Disentangling Public Sphere Fragmentation From Media Choice Expansion: Three Measurement Strategies and Their Implications

DIÓGENES LYCARIÃO[♦1]
Federal University of Ceará, Brazil

A notable body of studies and essays explores the hypothesis that the platformization of media is fostering the fragmentation of the public sphere. Nonetheless, this body of knowledge presents conflicting assumptions and methodologies for understanding this relationship. By adopting a systemic approach to the public sphere, this study takes two steps to disentangle these inconsistencies. First, it defines clear differences between the fragmentation of the public sphere and the expansion of media choices. In doing so, it clarifies how concepts like echo chambers and political polarization frequently and inadvertently merge with the fragmentation hypothesis. Second, it identifies three distinct fragmentation types and their corresponding political effects: (a) fragmentation of the public agenda along partisan or ideological lines; (b) reduced agenda convergence; and (c) fewer issues with agenda-setting power. The present study suggests effective measurement techniques for each type of fragmentation, demonstrating how they address gaps in current research.

Keywords: public sphere fragmentation, platformization, deliberative system, echo chambers, political polarization

The present study introduces a theoretical and methodological approach to test the hypothesis that digitalization and platformization are fostering the fragmentation of the public sphere. This hypothesis is

Diógenes Lycarião: lycariao-d@ufc.br

found in a growing number of empirical studies and essays (Bennett & Pfetsch, 2018; Bentivegna & Artieri, 2020; Cardenal, Galais, & Majó-Vázquez, 2019; Chan & Lee, 2014; Chen, Wu, & Li, 2018; Dahlberg, 2007; Habermas, 2022; Magin, Geiß, Stark, & Jürgens, 2022; Pfetsch, 2020; Seeliger & Sevignani, 2022; Smyrnaios & Baisnée, 2023). The present study critically reviews this body of literature based on a systemic approach to the public sphere (Maia, Hauber, & Choucair, 2023; Mansbridge, 1999). In doing so, it aims to measure the fragmentation of the public sphere by addressing common shortcomings in current research.

This approach aims to dispel conceptual ambiguities and to indicate effective methods for measuring this fragmentation. A key focus of this strategy is to explore how concepts such as echo chambers, filter bubbles, and political polarization are frequently and inadvertently intertwined with the notion of public sphere fragmentation. The present study contends that simply recognizing the emergence of these phenomena falls short of demonstrating this fragmentation conclusively.

To address these conceptual and analytical shortcomings, the study adopts a systemic and pluralistic perspective of the public sphere. This perspective acknowledges the diversification and expansion of media choices resulting from digitalization. To differentiate this expansion from the concept of fragmentation of the public sphere, the present study introduces the notion of "agenda convergence." This conceptualizes a network characterized by interactive and multidirectional flows of symbolic and discursive exchanges among the public, media, and political actors/arenas. The focus shifts from determining who sets the agenda (McCombs & Valenzuela, 2020) to understanding the dynamics through which certain issues or events gain traction and call attention across the arenas within the deliberative system. This approach allows for empirical investigation of a common agenda across these arenas, which is essential for a functional (i.e., non-fragmented) public sphere.

The present study identifies three distinct fragmentation types and their corresponding political effects: (a) fragmentation of the public agenda along partisan or ideological lines; (b) reduced agenda convergence; and (c) a decline in the number of issues possessing agenda-setting power. This study explores the anticipated political consequences and the potential detrimental effects on public discourse associated with each of these forms of fragmentation. In addition, it outlines valid measurement techniques for assessing each type of fragmentation.

The present work is structured in three distinct sections, with each section focusing on a different facet of the hypothesis concerning the fragmentation of the public sphere amid the digitalization and platformization of media systems.

In the first section, the study delves into the historical roots of the hypothesis of the public sphere fragmentation, tracing its origins to a period preceding digitalization and platformization. This section emphasizes that the fundamental ideas conceived at the inception of this hypothesis continue to shape its contemporary formulations. A critical point of discussion is the central role played by the expansion of media choices. This expansion, a direct consequence of the evolving media landscape, is highlighted as a key factor influencing the formulation of that hypothesis and the current understanding thereof.

The second section provides a critical examination and discussion of the core premise of the hypothesis, while also addressing certain conceptual overlaps found in the literature. This section demonstrates how these foundational ideas are inadequate for understanding the fragmentation of the public sphere. The discussion in this section exposes the gaps in current research and argues for a reevaluation of how this fragmentation is conceptualized and then investigated empirically.

The third section introduces a theoretical and methodological approach to measure this fragmentation. This approach aims to measure effectively the three identified types of public sphere fragmentation. To do so, it draws on prior work, particularly from political agenda-setting studies, to suggest various methodological tools—such as surveys, topical overlap, and time series analyses—that could address some current research limitations. This section of the study not only critiques existing methodologies but also proposes a novel way to understand and assess the fragmentation of the public sphere in the digital era.

The present study concludes by advocating for the integration of these methodologies in future research to deepen the understanding of the nature, extent, and trends in public sphere fragmentation. This approach underscores the need for ongoing empirical research and conceptual precision to either validate or refute the hypothesis that the public sphere is eroding because of digitalization and platformization of media systems.

On the Fragmentation of the Public Sphere

The idea that the public sphere is eroding, as a result of expanded media choices, is not a novel one. Decades ago, Schulz (1997) articulated that a central premise of this hypothesis is the tendency of individuals to selectively engage with new media or channels emerging from this media expansion. This selective engagement could result in minimal or no audience overlap. This in turn gradually undermines the common experiential foundation shared by all members of society, culminating in the fragmentation of the public sphere into several distinct publics.

This line of reasoning has gained traction with the rapid expansion of media systems driven by digitalization and platformization. These developments have increased the influence of major tech companies over how citizens access information and participate in the public sphere and have attracted significant scholarly attention. This heightened interest is particularly notable because platformization and digitalization are at the center of the novel structural transformation of the public sphere. This is precisely the main topic of some recent work published by Habermas (2022) and others (Seeliger & Sevignani, 2022; Smyrnaios & Baisnée, 2023).

In this context, Habermas (2022) underscores some risks associated with this emerging structural transformation:

> A democratic system is damaged as a whole when the infrastructure of the public sphere can no longer direct the citizens' attention to the relevant issues that need to be decided and, moreover, ensure the formation of competing public opinions—and that means qualitatively filtered opinions. (p. 167)

This highlights the growing concerns about changing media consumption patterns worldwide, where traditional news media are increasingly being supplanted by engagement with social media platforms.

However, although the rise of big tech companies and the use of their social media platforms is a global phenomenon, the extent to which these platforms are used for news consumption varies significantly across countries (Nielsen & Fletcher, 2023). This variation is often rooted in the historical differences among national media systems, especially in terms of newspaper readership levels. This can explain why populations of certain countries may prefer accessing news directly through websites rather than relying on the "news find me" approach.

Further, Marques and Vos (2023) highlight that the rate of transformation within media systems is not uniform globally. Changes can be swift in some contexts while more gradual in others. This disparity is shaped by various factors, including material, institutional, and cultural elements, as well as the specific historical and societal contexts in which these media systems exist.

Consequently, the notion that social media platforms and the digitalization of the public sphere are circumventing traditional gatekeepers and mediators (Seeliger & Sevignani, 2022) should be approached with caution. It is more appropriate to consider this as a hypothesis to be tested empirically in each specific context (country or region) rather than as a self-evident global phenomenon.

This turns out to be especially necessary because of the association of this process with various political phenomena that threaten democratic norms. These include, but are not limited to, political polarization (Arora, Singh, Chakraborty, & Maity, 2022; Pfetsch, 2020), audience fragmentation (Barnidge, Diehl, Sherrill, & Zhang, 2021), and the formation of echo chambers (Flaxman, Goel, & Rao, 2016; Terren & Borge-Bravo, 2021). Seeliger and Sevignani (2022) illustrate this blend of concepts and social processes by contrasting the "expanded spectrum of opinion" as a positive byproduct of the increasing new media choices with the more pessimistic thesis of the "fragmentation of the public sphere into homosocial filter bubbles and echo chambers" (p. 11).

However, this merging of concepts complicates a more precise understanding of each notion and potentially jeopardizes their empirical investigation and hypothesis testing. To address this, it is crucial to determine how to distinguish and then measure different types of public sphere fragmentation. For instance, without the ability to ascertain whether this fragmentation is accelerating, stabilizing, or diminishing in a given society, how can it be confidently linked to digitalization or platformization?

How Not to Measure the Fragmentation of the Public Sphere

To tackle this challenge, it is crucial, first, to revisit the primary catalyst of the aforementioned novel structural transformation—the expansion of media choices. This expansion, originating with the popularization of cable TV and the deregulation of media markets, has grown exponentially because of digitalization and platformization (Bennett & Iyengar, 2008; Prior, 2005; Schulz, 1997; Smyrnaios & Baisnée, 2023).

However, this proliferation of media choices should not be perceived as a problem in itself. Habermas's (1989) seminal work, originally published in 1962, "Structural Transformations of the Public Sphere," sheds light on this perspective. Habermas (1989) traces the evolution of a vibrant press consisting of thousands of newspapers, which was gradually replaced by the news media industry. This shift to mass media has been critiqued for its highly concentrated nature, allowing only a limited range of perspectives to gain access and reducing content diversity (Badr, 2021; Hendrickx & Van Remoortere, 2024; Omachonu & Healey, 2009; Park, 2021). The issue is, therefore, arguably more about a scarcity of media choices rather than their abundance.

The second stage of the aforementioned novel structural transformation suggests that expanding media choices lead to the development of echo chambers, political polarization, filter bubbles, and more, ultimately resulting in the fragmentation of the public sphere. However, this reasoning has two significant shortcomings.

First, the precise impact of the new media landscape—in reinforcing echo chambers (Mahrt, 2019; Terren & Borge-Bravo, 2021), intensifying political polarization (Arora et al., 2022; Rau & Stier, 2019), and promoting selective exposure (Barnidge et al., 2021; Slaets, Verhoest, d'Haenens, Minnen, & Glorieux, 2021)—is still unclear. Second, and more importantly, this linear interpretation overlooks the possibility that the expansion of media choices could correlate more with increasing social complexity and political plurality than with fragmentation. In this alternative view, the proliferation of media options could lead to the emergence of new political groups, worldviews, and networks. However, these new entities would engage with a common public agenda, still centered on the most pressing issues facing society. According to this view, the frequency of interaction between different groups or networks is not a critical concern. In a pluralistic and democratic society, individuals are free to select their associations and comfort zones, where they can form deliberative enclaves and strong political identities (Dahlberg, 2007).

Indeed, there is a tendency for partisans to gravitate toward news content that reinforces their own viewpoints, a phenomenon that can impede cross-party dialogue (Arendt, Northup, Forrai, & Scheufele, 2023). However, according to Habermas (1996), the responsibility for fostering interaction and pluralistic deliberation resides primarily within the political and judicial systems, not solely with ordinary citizens. These systems have the crucial task of creating incentives and instituting innovative approaches to deliberation, cooperation, and negotiation among political authorities and their constituencies (Kuyper & Wolkenstein, 2019; Parkinson, 2020; Rummens, 2012). Moreover, they are obliged to counteract political violence, hate speech, and any conduct that could infringe upon fundamental rights (Loewenstein, 1937; Rêgo & Justino de Oliveira, 2023).

In a systemic approach to deliberation, the process of public debate unfolds within and across various arenas and social systems (Maia et al., 2023; Mansbridge, 1999). In the deliberative system, "arenas" are distinct but interconnected *loci* through which public deliberation flows and condenses in public opinions. Examples include legislative hearings, which gather information from other arenas for policy making; news media, which inform and engage the public by reporting perspectives from various sources; and civic associations, which advocate for specific causes (Maia et al., 2023). The authors highlight that not all normative criteria of public deliberation are necessarily present in each of these arenas. Therefore,

although listening to opposing viewpoints may not be a common practice in the daily lives of partisan citizens, this does not imply that such exchange is absent at the system level. This perspective allows for a more nuanced understanding of how deliberation could operate within the broader fabric of society, acknowledging that different arenas may contribute to the deliberative process in diverse ways.

Therefore, when assessing the fragmentation of the public sphere, it is insufficient merely to observe the expansion of media choices or the rise of polarized, insular groups. The following section of this study introduces a theoretical and methodological approach designed to provide valid tools for measuring this phenomenon.

How to Measure the Fragmentation of the Public Sphere

The concept of the public sphere plays a fundamental role in imbuing the idea of popular sovereignty with any empirical potential (Habermas, 1994, 1996, 2006). After all, if the political system makes its decisions ignoring public debate, then the idea of a self-governing society becomes only a hollow promise. As a result, the concept of the public sphere is critical: not only to describe the realm of what is visible in a given society but also to embed the normative elements that make the notion of popular sovereignty conceivable. This is especially true in complex and modern societies that, as is well known, present formidable challenges to making the heterogeneity of their citizenry be properly heard and accounted for.

To navigate this challenge, the conceptual framework introduced by Mansbridge (1999) proves insightful. The value of this framework lies in its capacity to delineate functions well suited to modern societies, wherein public deliberation takes place across various settings, each characterized by distinct attributes (Maia et al., 2023).

The media system assumes a significant yet constrained role within the broader deliberative system. According to Habermas's (1994, 1996, 2006, 2022) theoretical framework, its primary contribution is that of filtering and presenting the pros and cons of the current controversies revolving around the political system to the public. In this capacity, the media system has the crucial responsibility of rendering a shared agenda to society as a whole. This function is paramount for upholding the inclusive nature of public deliberation.

Based on this theoretical landscape, one can conclude that the public sphere has to develop the following characteristics:

A. it requires transparency of political decisions and the reasons that justify them;
B. it has to be pluralistic, which implies that multiple perspectives and points of view must be publicly available and visible; and
C. the political and media systems must be designed such that public debate exerts pressure on the political authorities to make them consider the multiple perspectives circulating in the public sphere.

The approach developed in the present study recognizes the diversity of groups, ideologies, and worldviews, each with distinct media preferences. From this approach, the proliferation of media choices is not seen as detrimental but rather as a positive reflection of increasingly diverse societies.

Concurrently, this approach assumes that all these groups, worldviews, and ideologies operate under the rule of law. Consequently, it is imperative that the state's political actions be conducted transparently, be open to public scrutiny, and be visible to the entire society.

This suggests that the fragmentation of the public sphere can be measured more accurately by comparing media agendas across the entire spectra of the hybrid media system (Chadwick, 2013) and of the political system. In this context, extensive evidence indicates that, despite increasing media choices, digitalization and platformization may be followed by high levels of agenda convergence (Barberá et al., 2019; Benkler, Roberts, Faris, Solow-Niederman, & Etling, 2015; Conway, Filer, Kenski, & Tsetsi, 2017; Djerf-Pierre, & Shehata, 2017; Groshek & Groshek, 2013; Gruszczynski, 2020; Gruszczynski & Wagner, 2017; Haim, Weimann, & Brosius, 2018; Harder, Sevenans, & Van Aelst, 2017; Jungherr, Schoen, Posegga, & Jürgens, 2017; Lee, 2007; Maier, 2010; Meraz, 2011; Neuman, Guggenheim, Jang, & Bae, 2014; Rogstad, 2016; Sayre, Bode, Shah, Wilcox, & Shah, 2010; Searles & Smith, 2016; Su & Borah, 2019; Valenzuela, Puente, & Flores, 2017; Vargo & Guo, 2017; Wallsten, 2007; Wonneberger & Vliegenthart, 2021).

The concept of "agenda convergence" resembles and expands upon Gruszczynski's (2020) notion of "intermedia agenda congruence" (p. 4603). However, unlike the latter, the former is not confined to the hybrid media system but also encompasses the public and political agendas. Thus, "agenda convergence" refers to the phenomenon whereby themes and events become prominent across various arenas of their respective social systems (see Figure 1).
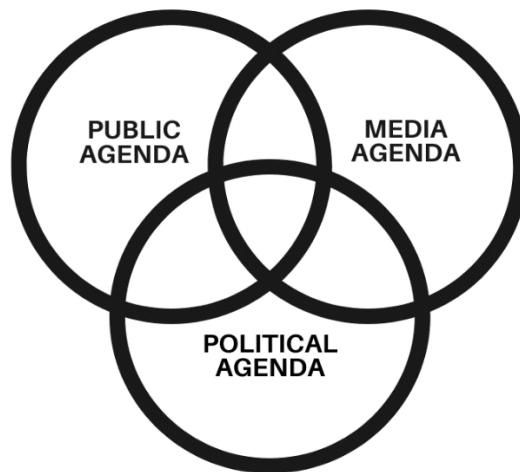
Figure 1. Conceptualizing agenda convergence.

However, it is vital to acknowledge that identification of this congruence is not immediate. In the deliberative process, themes and events gain significance gradually, with their relevance evolving from one arena to another. This evolution varies in speed and influence, impacting and being impacted to differing extents by the political system. A critical aspect of agenda convergence is its lack of a predefined directional influence among arenas, which distinguishes it from the typical concerns of agenda-setting studies (McCombs & Valenzuela, 2020).

To accurately assess the inclusive character of the public sphere, the social construction of themes and the relevance of events should be multidirectional and sensitive to disruptive events, as demonstrated in many of the aforementioned studies (see also Lycarião & Sampaio, 2016). This indicates that traditionally peripheral arenas and actors can suddenly become central in the discursive and symbolic dynamics of the public sphere.

This understanding acknowledges the multidirectional flow of influence within a rapidly evolving media landscape, where themes can originate from niche media platforms and gain prominence in mainstream media, or vice versa. It also acknowledges that public opinion can shape media agendas, just as media narratives can influence public perceptions. The concept of agenda convergence underscores the dynamic and often unpredictable nature of how themes and events attain prominence across different arenas.

Having established a tool to identify the inclusive character of the public sphere and the convergence of multiple actors, media, and arenas into a common agenda, it is now possible to identify the opposite scenario, wherein these entities do not converge in any shared attention. To do so, the present study identified three forms of this phenomenon, in which each one represents a distinct threat to democratic order: (a) fragmentation of the public agenda along partisan or ideological lines; (b) reduced levels of agenda convergence; and (c) fewer issues or events with agenda-setting power.

Expansion of Dissonant Issue Agendas Across Party Lines

The first form of fragmenting the public sphere consists of the expansion of "parallel issue agendas" (Pfetsch, 2020, p. 102), or "partisan agenda fragmentation" (Gruszczynski, 2019, p. 749). Also, the reduction of thematic agenda diversities and convergence along party lines (Chan & Lee, 2014; Takeshita, 2006) offer a toolkit in this regard. All of these studies shed light on how different segments of the public focus on divergent sets of issues, often influenced by patterns of media consumption and ideological leanings. This divergence results in a lack of common ground for public discourse, as each group's attention is directed toward issues that resonate with their own ideologies or worldviews.

Although these concepts indicate a fragmentation of the public sphere, by reducing the chances of dialogue between political fractions, it is important to note that they probably reflect a phenomenon restricted to the most politically active. Thus, this fragmentation does not necessarily indicate a severe division within the general electorate or the wider public attention. Most of the public, despite being less participatory, might remain attentive to public debates and the broader public agenda. If this occurs, this majority can have a moderating effect on the fragmentation of the public agenda.

Mass media play a crucial role in this process, as they are one of the main sources on which elected representatives rely to decide which issues to prioritize for policy action (Willems, Maes, & Walgrave, 2024). Thus, political institutions and authorities might recognize through the different sources of the hybrid media system that a large segment of the public converges around certain key issues. This recognition is crucial as it ensures the preservation of the concentrated public attention necessary to pressure the political system into action on these same key issues. In essence, although the fragmentation caused by "parallel issue agendas" (Pfetsch, 2020, p. 102) and "partisan agenda fragmentation" (Gruszczynski, 2019, p. 749) reflects a division among the most politically active, the broader public still might play a vital role in maintaining a unified focus on pressing public issues. This duality highlights the complexity of the public sphere, wherein fragmentation and convergence coexist (Bentivegna & Artieri, 2020, p. 11).

Therefore, this form of fragmentation poses a mild threat to the democratic order, provided that the influence of hyper-partisan forces is less pronounced than the broader public's attention on key issues. To assess this accurately, it is essential to gather and analyze data from not only the most politically active segments but also from the general population.

In this regard, McCombs, Shaw, and Weaver (2014) present a persuasive argument about the advantages of survey methodologies over data collected from social media platforms. First, they argue that social media platforms do not fully represent the entire population, since not all citizens use the Internet to obtain information and to discuss public matters. If this underrepresentation of segments of the population is notably evident in the United States, as they contend, it is even more pronounced in countries with larger digital divides. Second, they critique the unit of analysis used in social media research, which often focuses on the message rather than on the individual. This approach tends to overemphasize the views of the most active social media users, potentially skewing perceptions of the most important problems (MIPs) held by the general public (for evidence of this, see Cardenal et al., 2019). Finally, they underscore that the big data methodologies used in social media research are not a replacement for carefully designed surveys, as they only complement the understanding of a rapidly changing public sphere.

Lowering Levels of Agenda Convergence

The second form of fragmentation is centered on the assessment of "agenda convergence." As previously discussed, this concept embraces the degree of alignment, or lack thereof, among the agendas of various components of the hybrid media system. Examples include the comparison of agendas between cable TV and network TV as explored by Gruszczynski (2020) or between the agendas of social media and legacy news media as studied by Chen et al. (2018) and Shao and Wang (2017). Expanding beyond the scope of the hybrid media system, the concept of "agenda convergence" also delves into the decoupling process within the broader deliberative system. This decoupling might be observed through lower correlation scores of "issue attention" across groups of politicians, the public, and the media (Barberá et al., 2019) or through a decrease in "topical overlap" among these groups (Heiberger, Majó-Vázquez, Castro Herrero, Nielsen, & Esser, 2022).

Despite the challenges in measuring the political agenda, which Walgrave and Van Aelst (2006) describe as "the trickiest choice to be made" (p. 94), recent studies have made significant progress in tackling this practical problem with the use of social media data (Barberá et al., 2019; Gilardi, Gessler, Kubli, & Müller,

2022). However, this approach encounters limitations similar to those identified by McCombs et al. (2014) about the representation of the general public in social media research, now applied to political actors. Consequently, the measurement of this decoupling of the public, media, and political agendas should not solely rely on social media data. Echoing the research design proposed by Wonneberger and Vliegenthart (2021), it is imperative also to include the analysis of official documents and speeches from decision-making arenas.

As outlined earlier in this study, the decoupling of the public, media, and political agendas indicates an erosion of agenda convergence that reveals a divergence in focus and priorities among different societal sectors, thereby illuminating the degree of fragmentation of the public sphere. The political effects here are more pronounced than in the previous type of fragmentation, since the decoupling of the agendas of the media and the public presents significant challenges for political authorities and institutions. This decoupling means that the concerns and priorities of the general public are not reflected or reported accurately by the media. As a result, political institutions may struggle to correctly identify the issues that are of greatest concern to the populace. This lack of understanding can lead to hesitation in policy making, if authorities are unsure of the public's pressing issues. In some cases, political institutions might not react at all to these issues, simply because they are unaware of either their existence or importance.

Moreover, political actors and institutions might turn to certain segments of the media as a cognitive shortcut for assessing the public agenda. However, this carries the risk of grounding their understanding and actions on a skewed or limited view of public priorities. Reliance on a particular media segment can lead to a misalignment, wherein the issues that are highlighted do not reflect the wider public's priorities, since the topics and themes that dominate media agendas might be significantly different from those that concern most of the population.

In both scenarios, there is a clear erosion of congruence among the agendas of different arenas within the deliberative system. The political landscape, guided by a potentially narrow or misrepresentative media perspective, risks becoming disconnected from the public. This disconnection is manifested in policies and political actions that do not align with the public's needs and concerns, further exacerbating the fragmentation of the public sphere.

However, this type of fragmentation does not necessarily lead to the total subordination of political actors and institutions to hyper-partisan media segments or their parallel agendas. Rather, it highlights an operational hurdle that these agents face in understanding the themes and topics that are the priority of the broader public. Provided that this broader public retains its power to sanction political authorities and actors in fair and free elections, they can act as a gravitational force pulling congruence between the political and media agendas in the long term.

Therefore, the challenge for the leading political actors and institutions in this kind of fragmentation lies not in aligning primarily with hyper-partisan narratives but in responding accurately to the concerns of a diverse and less politically vocal populace. This difficulty is exacerbated by the fragmented media landscape, where hyper-partisan segments may loudly express views that do not necessarily reflect the priorities of the wider public.

The inability of political actors and authorities to respond appropriately to the demands of this broad public can lead to significant sanctions through established mechanisms, with electoral outcomes being the most notable. Preserving the public's ability to sanction authorities for failing to address key issues is crucial for preventing the fragmentation of the public sphere from escalating to the more perilous third type, as outlined below.

The Erosion of the MIPs With "Critical Mass"

The third and the most perilous form of fragmentation of the public sphere is characterized by the diminishing agenda-setting power of the MIPs facing the country. This can result in a profound shift in the dynamics of issue awareness and public attention, diverging from the threshold of public attention (Neuman, 1990). In an environment of extreme fragmentation, issues struggle to achieve the necessary "critical mass" to transition from private concerns to public domain. Neuman (1990) suggests that this transition requires at least 10% of the population to recognize an issue as being one of the most important. A scarcity of issues reaching this "critical mass" might result in a scenario where the media and political systems are more responsive to particular political niches rather than to the broader interests of the general public. Consequently, this erosion of MIPs' agenda-setting power could weaken the pressure on political entities and media outlets to respond to these broader public concerns.

Political actors and media outlets, acknowledging the difficulty of attracting broad-based public attention in a fragmented public sphere, may adapt their strategies accordingly. They start focusing primarily on mobilizing and solidifying their core supporters, rather than attempting to engage with a broader, more diverse audience. This strategic shift stems from the realization that, in a highly fragmented public sphere, the chances of issues resonating across different societal segments are significantly diminished. Consequently, political discourse becomes more insular, with these actors addressing primarily their established bases or audiences. When doing so, they often refer to "the people" as being synonymous with their core supporters. This diminishes the emphasis on deliberation, on cross-partisan dialogue, and potentially undermines the efficacy of political compromises. In this milieu, the inclusive nature of the public sphere deteriorates.

A practical method to determine if this form of fragmentation is occurring involves using data of representative samples to assess the MIPs' critical mass. If issues fail to attract widespread concern, it is improbable that they will exert significant influence on the arenas depicted in Figure 1. Although studies using MIPs data provide valuable insights into the fragmentation of the public sphere (Gruszczynski, 2019; Magin et al., 2022), they often focus on the politically more active sectors of the population (see Table 1) rather than the broader public. This approach carries the risk of overlooking the views and priorities of the less politically engaged.

A notable effort to address this limitation is found in Cardenal et al. (2019). They cross-referenced MIPs measurements with Web-tracking data to assess the likelihood of participants mentioning the same top MIPs as the general public, focusing on whether news consumption through Facebook influenced this likelihood.

The online experiment by Einarsson, Helles, and Lomborg (2024) also sheds light on how to measure the effects of digitalization and platformization on issues salience. They investigated the effects of

news recommender systems on political agendas during the 2022 Danish general election. Their study involved readers of the Ekstra Bladet, a Danish tabloid news platform. The readers were randomly split into a treatment group, exposed to personalized recommendations, and a control group, not exposed.

The main methodological advantage of both studies lies not only in their combination of diverse data sets and inclusion of participants with varying political engagement and ideological orientations but also in their focus on the individual rather than the message (such as posts or tweets) as the unit of analysis. This approach addresses a common limitation found in many studies, as highlighted by McCombs et al. (2014).

On the other hand, an important limitation of these same studies lies in that they are conducted on very specific platforms and cover only short periods of time. This narrow focus can result in findings that are not fully representative of the broader landscape of platformization and digitalization. To assess more structural effects on the public sphere, two additional elements are necessary.

First, longitudinal data on people's issue priorities (e.g., MIPs) should be incorporated. This would allow researchers to observe changes and trends over extended periods, providing a deeper understanding of how platformization and its effect on people's news habits are correlated (or not) with changes in the number of issues with critical mass.

Second, it is crucial to assess how individuals access the news. This involves distinguishing among various methods such as social media, direct access to newspapers (either online or print), and instant messaging apps. By analyzing these different access points, empirical research can better understand how each type of news habit contributes to the fragmentation or preservation of the public sphere (i.e., its agenda convergence). For instance, societies with an increasing reliance on instant messaging apps for news use might experience fewer issues with agenda-setting power. At the same time, societies where a stable portion of the population reads mainstream news sources directly might maintain a consistent number of issues that influence the public agenda over time.

Future studies could test these hypotheses by cross-referencing longitudinal survey data sets of MIPs with news consumption demographics.

Integrating these two elements—longitudinal data on issue priorities and assessment of news access habits—will provide a more comprehensive perspective of the structural impacts of platformization and digitalization on the public sphere. This approach ensures that the analysis is not confined to short-term trends or specific platforms but, instead, captures the complex dynamics at play over time and across various digital environments.

For this, analyzing time series data, including longitudinal studies and statistical techniques, like Granger causality tests, is useful for comprehending the extent to which changes in information consumption patterns, driven by digitalization and platformization, predict (or do not predict) a reduction in the number of issues achieving "critical mass."

Table 1. Types of Public Sphere Fragmentation.

Type of fragmentation	Expected political effects	How to measure
Fragmentation of the public agenda along partisan or ideological lines	Less room for civic conversation, but the concentrated public attention (and its effects) still persists, constraining the political system to (re)act on the most pressing issues	With a focus on party or ideological lines, surveys gauging the MIPs, or the nominal and thematic agenda diversities (Chan & Lee, 2014; Gruszczynski, 2019; Magin et al., 2022; Takeshita, 2006)
A decreasing level of "agenda convergence," (i.e., diminishing topical overlap among the political, media and public agendas)	Political authorities and actors receive conflicting or incorrect signals from the public sphere, making them (re)act based on a skewed view of public priorities or making them reluctant to (re)act	Assessing: (a) the level of intermedia agenda congruence (Gruszczynski, 2020), (b) the correlation scores on "issue attention by groups of politicians, the public, and the media" (Barberá et al., 2019); or, (c) their "topical overlap" (Heiberger et al., 2022)
Erosion of the concentrated public attention needed for civil society's control of and pressure on the political system	Political authorities and actors realize they are being watched (and constrained) only by their own supporters and react (only or mostly) to them	Cross-reference of MIPs' longitudinal data with corresponding data on news habits

Concluding Remarks

The present study introduces a proposal to measure the fragmentation of the public sphere by taking two steps. First, it distinguishes between the phenomena of public sphere fragmentation and the expansion of media choices while also disentangling related political phenomena such as echo chambers, filter bubbles, and political polarization. Second, the approach facilitates the assessment of various forms of public sphere fragmentation, each characterized by its own measurement techniques and expected political effects.

In terms of measurement techniques, two of the three forms of fragmentation identified require representative population samples to evaluate the dynamics surrounding the MIPs. A critical distinction lies in this focus: one form concentrates on the most active and vocal population segments (see the first row of Table 1), while the other form encompasses the broader public.

For this latter approach, this study advocates for a research design that integrates longitudinal survey data on the MIPs with data sets on news consumption habits (e.g., Digital News Report), as illustrated in the last row of Table 1. This design enables future research to test the hypothesis that societies relying more on instant messaging apps or social media platforms might exhibit fewer issues with agenda-setting power over time (i.e., a higher level of public sphere fragmentation). These issues are traditionally identified by surveys asking questions like, "What is the MIP facing the nation?" (e.g., Gallup Institute). Alternatively,

they may be phrased differently, such as "Which of the following do you think are the current main challenges the [country/region/state] is facing?" (e.g., Eurobarometer).

The intermediate form of fragmentation, on the other hand, could be assessed using the level of agenda convergence within the deliberative system, with digital trace and other types of data from its various arenas (e.g., media, public, and political agendas; see Figure 1). Although collecting and analyzing digital trace data poses significant challenges—especially given the increasing restrictions imposed by big tech companies on researchers accessing this type of data—advancements in automated content analysis offer promising opportunities (as detailed in the second row of Table 1). Nevertheless, more comprehensive methods are needed, particularly those incorporating data from decision-making arenas, which are not always available in digital format.

As for the political effects, each form of public sphere fragmentation presents a specific potential to impair public deliberation. The extent of this impact largely depends on the engagement levels of major population segments with public events and political debates. The more they disengage from the public debate, the more the political and media systems become vulnerable to hyper-partisan actors. The phenomenon of "news avoiders" and their drift toward entertainment, as thoroughly documented by Prior (2005) and others (Elvestad, Blekesaune, & Aalberg, 2014), presents a significant risk in this context.

However, a public sphere dominated by hyper-partisan actors does not inherently result in fragmentation, as political factions, despite intense disagreements, may still engage with a common agenda. Therefore, the precise effects of political polarization and the shifts in information-seeking behaviors on public matters require empirical investigation rather than being presumed as a consequence of other related, albeit contingent, phenomena.

In conclusion, the potential risks associated with the different forms of public sphere fragmentation explored in the present study warrant serious consideration, especially given the rapid evolution of the media landscape. However, it is essential to approach these structural changes with a balanced and nuanced perspective. This approach should recognize the distinct specificities and dynamics of media systems in various countries and regions, as underscored by Marques and Vos (2023) and Nielsen and Fletcher (2023). Such a contextualized understanding is crucial for accurately assessing and addressing the challenges presented by the novel structural transformation of the public sphere.

References

Arendt, F., Northup, T., Forrai, M., & Scheufele, D. (2023). Why we stopped listening to the other side: How partisan cues in news coverage undermine the deliberative foundations of democracy. *Journal of Communication, 73*(5), 413–426. doi:10.1093/joc/jqad007

Arora, S. D., Singh, G. P., Chakraborty, A., & Maity, M. (2022). Polarization and social media: A systematic review and research agenda. *Technological Forecasting and Social Change, 183*, 121942. doi:10.1016/j.techfore.2022.121942

Badr, Z. (2021). More or more of the same: Ownership concentration and media diversity in Egypt. *The International Journal of Press/Politics, 26*(4), 774–796. doi:10.1177/19401612211025164

Barberá, P., Casas, A., Nagler, J., Egan, P. J., Bonneau, R., Jost, J. T., & Tucker, J. A. (2019). Who leads? Who follows? Measuring issue attention and agenda setting by legislators and the mass public using social media data. *American Political Science Review, 113*(4), 883–901. doi:10.1017/S0003055419000352

Barnidge, M., Diehl, T., Sherrill, L. A., & Zhang, J. (2021). Attention centrality and audience fragmentation: An approach for bridging the gap between selective exposure and audience overlap. *Journal of Communication, 71*(6), 898–921. doi:10.1093/joc/jqab023

Benkler, Y., Roberts, H., Faris, R., Solow-Niederman, A., & Etling, B. (2015). Social mobilization and the networked public sphere: Mapping the SOPA-PIPA debate. *Political Communication, 32*(4), 594–624. doi:10.1080/10584609.2014.986349

Bennett, W. L., & Iyengar, S. (2008). A new era of minimal effects? The changing foundations of political communication. *Journal of Communication, 58*(4), 707–731. doi:10.1111/j.1460-2466.2008.00410.x

Bennett, W. L., & Pfetsch, B. (2018). Rethinking political communication in a time of disrupted public spheres. *Journal of Communication, 68*(2), 243–253. doi:10.1093/joc/jqx017

Bentivegna, S., & Artieri, G. (2020). Rethinking public agenda in a time of high-choice media environment. *Media and Communication, 8*(4), 6–15. doi:10.17645/mac.v8i4.3166

Cardenal, A. S., Galais, C., & Majó-Vázquez, S. (2019). Is Facebook eroding the public agenda? Evidence from survey and web-tracking data. *International Journal of Public Opinion Research, 31*(4), 589–608. doi:10.1093/ijpor/edy025

Chadwick, A. (2013). *The hybrid media system*. Oxford, UK: Oxford University Press. doi:10.1093/acprof:oso/9780199759477.001.0001

Chan, M., & Lee, F. L. (2014). Selective exposure and agenda setting: Exploring the impact of partisan media exposure on agenda diversity and political participation. *Asian Journal of Communication, 24*(4), 301–314. doi:10.1080/01292986.2014.903424

Chen, L., Wu, X., & Li, M. (2018). Formation and fragmentation within a networked public sphere: Social media debates on traditional Chinese medicine. *Telematics and Informatics, 35*(8), 2219–2231. doi:10.1016/j.tele.2018.08.008

Conway, B. A., Filer, C. R., Kenski, K., & Tsetsi, E. (2017). Reassessing Twitter's agenda-building power: An analysis of intermedia agenda-setting effects during the 2016 presidential primary season. *Social Science Computer Review, 36*(4), 469–483. doi:10.1177/0894439317715430

Dahlberg, L. (2007). Rethinking the fragmentation of the cyberpublic: From consensus to contestation. *New Media & Society, 9*(5), 827–847. doi:10.1177/1461444807081228

Djerf-Pierre, M., & Shehata, A. (2017). Still an agenda setter: Traditional news media and public opinion during the transition from low to high choice media environments. *Journal of Communication, 67*(5), 733–757. doi:10.1111/jcom.12327

Einarsson, A. M., Helles, R., & Lomborg, S. (2024). Algorithmic agenda-setting: The subtle effects of news recommender systems on political agendas in the Danish 2022 general election. *Information, Communication & Society,* 1–21. Advance online publication. doi:10.1080/1369118X.2024.2334411

Elvestad, E., Blekesaune, A., & Aalberg, T. (2014, August). *The polarized news audience? A longitudinal study of news-seekers and news-avoiders in Europe.* Paper presented at the annual meeting of the American Political Science Association, Washington, DC. doi:10.2139/ssrn.2469713

Flaxman, S., Goel, S., & Rao, J. M. (2016). Filter bubbles, echo chambers, and online news consumption. *Public Opinion Quarterly, 80*(S1), 298–320. doi:10.1093/poq/nfw006

Gilardi, F., Gessler, T., Kubli, M., & Müller, S. (2022). Social media and political agenda setting. *Political Communication, 39*(1), 39–60. doi:10.1080/10584609.2021.1910390

Groshek, J., & Groshek, M. C. (2013). Agenda trending: Reciprocity and the predictive capacity of social networking sites in intermedia agenda setting across topics over time. *Media and Communication, 1*(1), 15–27. doi:10.17645/mac.v1i1.71

Gruszczynski, M. (2019). Evidence of partisan agenda fragmentation in the American public, 1959–2015. *Public Opinion Quarterly, 83*(4), 749–781. doi:10.1093/poq/nfz046

Gruszczynski, M. (2020). How media storms and topic diversity influence agenda fragmentation. *International Journal of Communication, 14*, 4599–4620.

Gruszczynski, M., & Wagner, M. W. (2017). Information flow in the 21st century: The dynamics of agenda-uptake. *Mass Communication and Society, 20*(3), 378–402. doi:10.1080/15205436.2016.1255757

Habermas, J. (1989). *The structural transformation of the public sphere: An inquiry into a category of bourgeois society*. Cambridge, MA: The MIT Press.

Habermas, J. (1994). Three normative models of democracy. *Constellations, 1*(1), 1–10. doi:10.1111/j.1467-8675.1994.tb00001.x

Habermas, J. (1996). *Between facts and norms: Contributions to a discourse theory of law and democracy*. Cambridge, MA: The MIT Press.

Habermas, J. (2006). Political communication in media society: Does democracy still enjoy an epistemic dimension? The impact of normative theory on empirical research. *Communication Theory, 16*(4), 411–426. doi:10.1111/j.1468-2885.2006.00280.x

Habermas, J. (2022). Reflections and hypotheses on a further structural transformation of the political public sphere. *Theory, Culture & Society, 39*(4), 145–171. doi:10.1177/02632764221112341

Haim, M., Weimann, G., & Brosius, H. B. (2018). Who sets the cyber agenda? Intermedia agenda-setting online: The case of Edward Snowden's NSA revelations. *Journal of Computational Social Science, 1*(2), 277–294. doi:10.1007/s42001-018-0016-y

Harder, R. A., Sevenans, J., & Van Aelst, P. (2017). Intermedia agenda setting in the social media age: How traditional players dominate the news agenda in election times. *The International Journal of Press/Politics, 22*(3), 275–293. doi:10.1177/1940161217704969

Heiberger, R., Majó-Vázquez, S., Castro Herrero, L., Nielsen, R. K., & Esser, F. (2022). Do not blame the media! The role of politicians and parties in fragmenting online political debate. *The International Journal of Press/Politics, 27*(4), 910–941. doi:10.1177/19401612211015122

Hendrickx, J., & Van Remoortere, A. (2024). Exploring the link between media concentration and news content diversity using automated text analysis. *Journalism, 25*(2), 353–371. doi:10.1177/14648849221136946

Jungherr, A., Schoen, H., Posegga, O., & Jürgens, P. (2017). Digital trace data in the study of public opinion: An indicator of attention toward politics rather than political support. *Social Science Computer Review, 35*(3), 336–356. doi:10.1177/0894439316631043

Kuyper, J. W., & Wolkenstein, F. (2019). Complementing and correcting representative institutions: When and how to use mini-publics. *European Journal of Political Research, 58*(2), 656–675. doi:10.1111/1475-6765.12306

Lee, J. K. (2007). The effect of the Internet on homogeneity of the media agenda: A test of the fragmentation thesis. *Journalism & Mass Communication Quarterly, 84*(4), 745–760. doi:10.1177/107769900708400406

Loewenstein, K. (1937). Militant democracy and fundamental rights. *American Political Science Review, 31*(3), 417–432. doi:10.2307/1948164

Lycarião, D., & Sampaio, R. (2016). Setting the public agenda in the digital communication age. *Brazilian Journalism Research, 12*(2), 30–53. doi:10.25200/BJR.v12n2.2016.882

Magin, M., Geiß, S., Stark, B., & Jürgens, P. (2022). Common core in danger? Personalized information and the fragmentation of the public agenda. *The International Journal of Press/Politics, 27*(4), 887–909. doi:10.1177/19401612211026595

Mahrt, M. (2019). *Beyond filter bubbles and echo chambers: The integrative potential of the internet* (Vol. 5). Berlin, Germany: Digital Communication Research. doi:10.17174/dcr.v5.0

Maia, R. C. M., Hauber, G., & Choucair, T. (Eds.). (2023). *The deliberative system and inter-connected media in times of uncertainty*. London, UK: Palgrave Macmillan Cham. doi:10.1007/978-3-031-23466-8

Maier, S. (2010). All the news fit to post? Comparing news content on the web to newspapers, television, and radio. *Journalism & Mass Communication Quarterly, 87*(3–4), 548–562. doi:10.1177/107769901008700307

Mansbridge, J. (1999). Everyday talk in the deliberative system. In S. Macedo (Ed.), *Deliberative politics* (pp. 211–239). Nova York, NY: Oxford University Press.

Marques, F. P. J., & Vos, T. P. (2023). Advancing comparative studies in political communication research: What factors explain the transformation of media systems? *International Communication Gazette,* 1–20. Advance online publication. doi:10.1177/17480485231177887

McCombs, M. E., Shaw, D. L. & Weaver, D. H. (2014). New directions in agenda-setting theory and research. *Mass Communication and Society, 17*(6), 781–802. doi:10.1080/15205436.2014.964871

McCombs, M., & Valenzuela, S. (2020). *Setting the agenda: Mass media and public opinion*. Cambridge, UK: Polity Press.

Meraz, S. (2011). Using time series analysis to measure intermedia agenda-setting influence in traditional media and political blog networks. *Journalism & Mass Communication Quarterly, 88*(1), 176–194. doi:10.1177/107769901108800110

Neuman, W. R. (1990). The threshold of public attention. *Public Opinion Quarterly, 54*(2), 159–176. doi:10.1086/269194

Neuman, W. R., Guggenheim, L., Jang, S. M., & Bae, S. Y. (2014). The dynamics of public attention: Agenda-setting theory meets big data. *Journal of Communication, 64*(2), 193–214. doi:10.1111/jcom.12088

Nielsen, R. K., & Fletcher, R. (2023). Comparing the platformization of news media systems: A cross-country analysis. *European Journal of Communication, 38*(5), 484–499. doi:10.1177/02673231231189043

Omachonu, J. O., & Healey, K. (2009). Media concentration and minority ownership: The intersection of Ellul and Habermas. *Journal of Mass Media Ethics, 24*(2–3), 90–109. doi:10.1080/08900520902885194

Park, C. S. (2021). Impacts of cross-ownership between newspapers and television on viewpoint diversity: Testing one-owner-one-voice thesis. *Journalism Studies, 22*(13), 1775–1792. doi:10.1080/1461670X.2021.1965908

Parkinson, J. (2020). The roles of referendums in deliberative systems. *Representation, 56*(4), 485–500. doi:10.1080/00344893.2020.1718195

Pfetsch, B. (2020). Democracy and digital dissonance: The co-occurrence of the transformation of political culture and communication infrastructure. *Central European Journal of Communication, 13*(1), 96–110. doi:10.19195/1899-5101.13.1(25).7

Prior, M. (2005). News vs. entertainment: How increasing media choice widens gaps in political knowledge and turnout. *American Journal of Political Science, 49*(3), 577–592. doi:10.1111/j.1540-5907.2005.00143.x

Rau, J. P., & Stier, S. (2019). Die Echokammer-Hypothese: Fragmentierung der Öffentlichkeit und politische Polarisierung durch digitale Medien? [The echo chamber hypothesis: Fragmentation of the public sphere and political polarization through digital media?] *Zeitschrift für vergleichende Politikwissenschaft, 13*(1), 399–417. doi:10.1007/s12286-019-00429-1

Rêgo, E. de C., & Justino de Oliveira, G. H. (2023). Defensive democracy in Germany and Brazil in today's practice: Parallels between the Bundesamt für Verfassungsschutz (BfV) and the Brazilian Office for Democracy Defense. *Seqüência Estudos Jurídicos e Políticos, 44*(94), 1–29. doi:10.5007/2177-7055.2023.e95761

Rogstad, I. (2016). Is Twitter just rehashing? Intermedia agenda setting between Twitter and mainstream media. *Journal of Information Technology & Politics, 13*(2), 142–158. doi:10.1080/19331681.2016.1160263

Rummens, S. (2012). Staging deliberation: The role of representative institutions in the deliberative democratic process. *Journal of Political Philosophy, 20*(1), 23–44. doi:10.1111/j.1467-9760.2010.00384.x

Sayre, B., Bode, L., Shah, D., Wilcox, D., & Shah, C. (2010). Agenda setting in a digital age: Tracking attention to California Proposition 8 in social media, online news and conventional news. *Policy & Internet, 2*(2), 7–32. doi:10.2202/1944-2866.1040

Schulz, W. (1997). Changes of mass media and the public sphere. *Javnost—The Public, 4*(2), 57–69. doi:10.1080/13183222.1997.11008646111

Searles, K., & Smith, G. (2016). Who's the boss? Setting the agenda in a fragmented media environment. *International Journal of Communication, 10*, 2074–2095.

Seeliger, M., & Sevignani, S. (2022). A new structural transformation of the public sphere? An introduction. *Theory, Culture & Society, 39*(4), 3–16. doi:10.1177/02632764221109439

Shao, P., & Wang, Y. (2017). How does social media change Chinese political culture? The formation of fragmentized public sphere. *Telematics and Informatics, 34*(3), 694–704. doi:10.1016/j.tele.2016.05.018

Slaets, A., Verhoest, P., d'Haenens, L., Minnen, J., & Glorieux, I. (2021). Fragmentation, homogenisation or segmentation? A diary study into the diversity of news consumption in a high-choice media environment. *European Journal of Communication, 36*(5), 461–477. doi:10.1177/0267323120966841

Smyrnaios, N., & Baisnée, O. (2023). Critically understanding the platformization of the public sphere. *European Journal of Communication, 38*(5), 435–445. doi:10.1177/02673231231189046

Su, Y., & Borah, P. (2019). Who is the agenda setter? Examining the intermedia agenda-setting effect between twitter and newspapers. *Journal of Information Technology & Politics, 16*(3), 236–249. doi:10.1080/19331681.2019.1641451

Takeshita, T. (2006). Current critical problems in agenda-setting research. *International Journal of Public Opinion Research, 18*(3), 275–296. doi:10.1093/ijpor/edh104

Terren, L., & Borge-Bravo, R. (2021). Echo chambers on social media: A systematic review of the literature. *Review of Communication Research, 9*, 99–118. doi:10.12840/issn.2255-4165.028

Valenzuela, S., Puente, S., & Flores, P. M. (2017). Comparing disaster news on Twitter and television: An intermedia agenda setting perspective. *Journal of Broadcasting & Electronic Media, 61*(4), 615–637. doi:10.1080/08838151.2017.1344673

Vargo, C. J., & Guo, L. (2017). Networks, big data, and intermedia agenda setting: An analysis of traditional, partisan, and emerging online U.S. news. *Journalism & Mass Communication Quarterly, 94*(4), 1031–1055. doi:10.1177/1077699016679976

Walgrave, S., & Van Aelst, P. (2006). The contingency of the mass media's political agenda setting power: Toward a preliminary theory. *Journal of Communication, 56*(1), 88–109. doi:10.1111/j.1460-2466.2006.00005.x

Wallsten, K. (2007). Agenda setting and the blogosphere: An analysis of the relationship between mainstream media and political blogs. *Review of Policy Research, 24*(6), 567–587. doi:10.1111/j.1541-1338.2007.00300.x

Willems, E., Maes, B., & Walgrave, S. (2024). Mechanisms of political responsiveness: The information sources shaping elected representatives' policy actions. *Political Research Quarterly, 77*(3), 851–865. doi:10.1177/10659129241248406

Wonneberger, A., & Vliegenthart, R. (2021). Agenda-setting effects of climate change litigation: Interrelations across issue levels, media, and politics in the case of Urgenda against the Dutch government. *Environmental Communication, 15*(5), 699–714. doi:10.1080/17524032.2021.1889633