Study, *Political trust* ($\bar{x} = 2.87$, $\sigma = 0.94$) was measured by asking participants to respond to whether they trust that the government “is doing the right thing”. *Media trust* ($\bar{x} = 3.45$, $\sigma = 0.81$) was measured by creating a scale where participants rated their trust in ‘newspapers and magazines’, ‘commercial media’, and ‘public service media’ ($\alpha = 0.74$). *Extreme partisanship* ($\bar{x} = 0.26$, $\sigma = 0.44$) 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 ($\bar{x} = 2.81$, $\sigma = 1.16$) was measured by asking participants about threats posed “for my personal freedoms”. *Threat to health* ($\bar{x} = 3.47$, $\sigma = 0.88$) were measured by following the question with “for my and my family’s personal health”.

3.6 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 7 below), OLS linear

regressions are used, with threat perceptions in wave 2 modelled 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 and White 1985); and HC_2 , which adjusts for leverage values (MacKinnon and White 1985). This information, along with full original model specifications and alternative modelling strategies, is detailed in Appendix 1.

4 Results

4.1 Describing Hyperpartisan, Alternative, and Conspiracy Media Consumption

Figure 1 displays the top most 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 politikstube, pi-news, and dailykos receive a big 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

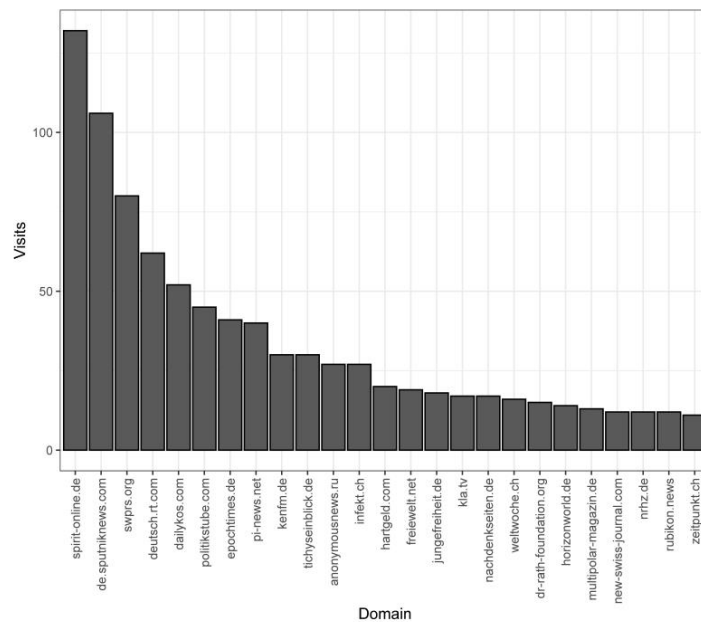


Figure 1: Top 25 Hyperpartisan, Alternative, and Conspiracy Media Sites Visited.

Alt. text: Figure 1 displays the number of visits to the top 25 hyperpartisan, alternative, and conspiracy (HAC) media sites in the dataset. The figure shows a negative binomial distribution, with a handful of sites receiving 75 plus visits, while the rest receive under 25.

of total visits – 3,452 in total, out of which 1,284 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 (164 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 59,448 visits, and 72.3% of the sample (872 participants) visited them once.

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 (70%) 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 (12%) for who 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.

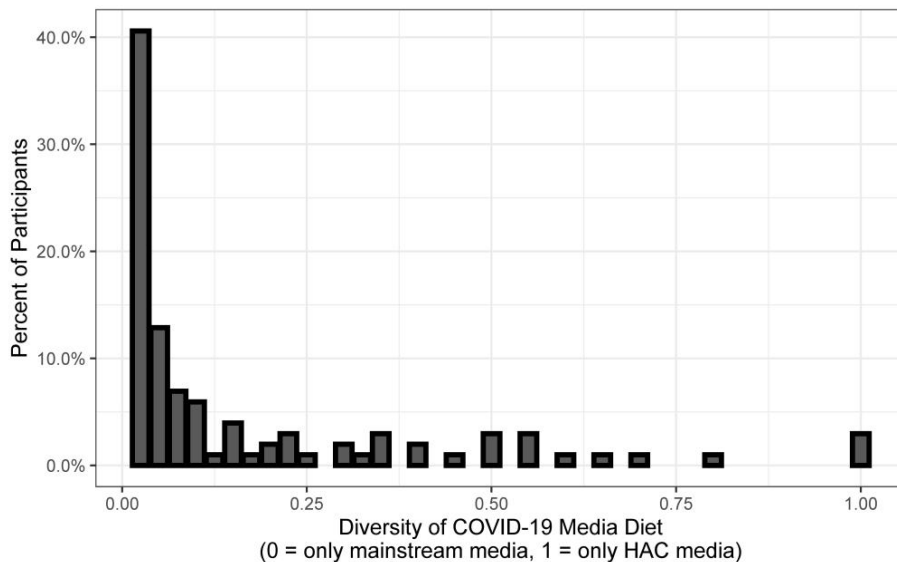


Figure 2: Diversity in COVID-19 Media Consumption

Alt. text: Figure 2 shows the diversity of the media diets of individuals who consumed HAC media at least once. The figure shows how most participants who consumed HAC media also mostly consumed mainstream media, displaying how HAC media was part of a broader information diet.

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

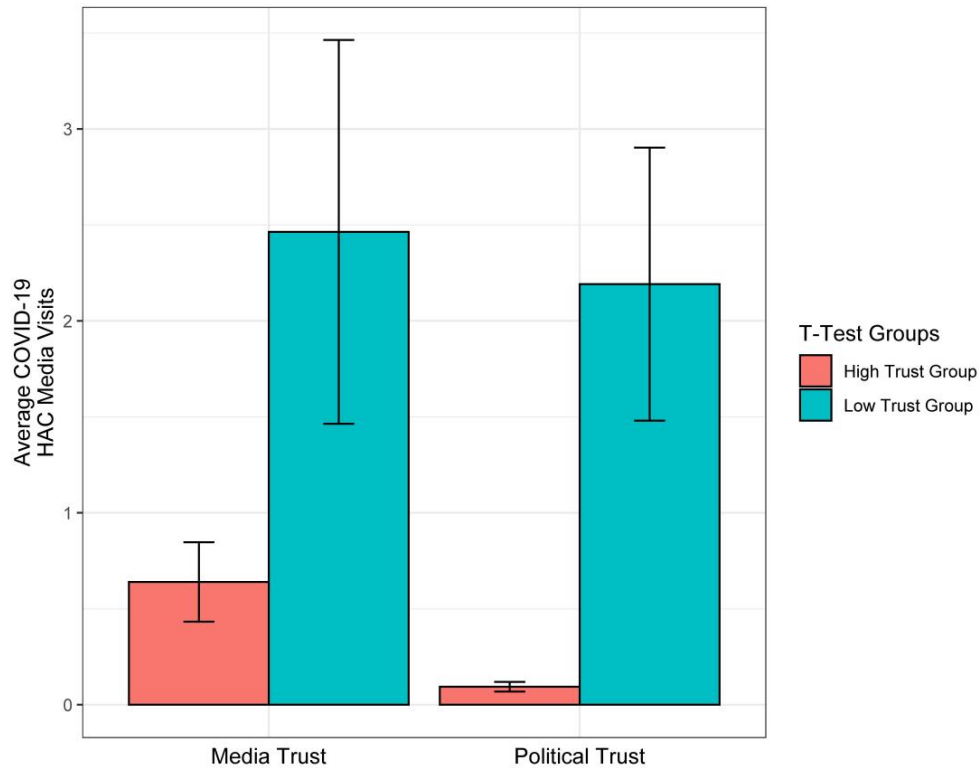


Figure 3: Hyperpartisan, Alternative, and Conspiracy COVID-19 Media Consumption by Political and Media Trust

Alt. Text: Figure 3 displays two sets of bar plots. The first set shows the difference in average HAC COVID-19 media visits for a subset of participants who had low trust in the media, and a subset who had high trust in the media. The second set of bars paint a similar picture, but for political trust.

Figure 3 displays the result of comparison of mean COVID-19 HAC media visits by those with low trust in media and politics, to those with high trust. This simple comparison allows for an immediate picture of two key underlying characteristics of HAC media users: their lack of trust. The average HAC media consumption for those with high media trust is 0.64 visits – this is well below the average for those with low trust, who consumed about four times this amount, at 2.46. An even more extreme picture emerges for political trust – even though the average HAC media visits for the low-trust political group is below that of the low-trust media group, at 2.19 visits, it is almost 25 times more visits than the high-trust group, who on average had only 0.09 visits. Such a comparison suggests that while those with low media trust consumed more HAC content overall, the within-variable differences

are most extreme for the attitude of political trust, with those trusting politics almost never visiting such sites.

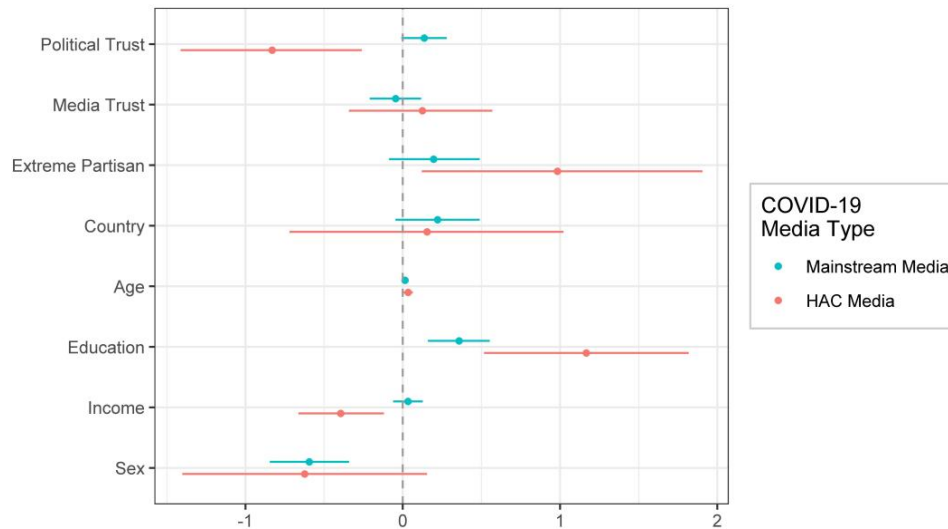


Figure 4: Negative Binomial Regression Models Predicting Consumption of Hyperpartisan, Alternative and Conspiracy COVID-19 Media and Mainstream COVID-19 Media

Alt. Text: Figure 4 showcases the result of two negative binomial regression models, the first predicting total COVID-19 HAC media visits, and the second predicting total COVID-19 mainstream media visits. It highlights the strong effect political trust and extreme partisanship have on HAC media consumption.

To explicitly test these differences, as well as to account for the potential confounding effects between these and other variables, a negative binomial regression model estimating variable effects on visits to HAC COVID-19 media was estimated. These are displayed in Figure 4, along with a comparison ‘placebo’ model, where the exact effects are estimated on mainstream COVID-19 media visits. The model in Figure 4 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 still 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 48% decrease in HAC COVID-19 media visited – a four step decrease (from highest to lowest political trust) is therefore associated with a 192% reduction in visits. Similarly, we see a strong and significant ($p < 0.001$) effects

produced by identifying as an extreme partisan. Our model suggests that when holding all other variables constant, a person who votes for the AfD, Die Linke, SP or SVP is associated with an 1.434 increase in the log of expected visits to HAC COVID-19 media (a 419% increase in total estimated visits). The model also shows, however, that the relationship previously identified between media trust and HAC media consumption is not completely robust: once we control for potential confounders, the effect loses its significance. 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 completely different effects on the ‘placebo’ mainstream model suggests that these results are robust. These effects are robust across several alternative modeling strategies (see Appendix 1.2).

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

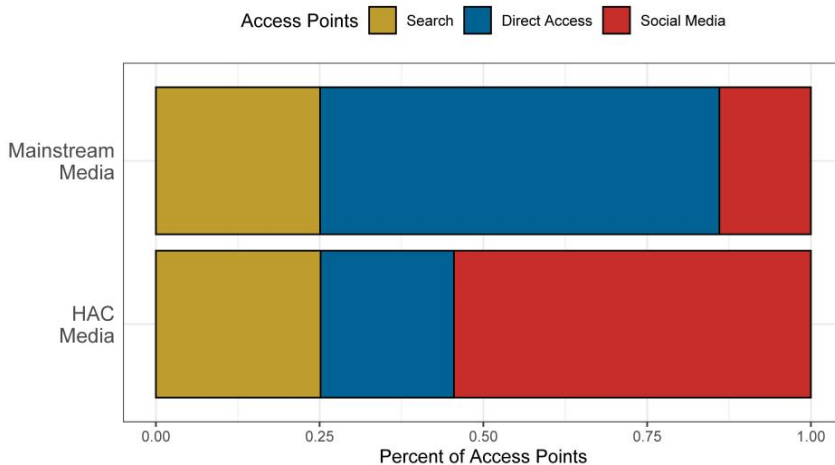


Figure 5: Intermediaries to Hyperpartisan, Alternative and Conspiracy COVID-19 Media

Alt. Text: Figure 5 shows a stacked barplot displaying how individuals accessed mainstream media, and how they accessed HAC media. The figure highlights the heavy importance of social media as an access point to HAC media, relative to directly visiting the sites, or using search engines.

Figure 5 provides a description of the total number of intermediaries to COVID-19 HAC media, and their relative weight. The difference in the prevalence of social media as an entry point stands out immediately. While for mainstream COVID-19 media, social media comprised 13.96% of all entry points, for HAC media it featured as over 54.49% 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 25.14% of identified entry points to HAC COVID-19 media were from

participants visiting these sites directly. On the other hand, direct access made up 60.94% visits to mainstream COVID-19 media. Such differences suggest that alternative media sites do not have a large segment of loyal readers that navigate directly to the sites - instead, most participants in our sample seem to 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 25% of all access, they feature as more important than directly navigating to the alternative media homepage. Nevertheless, the share is similar to that received by mainstream media, suggesting that search engines are equally important for both.

4.4 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 towards 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 where 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 paints an initial picture of HAC COVID-19 media exposure and threat perceptions. First, we examine the relationship between HAC media consumption and perceived threats to health: those who had at least one visit to COVID-19 HAC media had significantly lower health threat perceptions than those who did not visit these sites. We see that those who did visit these sites had an average threat perception of 2.35, almost 0.5 points lower than those who did not consume such content, who had an average health threat perception of 2.8. The opposite is true for perceptions that COVID-19 posed a threat to freedoms in the country.

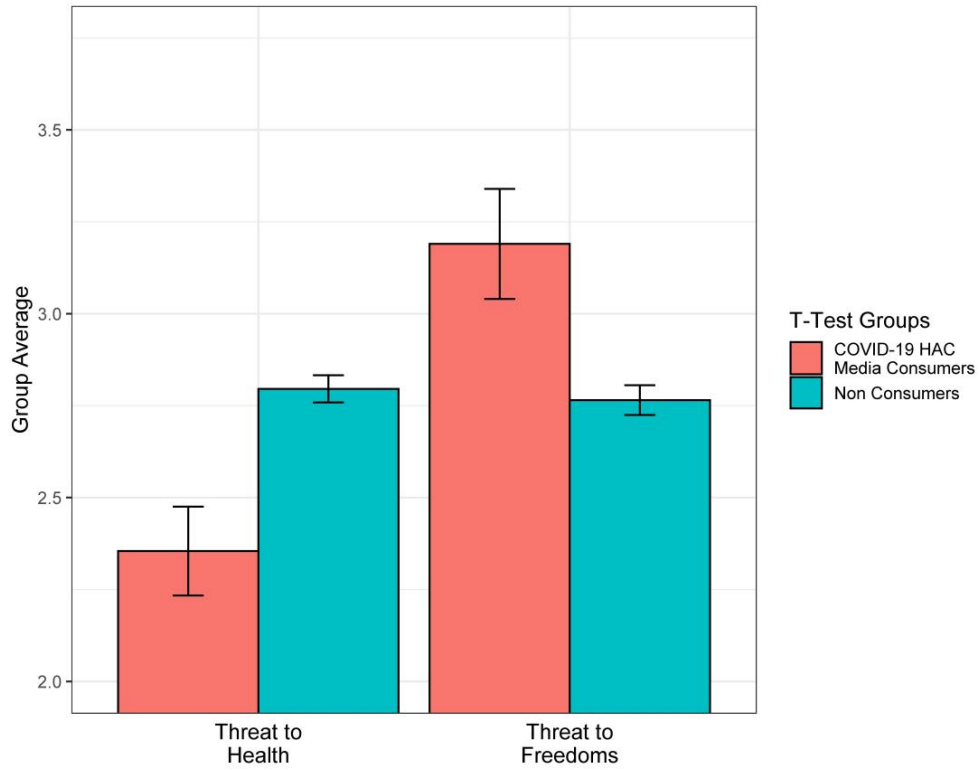


Figure 6: Differences in health and freedom threat perceptions in HAC COVID-19 Media Consumers

Alt. text: Figure 6 displays a bar plot comparing the threat COVID-19 posed to 1) personal health and 2) personal freedoms by those who consumed HAC media and those who did not. The bars show that those who consumed HAC media perceived the virus as a lower threat to health than those who did not but perceived it as a stronger threat to freedoms.

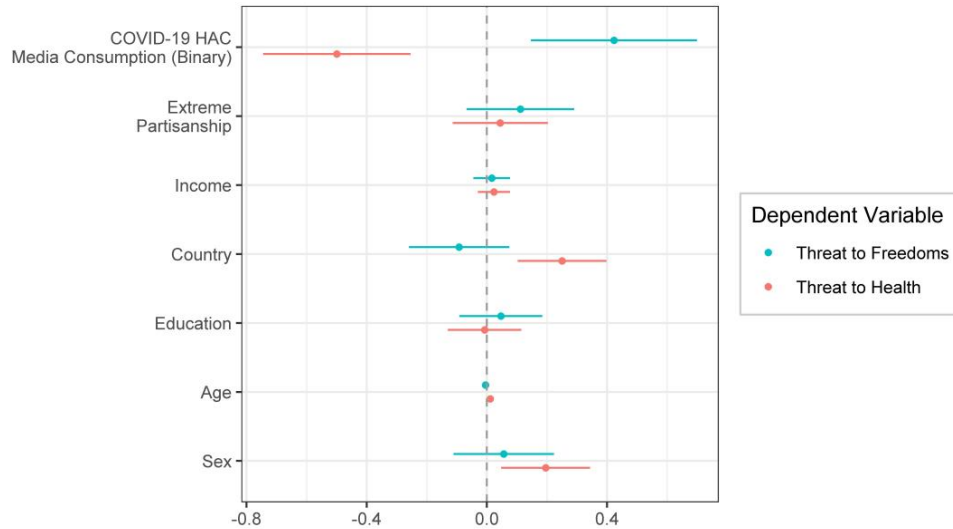


Figure 7: Models Predicting the effect of Hyperpartisan, Alternative, and Conspiracy (HAC) COVID-19 Media consumption on Threat Perceptions

Alt. Text: Figure 7 displays two OLS models estimating the threat COVID-19 posed to 1) personal health and 2) personal freedoms, as a function of whether they consumed HAC media or not, along with a series of control variables. It shows that HAC media consumption is significantly linked to increased perceptions of threats to freedoms, and decreased perceptions of threats to personal health.

Those who visited HAC COVID-19 media at least once had higher threat perceptions than those who did not – with an average threat perception of 3.19, this is an almost 0.4 point increase when compared to those who did not consume such content, with an average score of 2.76.

Figure 7 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. As suggested by Figure 6, the modelled 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.

5 Discussion

This study uncovers the dynamics of hyperpartisan, alternative, and conspiracy (HAC) COVID-19 media consumption in the time period directly following the first set of lockdowns in Germany and Switzerland. Because of the key role played by these media sites in the dissemination of polarizing, misconstrued, and conspirational information in the COVID-19 ‘infodemic’ (Zarocostas, 2020), the dynamics of its consumption at the individual level are crucial to our understanding of the relationship between individuals and information consumption during the pandemic. 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 COVID-19 media online; and 3) how HAC COVID-19 media consumption related to participants' subsequent opinions of the crisis.

Past survey research has highlighted the role that lack of media (Heft et al., 2020) and political (Schulze, 2020) trust play as drivers for people turning to HAC media. In this study, negative binomial regression models using behavioural measures of HAC media access illustrate that political trust is a much more important predictor of HAC COVID-19 media consumption than media trust. 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. This points to possible evidence of selective exposure, where citizens seek out information that is congruent with their distrust of the government in HAC media (Stier et al., 2020). Why media trust was not a significant predictor of HAC media consumption remains a puzzle. One possible explanation lies in the dynamics between political and media trust. These two variables are often interrelated, with their correlation pointing to similar latent attitudes (Ariely, 2015). It is therefore possible that it is not that media trust does not matter for explaining HAC media consumption, but rather that political trust matters above and beyond this relationship. Additional analyses, where political trust is removed as a covariate in the model, suggests this might be the case: without political trust, lack of trust in the media becomes a strong and significant predictor of HAC media consumption, in line with previous work (Heft et al., 2020). This might also be related to wording – it could be that participants understand the 'media' as including HAC sites.

We also 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 comes 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, while we see no significant difference for sex.

Our results show that social media was *the* key entry point to HAC COVID-19 media. Using individual level-data, 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 was key in exposing participants to media that was spreading untrustworthy information on 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 favour 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 for likeminded 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, Sang, & Kim, 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. Our results show clear evidence that, regardless of the mechanism at hand, social media played a crucial role in the exposure to COVID-19 content from HAC media sites.

Lastly, this study sheds light on the relationship between HAC media consumption and attitudes towards the coronavirus. 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 health. 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 behaviours, 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 exists between desktop and mobile browsing. Future studies should aim to 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. In light of 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.

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Paper 5

News, threats, and trust: How COVID-19 news shaped political trust, and how threat perceptions conditioned this relationship

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News, Threats, and Trust: How COVID-19 News Shaped Political Trust, and How Threat Perceptions Conditioned This Relationship

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Abstract

This study explores shifts in political trust during the outbreak of the COVID-19 pandemic in Switzerland, examining the role that media consumption and threat perceptions played in individuals' trust in politics. We combine panel surveys taken before and during the first nation-wide lockdown with webtracking data of participants' online behaviour to paint a nuanced picture of media effects during the crisis. Our work has several findings. First, political trust, an attitude known for its stability, increased following lockdown. Second, consumption of mainstream news on COVID-19 directly hindered this increase, with those reading more news having lower over-time trust, while the relatively minor alternative news consumption had no direct effect on political trust. Third, threat perceptions a) to health and b) from the policy response to the pandemic, have strong and opposite effects on political trust, with threats to health increasing trust, and threats from the government policy response decreasing it. Lastly, these threat perceptions condition the effect of COVID-19 news consumption on political trust: perceptions of threat had the

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power to both exacerbate and mute the effect of media consumption on government trust during the pandemic. Notably, we show that the expected negative effect of alternative news on political trust only exists for those who did not think COVID-19 posed a threat to their health, while public service news consumption reduced the negative effect produced by government threat perceptions. The paper therefore advances our understanding of the nuanced nature of media effects, particularly as relates to alternative media, especially during moments of crisis.

Keywords

Media effects, newspapers, public opinion, broadcasting news, internet, Western Europe

Introduction

Political trust has long been regarded as a cornerstone of successful and stable governance, especially for democracies. One of the reasons lies in political trust's crucial role in collective action policy making, which requires governments to take coercive steps that might be detrimental to some. Such collective action problems arise most saliently during moments of crisis, where the state must take measures to reduce harm even if it comes at some cost. Individuals' political trust therefore plays a key role in crisis response, as citizen's compliance with measures, especially ones requiring material or ideological sacrifice (Hetherington and Rudolph 2008), is largely shaped by their confidence that the political system is doing the right thing.

The COVID-19 pandemic is a clear-cut example of such a crisis. March 2020 in Switzerland, a country renowned for its decentralized government, saw the declaration of federal emergency powers not seen since World War 2: the country went into lockdown, a step that required individuals to make extreme material and ideological sacrifices as businesses closed and streets emptied. However, despite the devastating death toll and the harsh economic repercussions, emerging scholarship signals positive shifts in government approval and political trust in the immediate aftermath of the pandemic (Bosshard et al. 2021), a positive outcome that played a key role in citizens complying with these unprecedented measures.

Media consumption has been shown to influence political trust. This is especially the case during crises, when the need for information is stronger among the population as they turn to news media in search of orientation (van Aelst et al. 2021; Westlund and Ghersetti 2015). What information people are exposed to can therefore change their perceptions of the crisis and have direct effects on their behaviour (Gadarian 2010). We propose that such effects can be found on political trust during the pandemic, especially considering the tumultuous concerns of an "infodemic" and the increased media consumption during lockdown (van Aelst et al. 2021). We explore this proposition by addressing the effects of three types of media on political trust: public service media, whose perceived objective reporting served to orient citizens (Túñez-López et al 2020; Adam et al., Forthcoming),

what we term alternative anti-establishment media, which became safe havens for misinformation and radical opinions (Allington et al. 2021), and mainstream commercial media, whose consumption increased during the first wave of the pandemic (van Aelst et al. 2021).

We argue that the relationship between media consumption and political trust is, however, nuanced, and influenced by individual's perceptions of threats. The pandemic is quite a unique crisis in that threat perceptions were multifaceted: likely a function of precisely this unprecedented sacrifice asked of citizens, many in society felt an acute threat not only from the possibility of contracting SARS-CoV-2, but from the government itself, with diminished civil freedoms and deteriorating economy making "the cure worse than the disease". Since the initial wave of the pandemic, the differences in opinion on the degree of policy response—at their core, arguments stemming from how serious a threat the virus is—have led to significant ideological divisions throughout the world (Kritzinger et al. 2021). We argue that these distinct threat perceptions—from the government and/or from the virus—*moderate* the relationship between media consumption and political trust during the first wave of the pandemic.

To do so, we use a unique combination of data that includes a) two waves of panel surveys taken before and after the announcement of a lockdown in Switzerland, and b) two months of web tracking data of participants' internet browsing starting right after the announcement of the lockdown. This combination allows us to accurately track media consumption during the first wave of the pandemic, with both behavioural measures of online news, and self-reports of offline news consumption. Combining these measures with individual-level political trust, threat perceptions, and demographics, we are able to provide a granular analysis of the relationship between media consumption, threat perceptions, and political trust in the unfolding of a crisis.

Theoretical Framework

The Pandemic and Political Trust

According to decades of public opinion research, moments of crisis lead to a growth in government approval, across a variety of public opinion indicators (see e.g., Albertson and Gadarian 2015; Hetherington and Nelson 2003). Political trust is one of such indicators. While a multifaceted concept, we follow the Eastonian (Easton 1975) understanding of political trust as a form of "generalized" or "diffuse" support aimed at a set of political objects that include both key institutions such as parliament, as well as a diverse set of actors within these (van der Meer and Zmerli 2017). An amalgamation of trust in concrete political actors, as well as support of the more abstract founding principles of a political system, political trust is considered the "central indicator of the underlying feeling of the general public about its polity" (Newton and Norris 2000: 53; van der Meer and Zmerli 2017). It therefore bridges questions of government capacity to carry out the functions of governance, as well as normative expectations of the values upheld by leaders (Norris 2017).

Political trust is important for a functioning democracy, as it is consequential for citizens' political participation and diverse forms of engagement (Davies et al. 2021;

Levi and Stoker 2000). This is especially true during moments of crisis. Empirical work has shown how political trust is strongly associated with people's willingness to comply with laws and rules introduced by the government in response to crises (Marien and Hooghe 2011), especially among people that do not perceive the rules to be in their personal interest (Rudolph and Evans 2005). This relationship between political trust and compliance with government measures is also present in the context of the COVID-19 pandemic (Han et al. 2021), being relevant not only for politics, but also for public health, affecting citizens' compliance with the government's rules aimed at keeping death rates down. Studying changes in political trust is therefore particularly relevant in the unique context brought about by the pandemic.

Changes in political trust during the early stages of the pandemic have been examined by several studies—these have shown that the first wave of the pandemic led to generalized increases in political trust across democratic countries (e.g., in Denmark, (Baekgaard et al. 2020) New Zealand, (Sibley et al. 2020); Britain (Davies et al. 2021)). Of these studies, several go through considerable effort to attribute causality to the pandemic (e.g., Oude Groeniger et al. 2021). Increase in government trust during COVID-19 has also been reported for Switzerland (Bosshard et al. 2021), although based solely on cross-sectional data, which limits possibilities for studying trust fluctuations at the individual level, as well as its effects on other variables. Our study aims to account for within-individual trust fluctuations, seeking to answer the following research question:

RQ1: Did political trust change during the first COVID-19 pandemic lockdown in Switzerland?

Media Consumption and Political Trust

The news media, as a channel through which citizens are exposed to information, can shape perspectives on the government, and consequently affect political trust. This effect has been found to operate through a variety of mechanisms: media consumption can elevate the salience of specific issues in the public's mind, making them, for example consider more strongly a declining economy when articulating a trust evaluation (Hetherington and Rudolph 2008); tone and framing of news coverage can enhanced trust placed in politics (Brosius et al. 2019); and general exposure to news can increase familiarity with the political system and increase trust (Norris et al. 2000). This body of literature has produced mixed results, suggesting that the effect of media consumption on political trust is conditioned on media type. It is argued that there are systematic differences in media types that could result in either positive or negative effects on political trust (Hanretty 2010). Following this literature, we discuss the effect that three types of media can have on political trust during the pandemic: public service, commercial mainstream, and alternative anti-establishment media. Here we separate public service media, which arguably falls into "mainstream" news, from mainstream commercial, as the latter hold purely commercial incentives, while the former seek to serve the public interest, being required by law to stick to

objectivity and a balanced political agenda. As such, service public can be regarded as the purest counter-piece to what we have labelled alternative anti-establishment media, which we describe below.

Several studies have found that non-commercialized media, usually public service television broadcasts, have a positive impact on a variety of important attitudes and behaviours, including social trust (Schmitt-Beck and Wolsing 2010), current affairs knowledge (Soroka et al. 2013), civic attitudes (Newton 2016), and political trust (Ceron and Memoli 2015; Stromback et al. 2016), including in democratic institutions (Curran et al. 2009). Public service has the ability to bring those who do not typically follow political news into the fold of politics (Soroka et al. 2013), dedicating more space and prime hours to hard news that are usually reserved for entertainment on commercial broadcasters (Newton 2016). This therefore serves to decrease the gap in political knowledge, which in turn can incentivize trust as citizens become more familiar with the political system (Norris et al. 2000). This positive relationship can be further attributed to the type of coverage provided: more objective and of higher quality than commercial broadcasting, at least in its coverage of hard news (Newton 1999). This means that consumers are less subjected to the interpretative and sensationalist coverage that is often connected to cynicism in politics. The content is also distinct: more time dedicated to detailed coverage of issues and policies, the workings of democratic institutions, and pressing local matters has been linked to higher trust in institutions (Curran et al. 2009) and related attitudes (Newton 2016).

Public service media has been an important source of COVID-19 information throughout Europe. Its use increased with the beginning of the “infodemic” (Nielsen et al. 2020a, 2020b). In the case of Switzerland, Adam et al. (Forthcoming) showed that while trust in other sources of political news dropped throughout the pandemic, trust in public service remained stable. These observations can be attributed to the epistemic uncertainty at the time of the first lockdown encouraging people to turn to non-commercialized outlets (Bright et al. 2020; EBU 2020; FOG 2020; Nielsen et al. 2020a, 2020b; Túnñez-López et al. 2020). With existing scholarship showing a positive relationship between political trust and public media use, and considering the surge these media received during the pandemic, we formulate our first hypothesis:

H1: Consumption of public service news media is positively related to increases in political trust during the first wave of the COVID-19 pandemic.

Media that take different approaches to reporting can have the opposite effect. Such is the case with what we term “alternative anti-establishment” media (*alternative* for short). This media is alternative in that they do not report in an objectivity tradition (Coyer et al. 2007) but claim to be truth-telling substitutes of mainstream media (Larsson 2019). They are anti-establishment (Hartleb 2015) as they hold clear-cut political stances against the establishment (either on the left or on the right) and thereby put forward a strongly one-sided agenda (Barnidge and Peacock 2019). There is growing reference to these types of sites as “hyperpartisan” media (Barnidge and Peacock 2019; Larsson 2019; Stier et al. 2020). We prefer “alternative anti-establishment” to avoid the association that such

media are per se mirroring specific political parties—something quite complicated in multi-party systems such as Switzerland.

The use of alternative online news has received increasing attention (Guess et al. 2019; Pennycook and Rand 2019). These sites' anti-mainstream positioning provides a space for extremist interpretation of current events, drawing a public with a demand for news frames running counter to what they believe the mainstream narrative to be (Holt et al. 2019). Alternative news outlets are therefore able to fill important political information niches (Heft et al. 2020). The content produced by such sites need be understood as situated between a journalistic and a political movement "logic", with reporting and argumentation styles mimicking journalistic standards in their engagement with content, but still employing an activist interpretation of events (Mayerhöffer and Heft 2021). Claiming to provide a "corrective" to what is seen as a dominant public discourse emanating from mainstream media (Holt et al. 2019), they have been shown to draw-in audiences with a high interest in politics and strong ideological beliefs (Müller and Schulz 2021): on the right, for example, these sites are especially used by those with strong anti-migration attitudes (Schulze 2020). Therefore, these sites have often served as safe havens for radicalized opinions and disinformation (Pennycook and Rand 2019)

Their anti-establishment "corrective" reporting did not change with the pandemic: the mix of journalism and political activism followed previously identified patterns of exaggerating threats, being highly critical of public institutions and established political actors, as well as promoting COVID-19 conspiracies (Boberg et al. 2020; Motta et al. 2020). With their interpretative and often confrontational style, ideologically guided coverage is linked to increases in partisanship and affective polarisation (Levendusky 2013; Urman and Makhortykh 2021). This is a pattern that persisted throughout the pandemic, with recent studies highlighting the relationship of online partisan media to pandemic incompliance, including increased vaccine skepticism, reduced social distancing and mask wearing, as well as misinformation belief (Ash et al. 2020; Bursztyn et al. 2020; Elias and Catalan-Matamoros 2020). Considering that consumption of ideologically driven and alternative media is linked to reduced willingness to follow government policies (Jamieson and Albarracin 2020), we expect its consumption to have decreased political trust in Switzerland:

H2: Consumption of alternative anti-establishment news media is related to decreases in political trust during the first wave of the COVID-19 pandemic.

Regarding commercial mainstream news consumption, mixed effects have been found, with some pointing to a negative, videomalaise, effect (Robinson 1976), and others to a positive "virtuous circle" (Norris et al. 2000). Both the media malaise and virtuous circle hypotheses have been tested in mainstream media, providing contradictory effects, and, at times, no relationship at all. In their work, Stromback et al. (2016) argue that this could be a product of the increased news choice provided by the internet. As people increasingly go online for news, where the traditional journalistic gatekeeping mechanisms are not as strong, the relationship between media

consumption and political trust weakens. It leads us to formulate an open-ended research question:

RQ2: What is the effect of mainstream commercial media consumption on the development of political trust following the first wave of the COVID-19 pandemic?

Threat Perceptions, media Consumption and Political Trust

Threat perceptions play an important role in the formation of public opinion during a crisis (Albertson and Gadarian 2015; Hetherington and Nelson 2003). In the aftermath of terrorist attacks, for example, trust in government increases as a function of a public's heightened fear for their safety, psychologically coping by sheltering behind leaders (Landau et al. 2004). This was also the case for the COVID-19 crisis, with individuals who felt threatened by the virus trusting the government more (Kritzinger et al. 2021; Pérez-Fuentes et al. 2020). However, unlike other crises where threats are mostly external, the threat posed by COVID-19 might be perceived as not only coming from the virus itself, but also from government response to it. The drastic measures taken to curb infection rates—lockdowns, granting of emergency powers, closing of borders—had severe repercussions on the economy, civil liberties, and international relations. This is in line with work arguing that the dynamics of threat and public opinion hinge on the type of threat perceived (Albertson and Gadarian 2015). For example, Kritzinger et al. (2021) argued that economic threat perceptions from the pandemic functioned differently to health threat perceptions, with citizens holding “the government responsible for the economic consequences of the pandemic and sanction[ing] it accordingly with lower levels in government trust” (5).

Similarly, recent work has argued for an overtly negative relationship between threat perceptions and political trust if threats are “cognitively easily accessible” (Schlippach 2021) and attributable to the state. External threats, which are cognitively hard to hold the government accountable for, usually result in increases in political trust and government approval (e.g., the “rally” effect; Mueller 1970), while internal threats originating from migration or economic performance—policy areas more easily attributed attributable to the state—result in declining levels of political trust (McLaren 2012). We argue that during the first wave of COVID-19 in Switzerland, threat from the virus itself can be considered as an external threat, while threats originating from the policy response to the pandemic—read: to the economy, civil liberties, social cohesion—are internal and more easily attributable to the government. We therefore formulate the following hypotheses:

H3: Higher threat perceptions to health are linked to increases in political trust during the first wave of the COVID-19 pandemic.

H4: Higher threat perceptions of COVID-19 policy response are linked to decreases in political trust during the first wave of the COVID-19 pandemic.

The effects of threat perceptions and media consumption, however, do not take place in isolated vacuums; reading an article on how COVID-19 is a tool to usher in a new era of authoritarianism, for example, will likely have different effects on those who think the government is overstepping its power, to those who are fearing for their health. In other words, threat perceptions and media consumption interact with one another to create distinct effects on political trust. There are precedents for such formulations. We know from psychology that anxiety and threats can result in information seeking and susceptibility to opinion change (Brader 2006; Marcus et al. 2005). This relationship has been explored in relation to framing, finding that those most anxious were most susceptible to framing effects (Druckman and McDermott 2008). This line of argument was further extended during times when threat perceptions are most salient: national crises. Gadarian (2010) does precisely this by showcasing the interaction that takes place between individual's fear of terrorism and news consumption of the September 11 attacks, showing how "increased media consumption in combination with heightened threat will increase support for hawkish foreign policy" (472).

While our focus is not on hawkish foreign policy, Gadarian's general point on differential media effects for diverging levels of threat perceptions rings true: it is likely that the effect of media on political trust is conditioned on existing levels of threat perceptions. This is especially true considering that we are exploring media types with very distinct coverage of the pandemic, as well as two distinct types of threat perceptions that run in opposite directions. We therefore ask:

RQ3: How do threat perceptions moderate the effect of media consumption on political trust?

Methodology

Data

The study makes use of a combination of a panel survey and webtracking data taken of German-speaking Switzerland throughout two waves. The first wave took place in March, before the start of the lockdown on March 16th. The second wave took place between the 15th and 28th of May following the peak of COVID-19 deaths. Therefore, panel waves correspond to periods before and during the first spring lockdown. Webtracking, where participants agreed to have their internet browsing behaviour recorded, took place between waves 1 and 2 (from March 17 to May 26, 2020). Here, participants installed browser extensions that were specifically designed for the project and were based on the screen-scraping principle, namely capturing the web content appearing in the browser. Unlike other webtracking approaches (see Christner et al. 2021), screen-scraping approaches allows capturing not only the URL visited by the participants, but also the actual content viewed in the browser (Supplementary Information file, Appendix A). Limiting our sample to those who

participated in both waves, agreed to webtracking, and answered all relevant survey items, the sample was composed of 367 participants

Variables

To measure changes in political trust, we evaluated the differences in political trust vested by participants from wave 1, before lockdown, to wave 2. We measured political trust asking participants to rate their agreement (1 = do not agree at all, 5 = agree completely) with the following three items: “In most cases...a) one can trust in politics; b) politics cares about citizens; c) politics does the right thing” (wave 1 $\alpha = 0.87$, wave 2 $\alpha = 0.89$). We calculated the average of three scores per wave to measure the level of trust for wave 1 and wave 2 and then measured trust changes by subtracting wave 2 scores from wave 1 scores.

Media consumption is measured through several variables: self-reports to capture offline usage, and webtracking for online behaviour. Self-reported measures captured participants’ consumption of print newspapers and magazines (operationalized as commercial mainstream media), public service broadcasting (operationalized as public service TV), and “Die Weltwoche”, arguably the closest to an alternative anti-establishment print publication available in Switzerland (operationalized as print alternative news). These variables were coded on a five-point scale, ranging from no use to daily use.

Media consumption was also measured through webtracking data. We created two variables: COVID-19 news consumption from mainstream commercial and from alternative news sites based on lists of Swiss, German, and international online news outlets (see Appendix B). We enriched these data to determine exposure to COVID-19 news. A list of language-agnostic terms related to COVID-19 was constructed (‘covid19’, ‘coronavirus’, ‘covid-19’) – articles that included at least 3 mentions of these terms were labelled as COVID-19 news. The total consumption of COVID-19 news for mainstream commercial and alternative media were then aggregated, capturing online exposure to COVID-19 information over the lockdown period, identifying 31,530 mainstream COVID-19 news visits, and 375 alternative COVID-19 news visits (see Appendix C). In the regression models below, these variables are scaled by mean-centering and dividing by the standard deviation for better interpretability.

Perceptions of the threat posed by COVID-19 to health were measured through two questions regarding how much of a threat the respondents felt COVID-19 pandemic was for their personal health, and for the Swiss healthcare system ($\alpha = 0.7$). Perceptions of threat posed by the policy response to COVID-19 were captured by five items: threat to the economic system, personal liberties, democracy, cohesion of society and the international community ($\alpha = 0.76$). A confirmatory factor analysis confirmed this two-factor solution (Supplementary Information file, Appendix D). Descriptive statistics of key variables in the analysis are reported in Table 1.

We included demographics (age, gender, education, and income), partisanship, and political interest as control variables. The models also controlled for participants’ initial levels of trust at wave 1, assuming that changes in trust scores would be to a certain

Table 1. Descriptive Statistics of Main Variables of Interest for Observations with Complete Cases.

Statistic	Mean	St. Dev.	Min	Max
Survey Variables				
Change in Political Trust	0.209	0.693	-2	3
Political Trust Wave 1	3.119	0.801	1	5
Print Newspaper Consumption	3.741	1.159	2	5
Print Alternative Consumption	1.321	0.751	1	5
Public Service TV News Consumption	3.884	1.288	1	5
Threat Perceptions				
COVID-19 Threat to Health	3.031	0.814	1	5
Threat by COVID-19 Response	3.075	0.719	1.4	5
Webtracked Media Consumption				
Mainstream COVID-19 articles consumed	52.725	135.47	0	1,359
Alternative COVID-19 articles consumed	0.627	4.926	0	85

degree bounded by how high or low individuals' trust originally were. To illustrate, given a very low level of trust at wave 1, potentially, the change in scores observed between waves could have been quite large. The same could not be expected from an individual whose initial levels of trust were already at the scale's maximum, and even if trust remained high, the resulting change in scores would be 0.

Analytical Strategy

The study has two main stages of analysis. First, we aim to investigate whether there was an increase in political trust following the lockdown measures through Ordinary Least Squares (OLS) regression models. The second stage of the analysis links news consumption and threat perceptions to changes in political trust through OLS regression models. To ensure the reliability of our models¹, 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 and White 1985); and HC_2 , which adjusts for leverage values (MacKinnon and White 1985).

While we ultimately investigate *change* in political trust, we use static predictors as we are interested in documenting their status during the beginning of the pandemic. For media consumption variables, we assume a change in media consumption patterns, as it responds to and satisfies a growing need for orientation in times of crisis (see Van Aelst et al. 2021; Nielsen et al. 2020a, 2020b). Our focus is then placed on individuals' media consumption patterns during the lockdown. Therefore, we use both online tracking that took place during this exact period, as well as survey measures which were specifically phrased to ask participants about their consumption of different media in the weeks following the lockdown.

Results

Documenting Changes in Political Trust

Figure 1 shows the effect of lockdown on political trust and compares it to the effect on two other “placebo” political variables that should remain stable throughout time (see de Vries et al. 2021): political interest and migration attitudes. Our analysis revealed a unique, small, yet highly significant increase in political trust from wave 1, before lockdown, and wave 2, during lockdown.

Individual Level Predictors of Political Trust

Figure 2 evaluates the relationship between media consumption and threat perception on changes in political trust. We can observe that all news consumption variables, except for public service TV news, have a negative effect on political trust.. While the effect of public service TV consumption is in line with H1, the effect is insignificant. Similarly, while alternative anti-establishment COVID-19 news consumption has a negative effect on change in political trust, it is not significant, and we must therefore reject H2. In response to RQ2, we see that the consumption of mainstream COVID-19 news has a significantly negative effect on political trust ($p < 0.05$), with a one standard deviation increase in this news consumption resulting in a 0.075 decrease in trust. This means that the more mainstream news people consumed on the topic, the more they lost trust.

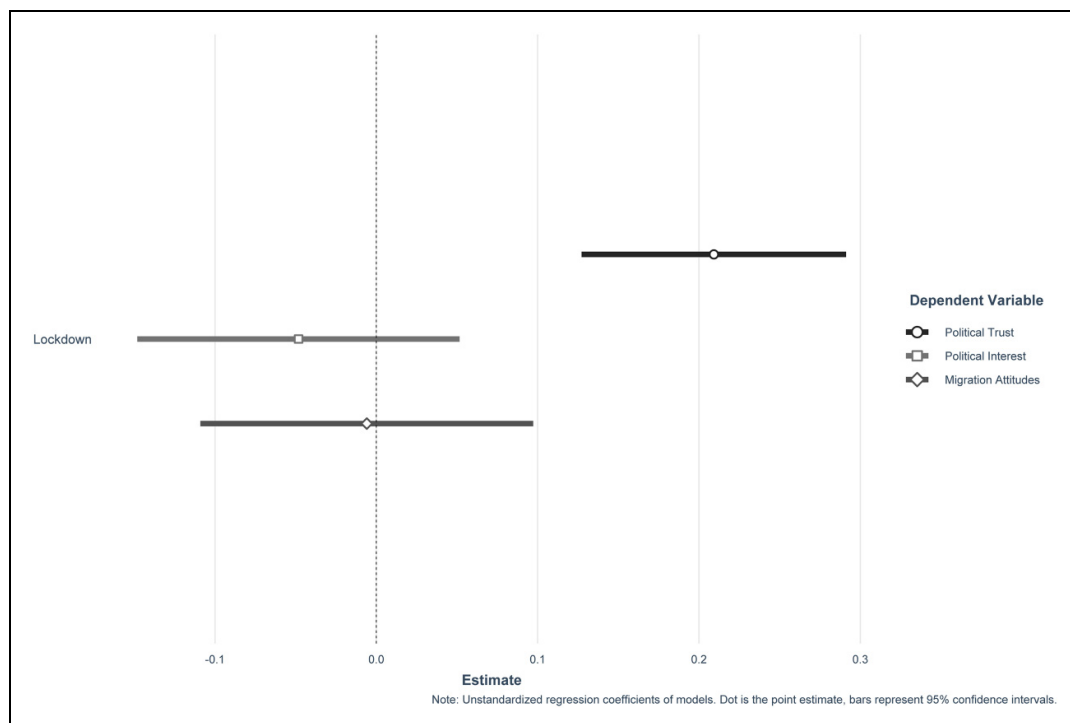


Figure 1. Effect of lockdown on political trust and placebos (political interest and migration attitudes).

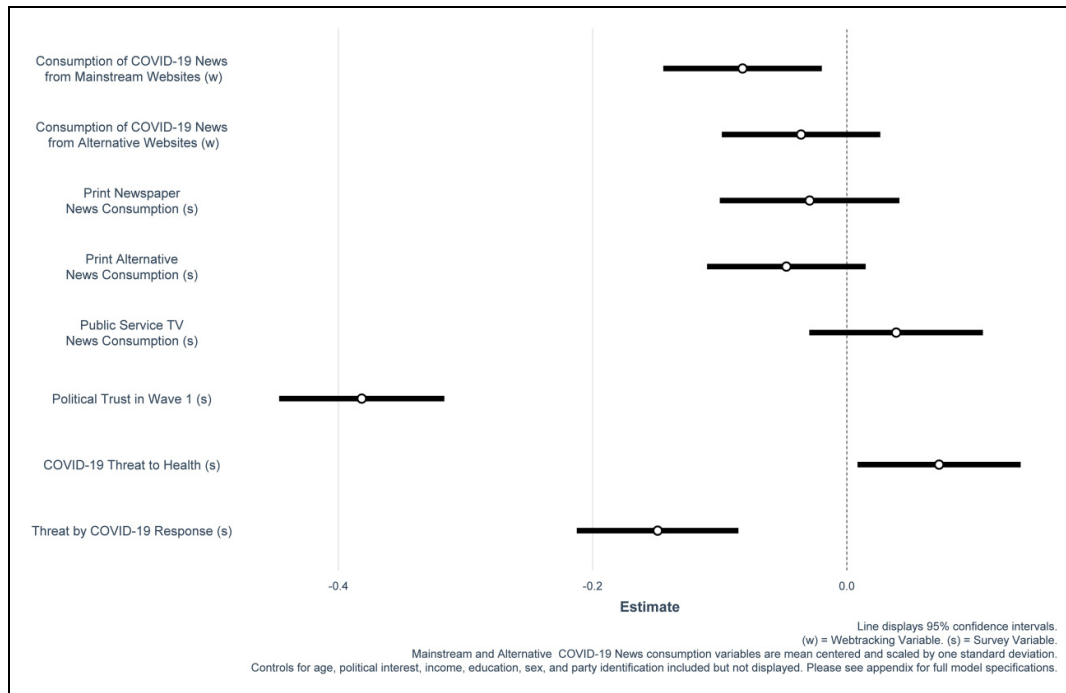


Figure 2. Models predicting change in political trust from Pre to during lockdown.

Figure 2 also addresses the role of threat perceptions on changes in political trust. We confirm H3, as a one-point increase in health threat perceptions lead to a 0.089 increase in political trust change ($p < 0.05$). Conversely, a one-point increase in perceived threats by the COVID-19 policy response results in a -0.207 reduction in political trust ($p < 0.001$), confirming H4. Results are significant across all three robust specifications.

In Supplementary Information file, Appendix E we report the effect of media consumption on threat perceptions, as well as test potential mediation paths. We find that public service media consumption has a strong effect on health threat perceptions, however, this relationship does not emerge in the form of mediation, and neither for COVID-19 news or alternative anti-establishment news consumption. We do however find and report some evidence of mediation for print alternative news consumption.

The Moderating Role of Threat Perceptions

In response to RQ3 on the moderating role of threat perceptions, we present two figures. The first, Figure 3, displays Models 2–4, which include interactions between media consumption (public service, alternative anti-establishment, and mainstream commercial) and *threats perceived by the COVID-19 policy response*. The second, Figure 4, displays Models 5–7, which include interactions between media consumption and *perceived health threats*. In all cases, the relationship points in the same direction: lower threat perceptions of either type lead to a negative effect on the relationship between media consumption and changes in political trust.

We start by evaluating the moderating role of perceptions of threat from policy response on media effects in Figure 3. Here, only the interaction with public service

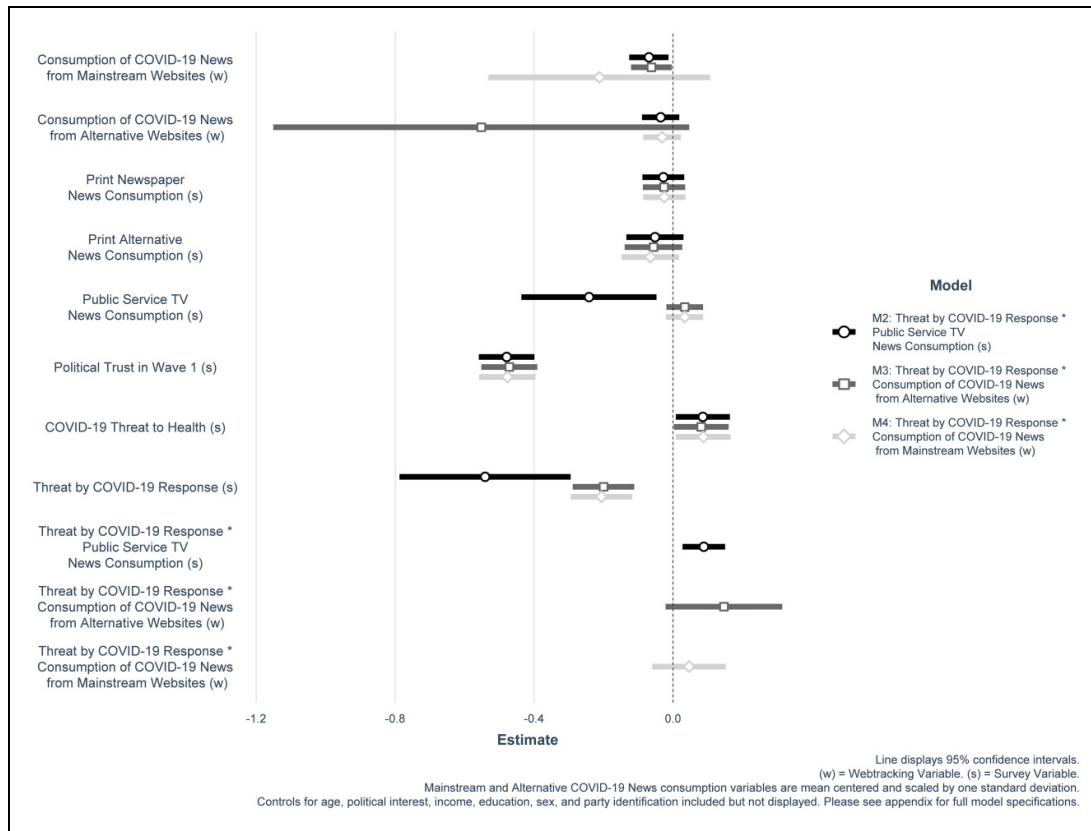


Figure 3. Interaction models predicting change in political trust from Pre to during lockdown (policy-response threat).

TV use (M2) is significant ($p < 0.01$ HC_0 , HC_1 , HC_2). This interaction shows that the higher the policy-response threat perception is, the stronger the trust-increasing effect of public service TV on political trust becomes, with an effect increase of 0.089. It seems that public service TV has the capacity to level out the negative effects of high policy-threat perceptions.

Figure 4 shows interactions between media consumption and health threat perceptions. M6 shows a robust and positive interaction effect between alternative anti-establishment news consumption and health perceptions ($p < 0.001$ HC_0 , HC_1 , HC_2). For those with lowest health threat perceptions, we now find a significant negative effect of alternative news consumption on political trust, shifting from a coefficient of -0.031 in M1 to -0.220 (in M6, almost a ten-fold increase that is highly significant ($p < 0.001$, HC_0 , HC_1 , HC_2)). M7 interacts health threat perceptions and mainstream media news consumption. The model shows a positive interaction ($p > 0.05$ HC_0 , HC_1 , HC_2): as health threat perceptions increase, the effect of commercial mainstream news (a negative effect) becomes weaker by 0.077, whereas for those who are least threatened health-wise, the negative effect on trust increases (from 0.075 in M1 to 0.291 in M7).

Figure 5 focuses on the *three significant interactions*: between threat from policy response and public service (M2), health threat perceptions and mainstream media

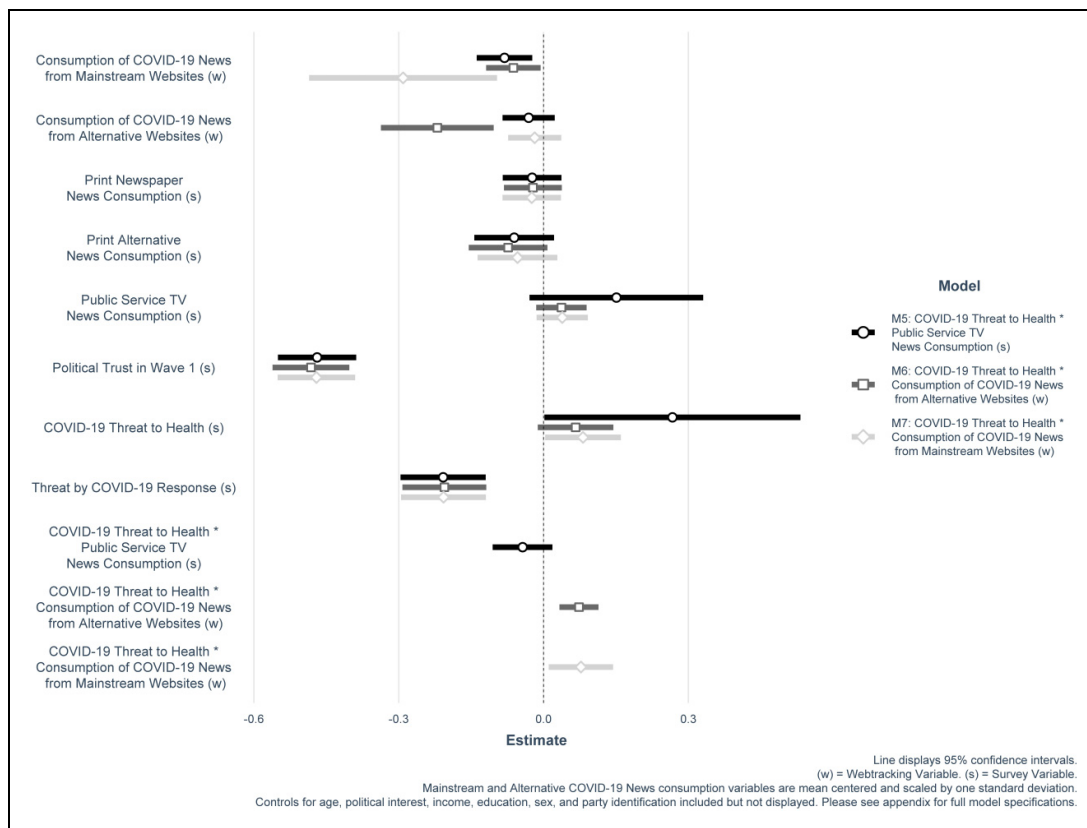


Figure 4. Interaction models predicting change in political trust from Pre to during lockdown (health-threat).

(M6), and health threat perceptions and alternative media (M7). The first row plots the marginal effects at each level of threat perception. The second row displays the effect of news consumption on change in political trust at the highest and lowest threat perception values. The first column looks at the interaction between public service TV consumption and threat from policy response. The marginal effect plot shows how the interaction is driven by those scoring above a 3 on threat perceptions: these individuals seem to have lower initial levels of trust—however, additional consumption of public service television makes them gain trust. This suggests that public service media has the ability to reduce the negative government evaluations of those who believe that the government action in response to COVID-19 poses a threat to society.

The second column shows the interaction of mainstream COVID-19 news consumption and the health threat posed by the COVID-19 response. In the marginal effects plot, we again see that lower health threats strengthen the negative effect of media consumption on political trust. This relationship is driven by those scoring below a 3 on health threat perceptions. In the second row we see that for those with lowest health threat perceptions, the more mainstream COVID-19 news consumed, the stronger the decrease in political trust becomes. In other words, more mainstream media consumption at low levels of health threat perceptions lead to a stronger negative change in political trust, while more mainstream media consumption at high levels of health threat does not impact change in political trust.

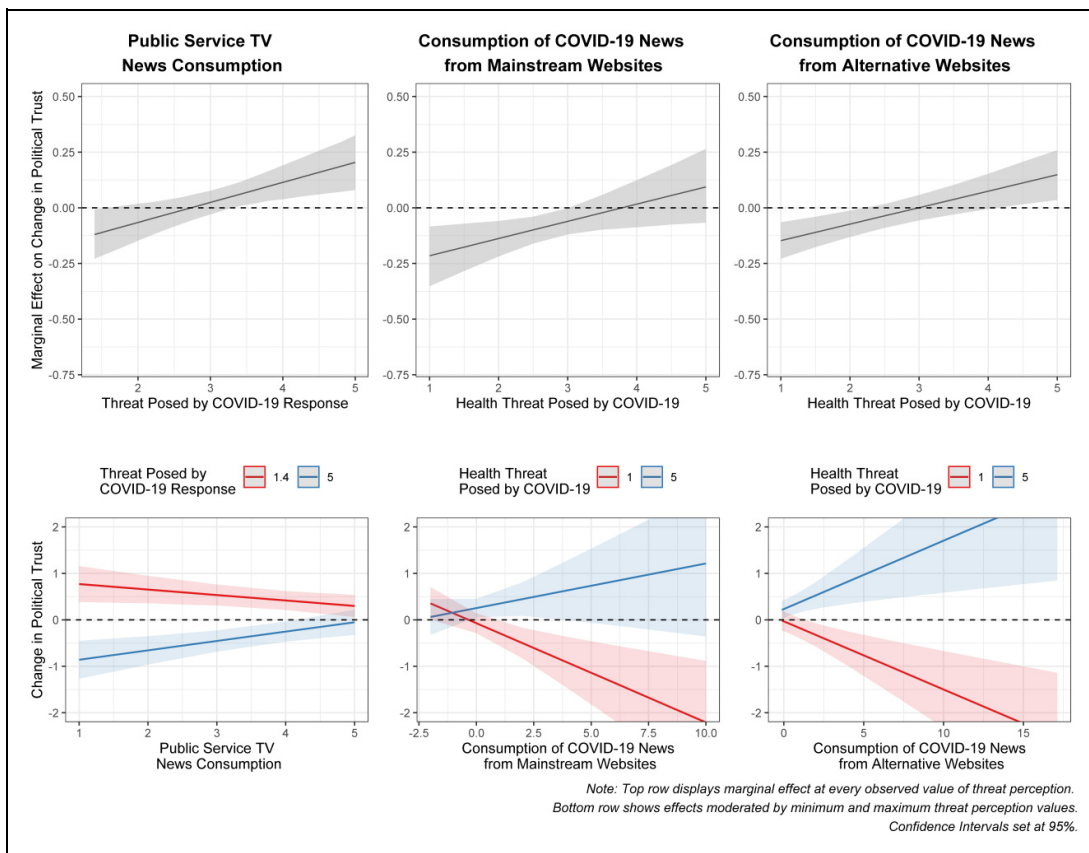


Figure 5. Marginal effects plots of interaction between news consumption and COVID-19 threat perception.

Lastly, we turn to the third column on the interaction between alternative anti-establishment COVID-19 news consumption and health threat perceptions. We see from the marginal effect plot that, unlike mainstream media, the change in effect is both true for the lowest and highest values of health threat perceptions. Here, we see that a 2.5 standard deviation increase in alternative news consumption leads to about a 0.5-point drop in political trust for those with lowest health threat perceptions. Interestingly, however, those with highest health threat perceptions saw their political trust grow the more they consumed alternative news. This result points to potential disconfirmation biases at work – in our results, alternative news was not able to lower the political trust of those who saw the virus as a real threat to their health. These individuals might have been exposed to content which we assume portrayed the pandemic in hyperpartisan and conspiratorial terms, but their belief that the virus was a real threat to their health trumped the framing proposed by these sites.

In response to RQ3 we therefore find strong evidence for a moderating role played by threat perceptions on the relationship between media consumption and political trust. Importantly, we find that media effects from alternative news and public service TV only discernable when differentiating between different levels of threat perception. This relationship is however nuanced; threat perceptions posed by COVID-19 policy response moderates the relationship for public service

TV but not for mainstream or alternative anti-establishment news consumption, with the opposite being true for health threat perceptions. Overall, lower threat perceptions of either type lead to a negative effect on the relationship between media consumption and changes in political trust, while the opposite is true for high threat perceptions. The relationship between health threat perceptions and mainstream and alternative news consumption is similar, with the interaction being driven by those with low threat perceptions trusting the government less the more media they consume. The relationship for public service TV is slightly different: here, we see the mitigating role that public service media plays, where those who feel very threatened by government measures seeing their decrease in political trust weaken the more public service broadcasting is consumed.

Placebo versions of all these models were conducted in Supplementary Information file, Appendix G, providing evidence that the results are robust.

Discussion & Conclusion

This study addresses the impact of media consumption and threat perceptions on political trust at the dawn of the pandemic in Switzerland. In the following section, we discuss our four main takeaways: First, political trust, an attitude known for its stability, increased following lockdown. Second, consumption of mainstream news on COVID-19 directly hindered this increase, with those reading more news having lower over-time trust. Third, threat perceptions to a) health and b) threat perceptions from the policy response have strong and opposite effects on political trust, with threats stemming from health increasing trust, and threats stemming from the government response decreasing trust. Lastly, these threat perceptions condition media effects on political trust: it is those who believed that the virus did not pose any threats to health who were most susceptible to negative effects from alternative and mainstream media. Our work therefore highlights the importance of existing attitudes when measuring media effects in today's high choice media environment.

The results of this study contribute to the growing body of work that seeks to understand changes in public opinion following the COVID-19 crisis. We provide robust evidence that the implementation of lockdown measures in German-speaking Switzerland was related to an increase in political trust. A key objective in this study was to understand who increased their political trust. By surveying the same individuals before and during the first lockdown, this study showed that demographic variables such as age, gender, income, and education level have no effect on the change. A strong determinant of whether individuals placed more trust in politics was the degree to which people perceived the pandemic as a threat. We find that those with higher threat perceptions from the virus itself saw their political trust rise, while those who felt threatened by the government policy response had the opposite effect, with falling political trust. While the first finding supports previous research on anxiety and rally effects (Albertson et al., 2015), our second finding adds nuance to the understanding of threats. A likely mechanism behind this second relationship could be related to perceptions of overzealous response to the pandemic, with critical individuals believing that the 'the cure is worse than the disease'.

Past work stresses the important role of media consumption on political trust, especially during crises (Hetherington & Rudolph 2008). Our statistical models support these findings by highlighting the significant relationship between media consumption and changes in political trust. Particularly, we find that consumption of mainstream news is linked to decreases in political trust. While small, the effect speaks to literature that has investigated the negative effects that crisis coverage can have on individuals: an abundance of negative information on the sickness, isolation, death brought about by the pandemic might have heightened sense of despair. In this sense, the effect is a product of volume, with overexposure to these tragic stories reducing people's belief that the government has control of the crisis, and therefore impacting their political trust. Interestingly, while we hypothesized that readership of COVID-19 alternative news would lead to a decrease in political trust, our results do not provide evidence of a direct effect between alternative news and political trust.

Our work shows that these media effects differ greatly depending on individuals' existing attitudes – specifically, perceptions of threat condition the relationship between media consumption and political trust. Our results show that for those who believe that COVID-19 does not pose a threat to health, increased consumption of mainstream or alternative news leads to stronger negative effects on change in political trust. For mainstream news, a likely explanation lies in cynicism. Those that do not feel threatened by the pandemic but consume lots of information on the topic are likely to think that the response is overstated, which in turn leads to less government trust. For alternative news, the answer likely lies in the content: it is plausible that the anti-establishment rhetoric promoted on alternative news sites rang truer to individuals who were already skeptical of how dangerous the virus was. This, in turn, results in a confirmation bias, with the information provided in alternative news pages confirming their existing belief that COVID-19 is not a real threat, and therefore further reducing political trust. We also note that the consumption of alternative news does not have a negative effect on political trust for those who believe the threat COVID-19 poses to health is real. Such a difference speaks to how dependent media effects are on existing beliefs: differences across established attitudes are indispensable when evaluating the effect that media consumption can have on public opinion.

Lastly, we find that public service TV consumption plays a strong role in canceling out the negative effect that policy response threat perceptions have on individuals' political trust. In other words, for those who felt threatened by the effect of the measures taken by the Swiss government, the more public service news they consume, the weaker their distrust in government becomes. This points to the role that public service media plays in communicating the efforts taken by the government to curb the pandemic, and the power that this messaging has. It is possible that the relationship is attributable to Swiss public service broadcasting being less critical of the government during the early stages of the pandemic (FOG, 2020). Further research should explore the relationship between coverage valance and COVID-19 rallies in government support.

This study is not without limitations. First, the webtracking data used only registered news consumption on desktop devices. Considering the important role played by mobiles in news access, future studies will benefit from more all-encompassing measures

of news consumption. Second, this study uses a mix of webtracking and self-reported consumption measures. While we can narrow down the content consumed online to news about COVID-19, we cannot do this for public service TV consumption. Third, future studies should aim to incorporate more extensive content analyses into research, showing how, for example, consumption of stories criticizing the government can impact an individual's confidence in the government. Fourth, while we situate our findings in a context of crisis that "enables" change, we are aware that we cannot claim causality and we made efforts to limit our interpretations of significant coefficients to plausible associations with trust changes given the context, rather than mechanisms explaining such changes. There can also be confounding factors affecting our observations, in particular concerning changes in the trust in the government. While we interpret our observations as supporting the relationship between alternative media consumption and the changing trust in government, it can also be that individuals with already low levels of trust in government are both less likely to increase their trust and more likely to be frequent consumers of alternative media. Finally, our findings are based on a single-country case, and thus should be interpreted with this in mind, as further research is necessary to establish how generalizable they are to other contexts. In particular, we suggest that future analyses of the same phenomena in countries with media systems and market shares of public broadcasting similar to those of Switzerland - such as Germany, Austria or the Netherlands (see Humprecht et al. 2022).

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Supplemental Material

Supplemental material for this article is available online.

Note

1. Further diagnostic tests were carried out which are not reported here for brevity. They revealed that most assumptions - linearity of relationship and no major effects of outliers nor high leverage points - were met.

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