

Democratising and Enlightening?

Investigating the Role of Social Media in The Democratisation of the Public Sphere,
Political Deliberation and Public Opinion

Doctoral thesis submitted by:
Ludovic Terren

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PhD Directors:

Dr. Anna Clua Infante (UOC)

Dr. Rosa Borge Bravo (UOC)

Thesis Committee:

Dr. Anna Clua Infante (UOC)

Dr. Rosa Borge Bravo (UOC)

Dr. Michael Jensen (University of Canberra)

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*Behind the masks of total choice, different forms of the same alienation
confront each other*

Guy Debord

Summary

Over the last decades, the prevalence of information and communication technologies (ICTs) and social media have increased substantially, to the extent that they now form an integral part of our daily lives. Defined by connectedness, user-generated content and interactivity, social media platforms have gone way beyond the initial aim of connecting people and forming relationships. They have become a politically-relevant space of awareness development and claims making, while redefining the way we access and share information.

With the advent of ICTs and social media, a number of scholars (e.g., Benkler, 2006; Gimpler, 2001; Papacharissi, 2002; de Certeau, 1997; Xenos et al., 2014) claimed that these technological developments would enrich the political realm and open up the public sphere by – for instance – taking down social and geographical boundaries. Many saw these developments as something that would provide an arena for new voices to be heard; something that would democratise the public sphere and promote political equality, especially for younger generations. There have also been hopes that the internet and social media would become a new (independent) public sphere in and of itself, enabling a diversification of communicative action and the promotion of political deliberation and viewpoint diversity.

In contrast, others (e.g., Pariser, 2011; Stroud, 2010; Sunstein, 2017; Vergeer & Hermans, 2013) have been more pessimistic, arguing that social media political participation merely replicates the inequalities that are already manifest in offline

participation, or that the use of social media communication leads to polarisation and to the formation of enclosed ‘echo chambers’ of like-minded users, thereby impeding political deliberation and viewpoint diversity.

The present research contributes to these debates by focusing on the role and potential of social media in (i) political participation and access to the public sphere (focusing on youth as a proxy for wider non-elite or non-hegemonic groups); (ii) political deliberation and viewpoint diversity, and (iii) public opinion.

This thesis is a compendium of four stand-alone papers which – building on concerns over the state of democracy – together provide a broad, yet integrated assessment of some of the political ramifications of social media communication.

The first study (article 1) looks at the extent to which young people are able to voice their political claims in the public sphere and examines whether the increasing prominence of social media communication is reflected in mainstream media agenda setting. This study was carried out to shed light on the extent to which social media facilitate (young) people’s access to the public sphere and alleviate political inequalities. To do so, we performed a large-scale analysis of political claims (n=4,525) in the European mainstream press (45 newspapers). Overall, the findings suggest that young people are misrepresented in mainstream newspapers and that the increasing prevalence of social media communication does not seem to be reflected in mainstream media agenda setting.

The second study (article 2) is based on a case study of the online campaign to save the Spanish Youth Council, following the Spanish government's decision to dissolve it back in 2014. Through a content analysis of newspaper articles and Twitter posts, we analysed the campaign (*#salvemoselcje*) to see how it was treated in the press and how Twitter was used as a means of voicing the campaigners' concerns. We tried to shed light on the extent to which this online activity altered the prominence of this issue in the public sphere as well as whether or not it promoted debate and deliberation online. This study showed that the increased potential for visibility offered by social media is not always maximised and does not necessarily alter the prominence of an issue in the public sphere (this issue barely reached the media). It also showed how social media campaigns can remain within a 'gated community' of like-minded participants, effectively precluding external visibility and exchanges as well as a potential deliberative process.

The third study (article 3) developed within the framework of this thesis is a systematic review of the existing peer-reviewed literature on the existence of echo chambers on social media. The idea was to examine the different approaches, their similarities and differences, and offer a consolidated perspective that can shed light on the issue of social media echo chambers and hopefully support future research in this area. This systematic review took into account scientific studies on the existence of echo chambers on social media, written in English, and published in peer-reviewed journals or in peer-reviewed conference proceedings before the 1st of January 2020. After a careful

eligibility assessment process, a total of 55 studies were included for analysis in this review.

Despite the sometimes-contrasting findings that were generated by these studies, the analysis revealed a broader consensus pointing to the existence of echo chambers on social media. However, in this systematic review we identified biases and patterns across the foci, methods and findings of the studies. Most importantly, we saw that all the studies that found clear evidence of echo chambers on social media were based on digital trace data, while all the studies that did not find any evidence of echo chambers (on the contrary finding evidence of cross-cutting interactions and exposure) were based on self-reported data.

The fourth and last study (article 4) focuses on the impact of different ‘media diets’ (including social media news consumption) on public opinion on immigration. More specifically, it comparatively analyses the influence of social media news consumption (among other media), frequency of news consumption and media diversity on immigration attitudes. To do so, I relied on panel data (7,240 individuals and 14,480 observations) from a two-wave survey conducted in 2018 and 2019 across nine European countries. These data were analysed by using two Ordinary Least Squares (OLS) models that took into account the influence of different ‘media diets’, along with other socio-demographic factors, on the perception of the economic and cultural impacts of immigration. The results showed – among other things – that having a less

diverse media diet or relying primarily on social media to get news (compared to print newspapers) significantly and negatively affects people's perception of immigration.

Through a multifaceted, mixed methods and multi-country approach, this thesis brings an important contribution to our understanding of some the political ramifications of social media. More precisely, it provides key insights into the role and potential of social media in opening up the public sphere, promoting political deliberation and viewpoint diversity, as well as in shaping public opinion.

The main takeaway from the different parts of this research is that despite early optimism – seeing ICTs and social media as a new independent public sphere, facilitating political deliberation and increasing the public's role in social and political affairs – the democratising potential of social media does not seem to have materialised, at least not the extent that some early theorists had envisioned.

1. Introduction

1.1. Context and research questions

Over the last decades, social media's penetration rate has increased significantly across the world. The number of internet users worldwide who use a social network site at least once a month went from just short of one billion in 2010 to more than three billion in 2020 (Statista, 2019; We Are Social, 2020). Around 55% of Europeans are active social media users, a proportion that increased by 4.4% between 2019 and 2020 (We Are Social, 2020). A Pew Research Center (2018) survey on social media use showed that between 50 and 75% (depending on the country) of 18-29 year-olds in Europe get news on social media at least once a day. Defined by connectedness, user-generated content and interactivity, social media platforms have gone way beyond the initial aim of connecting people and forming relationships. They have become a politically-relevant space of awareness development and claims making, while redefining the way we access and spread information. We live in an era of increasingly ubiquitous ICT and social media use, characterised by unprecedented levels of connectivity as well as communicative diversity and reach. Yet, more than ever before, we are concerned about polarization and the potential breakdown of a shared space for political expression, information seeking, debate and opinion formation.

The study of the democratic implications of social media is almost inevitably connected to Jürgen Habermas' conception of the 'public sphere' (*Öffentlichkeit*), understood as a space within our social lives in which 'something approaching public opinion can be formed' (Habermas, 1991, p. 49). It is also understood as a space to which all citizens

have a guaranteed access and in which participants should interact and confront opposing points of view (Habermas, 1991; Hauser, 1999). Although criticised for being bourgeois (Negt & Kluge, 1993) or for neglecting pluralism and conflict (Mouffe, 1999), it remains a key foundation for media scholars, notably when looking at the extent to which social media ease access to the public sphere, promote political deliberation, and influence the formation of public opinion. The increasing prevalence of social media communication warrants more investigation into its political ramifications, an endeavour in which this thesis takes part. It will take a multidimensional approach to this issue, keeping social media use as its backbone. It should be mentioned here that my aim in this thesis (and particularly in the first two research questions) is not to deliver a techno-determinist account of social media's overarching and causal impact on democracy. Rather, it focuses on specific and potential implications of social media use that are relevant to broader democratic processes, taking into account the dynamics of changing technological affordances and communication opportunities and the extent to which these are – or can be – taken advantage of in different contexts. Within the framework of this thesis, these political, historical and economic contexts are diverse as this research includes both a single-country study (focusing on Spain), as well as multi-country studies and data (focusing on 9 European countries and on worldwide English-language peer-reviewed literature).

The first part (RQ1) of this thesis evaluates the potential of social media communication in the democratisation of the public sphere, by looking at youth political participation (focusing on youth as a proxy for wider non-elite, non-hegemonic groups). The link

between the advent of new communication technologies and unempowered young people was already made almost thirty years ago by Michel de Certeau. According to him, online innovations like the Web and E-mails would – among other things – provide access to ‘...a sort of power of local consciousness-raising for younger generations (whose limited material means and still uncertain status would otherwise hold them in the networks of their superiors)’ (de Certeau, 1997, p. 111).

The second part (RQ2) of this thesis focuses on the extent to which social media promote political deliberation and viewpoint diversity, while the third part (RQ3) touches upon the impact of social media on public opinion, by looking at how different ‘media diets’ influence people’s perception of immigration.

Social media, youth political participation and access to the public sphere

Over the last decades, an increasing number of scholars of political and social sciences have been warning of a process of youth withdrawal and disengagement from mainstream politics (Grasso, 2013; Van Biezen et al., 2012). Low election turnouts, decreasing membership in political parties and a general disregard for politicians have all been among the signs that young people are turning away from ‘traditional’ political participation.

The causes and consequences of this apparent trend are still debated: while some talk about a pure decline – often related to a generational effect and a fundamental change in values – others talk about a shift in political engagement. While many young people

have indeed become disenchanted with mainstream party politics, this decline should not be misinterpreted as a loss of interest on the part of the youth for the social and political issues that define the world that they live in. As exemplified by this last decade's massive waves of youth protests, the claim that young people today are less politically-engaged than previous generations has oftentimes been considered as a bit of a leap. Scholars of youth participation have attributed this seeming disengagement to a gradual shift from a traditional model of representative democracy and party politics to alternative approaches to political participation that respond to a shift in values and expectations, including the rise of postmaterialist values as well as issue-based and lifestyle politics (Cammaerts et al., 2014; Dalton, 2016; Inglehart, 1997). These alternative, non-institutional forms of political participation include social movements and protests, petitions, boycotts and buycotts, all of which are increasingly orchestrated through – and taking place on – online social networks. The technological revolution and the advent of the Web 2.0 have led to the proliferation of these new expressive forms of political engagement (e.g., Arab Spring, Occupy Movement, Youth Climate Movement) while drastically reducing the costs of political participation (Earl & Kimport, 2011). Seen as 'digital natives', generations of young adults today are not only able to use these technologies but they have become so integrated into their daily lives that they represent the 'natural' space in which they might choose to act or voice their political claims (Yunhwan & Amnå, 2015). Since its inception, theorists have claimed that the internet would enrich the political realm, increase exposure to political divergence and open up the public sphere by taking down social and geographical boundaries.

Many have seen the development of information and communication technologies (ICTs), and even more so social media, as something that would invigorate participatory democratic practices, challenging the power of economic and political actors while providing an arena for new voices to be heard; something that would democratise the public sphere and promote political equality, especially for younger generations and marginalized groups (Bowen, 1997; Gil de Zúñiga, 2015; Papacharissi, 2002; Xenos et al., 2014). Due to the unprecedented connectivity offered by social media and the ease with which content can be created, shared and accessed, some have hoped that they would flatten the communication playing field, giving underrepresented groups the ability to reach a wide audience (Goode, 2009).

However, to what extent do we know this to be the case? How effective is social media political participation in advancing political claims and in helping these reach the public sphere? When looking at the revolutionary and emancipatory potential of social media and ICTs, other scholars have adopted a more pessimistic view, arguing for instance that the reductionist discourse that is often associated with ‘techno-determinism’ or ‘techno-utopianism’ blurs the importance of political, ideological and cultural contexts in analysing participation (Carpentier, 2009); that participation via ICTs and social media merely replicates the inequalities that are already manifest in offline participation (Schlozman et al., 2012; Vergeer & Hermans, 2013); or that the use of social media communication leads to group mentality, polarisation and to the formation of enclosed ‘echo chambers’ of like-minded users (Barberá, 2015; Pariser, 2011; Sunstein, 2017).

Aside from their well-established use in mobilization and in coordinating social movements and protest events, doubts remain as to whether or not social media contribute to democratising and opening up the public sphere, which leads us to the first research question.

RQ1: To what extent do social media facilitate access to the public sphere and alleviate political inequalities?

Social media, political deliberation and viewpoint diversity

Beyond online political participation and access to the public sphere, there have been debates regarding the internet and social media as a new public sphere in and of itself, as well as regarding their potential in promoting political deliberation and viewpoint diversity, which are believed to be essential to a healthy democracy (Putnam et al., 1993).

On the one hand, some have been rather optimistic, seeing these new technological developments as enabling a diversification of communicative action and the promotion of viewpoint diversity and of a new independent public sphere (e.g., Gimmler, 2001; Papacharissi, 2002; Bode, 2012) – ultimately leading to an online knowledge common characterised by a free flow of information and a democratic space for the exchange of political thoughts (Benkler, 2006). For Habermas, while digital technologies might allow people to escape some forms of censorship and repression in the context of

authoritarian regimes, their democratic merits would be less certain in liberal democracies, as ‘...the rise of millions of fragmented chat rooms across the world tend instead to lead to the fragmentation of large but politically focused mass audiences into a huge number of isolated issue publics’ (Habermas, 2006, p. 423). In line with this more ‘pessimistic’ view, others argued that online and social media communication would lead to clustering, polarisation and to the formation of ‘echo chambers’ or ‘filter bubbles’ in which users mostly communicate with – and are exposed to content from – like-minded users (Barberá, 2015; Pariser, 2011; C. R. Sunstein, 2017).

Among the most emblematic embodiments of this pessimistic vision, we find Sunstein’s (2001; 2017) metaphor of the ‘echo chamber’ and Pariser’s (2011) image of the online ‘filter bubble’. The notion of the ‘echo chamber’ refers to a space in which users mostly interact with and/or are mostly exposed to content from like-minded others. These spaces are often characterized by users selectively engaging with attitude-reinforcing arguments and content, thus rarely being exposed to the conflicting ideas that make up the agonistic public sphere (cf. Mouffe, 2005). This process, usually referred to as ‘selective exposure’, is often believed to be exacerbated by ‘filter bubbles’ deriving from social media platforms’ algorithmic curation of content based on users’ past activity, which limits the novelty and diversity of the content that users are exposed to, and which – instead of contributing to viewpoint diversity – can lead to online clustering and polarisation. Although echo chambers and filter bubbles are distinct phenomena (further developed later in this thesis), they are mutually-reinforcing and share the same normative concern; namely the potential breakdown of a shared environment for

political expression, information seeking, debate and opinion formation. These are serious concerns, given that political deliberation as well as awareness of other political opinions represent some of the foundations of democracy (Habermas, 1991). In this thesis, I address the extent to which these worries are justified and take stock of the scientific knowledge on the topic, shedding light on the different approaches, their similarities and differences.

Generally speaking, this issue touches upon the ability of digital media to help with the formation of an informed public opinion and the promotion of political deliberation and diversity, which leads us to the second research question.

RQ2: To what extent do social media facilitate political deliberation and viewpoint diversity?

Social networks, media diversity and public opinion

Given the increasing number of people who rely (sometimes exclusively) on social media to get news as well as issues related to the existence of echo chambers and the way information and news circulate on social media, it seems of paramount importance to further our understanding of the impact of social media and media diversity on public opinion.

The formation of political opinion by well-informed citizens is an important part of democracy, in which the news media – in their different and evolving forms – play a fundamental role. Indeed, as individuals cannot possibly have a direct experience and

knowledge of everything that is happening in the world, the media are often the first and main source of information through which people make sense of the world and form opinions.

Many scholars have been focusing – and reached consensus – on the overarching impact of the media on political attitudes and people’s perception of the social world (Boomgaarden & Vliegenthart, 2009; Preiss et al., 2006; Shaw & Martin, 1992). In a well-known statement, Cohen (1963) declared, ‘The press may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about’ (p. 13). Later studies would extensively revisit this claim, stating that the media are not only successful in telling people what to think about but also in telling them how to think about it, and, thus, by extension, what to think (McCombs & Shaw, 1993; Page & Shapiro, 1992).

Over the last decades, the multiplication of media sources and changes in access to – and consumption of – news media (e.g., from newspapers and television to online and social media platforms) have generated interest in media effects on public opinion.

Taking the example of immigration attitudes (which is the outcome variable of article 4), a series of studies on the representation of immigration in the media have concluded that media frames significantly influence beliefs about immigration. Some of them found a significant relationship between exposure to commercial broadcasting (as opposed to public service broadcasting) and negative attitudes towards immigrants (Beyer & Matthes, 2015; Jacobs et al., 2016), or that the increasingly sensationalistic nature of mass media coverage reinforced negative perceptions of immigration

(Battegay & Boubeker, 1993; Benson, 2002). Television news has been shown to frame immigration significantly more negatively than print newspapers (Igartua, Muñiz, Otero, & De la Fuente, 2007) and individuals who get more news through newspapers and radio (compared to other media) were shown to hold a better opinion on the economic impact of immigration (Héricourt & Spielvogel, 2013).

The types of media that we rely on to get news can be drastically different. For example, while it can be said that print newspapers usually are broader in scope and provide more in-depth analyses, news content on social media and search engines are more easily curated and narrowed down (cf. filter bubbles/echo chambers), as well as often presented in a dramatic and provocative way, following the business model's imperative to attract more clicks and the fact that more extreme and dramatic content is more likely to be noticed and circulated (Hong & Kim, 2016).

While a significant amount of work has been done on the relationship between social media use and opinion polarisation (Lee, 2016; Lee et al., 2014), few have analysed the role and impact of social media news consumption and media diversity on public opinion on a specific and essential issue. This leads us to the third research question.

RQ3: What is the impact of social media news consumption and media diversity on public opinion on immigration?

1.2. Relevance and objectives

The research questions and the studies that compose this compendium all have in common the desire to – building on concerns over the state of democracy – examine some of the political ramifications of social media, which increasingly permeate and influence contemporary societies.

Young people in Europe have oftentimes been labelled as the ‘lost generation,’ or as ‘the first generation in living memory that will be worse off than their parents.’ They – but also citizens more broadly – have faced significant challenges in recent years, particularly since the financial crisis. In trying to cope with these challenges, increasingly disillusioned young people are – often through online means – engaging in new alternative forms of participation and protest, and trying to find new ways to voice their political claims. At the same time, populism is gaining ground in many parts of the world while disinformation and political polarisation are on the rise, together representing major threats to democracy. These phenomena can be illustrated in part by the significant advance of right-wing nationalism in many European countries, or the increasing spread and normalisation of alternative facts and conspiracy theories.

All these developments share a strong link with the advent of ICTs and the rise and massive spread of social media across the world. Research on the role and impact of social media – whether on democracy, individuals, or society as a whole – is still young, debated and deserving of careful scrutiny. Social media have been – and are being – adopted on a massive scale across the world. Whether one sees these digital tools as a

solution, as a threat, or as neither of those, the study of the political ramifications of social media in the contemporary world is more than timely.

This thesis aims to further our understanding of the role and potential of social media in opening up the public sphere, promoting political deliberation and viewpoint diversity, as well as in shaping public opinion. To do so, it uses an interdisciplinary and mixed methods approach building bridges between communication and political sciences and combining qualitative and quantitative analyses. The added value of this project lies in its multifaceted, yet integrated assessment of the political ramifications of social media communication. While the thesis is composed of four stand-alone papers, the integrated perspective provides us with insights into the potential interlinkages that exist between the different issues addressed in each study. These include the impact (or lack thereof) of social media political participation and the way that information circulates on social media (cf. echo chambers), or the extent to which (if any) social media facilitate political deliberation and viewpoint diversity, and in relation to that, how they might shape public opinion on crucial socio-political issues (the rationale for the development of the studies is explained in the following section).

1.3. Overview of the studies

This thesis is a compendium of four articles, three of which are already published and one of which is currently under review (see Table 1).

These studies were developed in order to tackle the above-mentioned objectives and research questions. Articles 1 and 2 address the first research question (RQ1), articles 2 and 3 address the second research question (RQ2), while article 4 addresses the third research question (RQ3). Table 1 below provides a brief overview of the four different articles, highlighting their main research questions, methods and findings.

Table 1. Brief overview of the articles included in this thesis

ARTICLES	Article #1: Youth political claims in the mainstream press	Article #2: Spanish Youth Council political campaign case study	Article #3: Social media echo chambers: systematic review	Article #4: Media effects on the perception of immigration
PUBLICATION STATUS	Published in <i>American Behavioral Scientist</i>	Published in <i>Comunicar</i>	Published in <i>Review of Communication Research</i>	Under review
ARTICLE'S MAIN RESEARCH QUESTIONS	To what extent do the mainstream media relay youth political claims? Is the growing prevalence of social media reflected in mainstream media agenda setting?	To what extent did the online campaign to save the Spanish Youth Council reach the public sphere? Did it trigger debate?	Are social media characterised by echo chambers of like-minded users and content? What is the state of research on this topic?	How do different 'media diets' influence people's perception of immigration?
METHODOLOGY	Political claims analysis in the mainstream press	Content analysis in the mainstream press and Twitter	Systematic review of the literature	Panel data analysis
MAIN FINDINGS	The growing prevalence of social media communication and participation is not reflected in mainstream media agenda setting.	The online campaign to save the Spanish Youth Council did not reach the public sphere nor did it trigger debate. It remained within a 'gated community'.	There is a broader consensus pointing to the existence of echo chambers on social media. Yet, the findings of the studies seem determined by methodological choices	Having a less diverse 'media diet' or getting news primarily on social media (compared to print news) negatively influences people's perception of immigration.

Rationale for the development of the studies

While working on a research project on youth political participation in times of increasing inequalities (EURYKA, see 1.4 below), the question of the role and potential of social media in youth political participation and in easing their access to the public sphere arose rather promptly and naturally. Using relevant data that were gathered within the framework of the project, the idea was to analyse political claims in the European mainstream press to examine whether the increasing prominence of social media communication and participation was reflected in mainstream media agenda setting. At the same time, we saw that Spain had obtained a very low score (compared to the other countries of the project) in terms of youth policies, which was mostly due to the government's decision, back in 2014, to dissolve the Spanish Youth Council (*Consejo de la Juventud de España* – CJE). We thus decided to look at the campaign that attempted to save this youth institution (*#salvemoselcje*) to see how social media were used strategically; the extent to which it altered the prominence of this issue in the public sphere; and whether or not it promoted debate and deliberation online. Seeing that the online activity around the campaign remained within a circle of 'CJE defenders' and barely reached the media, I started to focus on the issue of social media echo chambers. I wanted to look at the state-of-the-art knowledge on this issue and subsequently developed a systematic review of the literature on the existence of echo chambers on social media. Dwelling on the issue of echo chambers and filter bubbles (in which users are supposedly mostly exposed to like-minded content) raised questions regarding the limited – or limiting – potential of social media when it comes to

facilitating political deliberation and viewpoint diversity. These questions, coupled with the increasingly important role of social media in news consumption habits, guided my decision to focus on the effect of different 'media diets' (including social media news consumption) on public opinion on immigration, being an issue that is not only highly important, but that is also prone to disinformation.

1.4. Data and methods

This thesis addresses some of the democratic implications of social media through four different articles, based on different cases and using different data and methods, as described in this section.

Articles 1 and 4 were developed using data that were gathered within the framework of the EURYKA project on youth political participation. This project ran between 2017 and 2020 and was coordinated by Professor Marco Giugni (PI), from the University of Geneva. It received funding from the Horizon 2020 EU Framework Programme under grant agreement no. 727025. The youth dimension of the project allowed me to gain essential insights into the dynamics of youth political participation and social media use. However, this is not a thesis on youth and the focus on youth should not be seen as restrictive when it comes to analysing the broader democratic implications of social media. In articles 1 and 2, the focus on youth in analysing social media's potential in facilitating access to the public sphere likely also reflects – at least to some extent – broader non-elite, non-hegemonic groups' ability to access the public sphere.

The data used in articles 2 and 3, on the other hand, were collected outside of the project and solely for the purpose of conducting these studies.

Article #1: Falling on deaf ears? An analysis of youth political claims in the European mainstream press

The first article of this thesis is based on a political claims analysis in which we systematically studied, among other things, the actors intervening in public debates through mainstream media, the way in which their claims were raised, the issues that were raised, the policy positions, and the frames that were advanced. In this study, the political claim was understood as a strategic intervention, either verbal or nonverbal, in the public space made by a given actor on behalf of a group or collectivity, expressing a political opinion and bearing on the interests or rights of other groups or collectivities.

For each of the nine countries of the EURYKA project (namely France, Germany, Greece, Italy, Poland, Spain, Sweden, Switzerland, and the United Kingdom), five daily newspapers of national coverage were selected (45 in total). Only newspapers that fit the definition of mainstream media were included in the sample. All the newspapers had to be print newspapers of national coverage, with a high level of circulation and of generalist scope. The selection took into account the respective characteristics of each country's media landscape and tried to find the best possible equilibrium across the ideological spectrum. We retrieved articles that were published between 2010 and 2016, and that included any or all of the following keywords (translated into nine

different languages): young people, adolescent*, student*, youth. Within these parameters, the articles were randomly selected and political claims were identified and extracted through a systematized screening and coding process. Each team retrieved around 100 political claims per newspaper, amounting to a total of 4,525 claims that were coded using a codebook. The codebook included, but was not limited to, variables such as the 'actor(s)' making the claim or the form through which the claim was made (i.e., the means of claim making), which – among other types of action – included social media communication. For the purpose of this study, the data provided us with essential insights into who's claims reach the mainstream media and how (i.e., through what means).

Article #2: Youth impact in the public sphere: The dissolution of the Spanish Youth Council in the press and on Twitter

For this second article, we used a twofold data collection approach. On the one side, a content analysis was performed on newspaper articles that included the keyword phrase 'Consejo de la Juventud de España'. On the other side, a Twitter analysis of the campaign against the Spanish Youth Council's (CJE) dissolution was performed by looking at the use and circulation of the hashtag #salvemoselCJE.

Using Factiva, we retrieved the relevant newspaper articles based on a set of 22 sources selected according to the criteria of daily publishing and national coverage: '20 Minutos', ABC, 'El Confidencial Digital', 'El Confidencial.com', 'Crónica Global', 'El Correo', 'El

Diario Montañés Online', 'Diario Siglo XXI', 'El Diario Vasco Online', 'El Diario.es', 'Diariocritico.com', 'El Huffington Post-Spain Edition', 'Elmundo.es', 'El País', 'El Pais.com', 'El Español.com', 'Gaceta.es', 'El Imparcial', 'El Independiente', 'Infolibre', 'El Mundo', 'El Periódico de Catalunya'. The data retrieval covered a five-year period, from 2012 (when the campaign started) to July 2017 (when the CJE signed an agreement on its dissolution). Like in the first article, a codebook was used in order to code the 81 retrieved articles. Two variables were identified: The coverage and the degree of visibility assigned to the CJE's dissolution, as well as the temporality (permanence of the news in the media agenda). The codebook established four types of news: (1) News that mentioned the CJE somewhere in the article, but did not mention the agency's dissolution; (2) News that mentioned the CJE's dissolution, but that was not specifically about the CJE and/or its dissolution; (3) News about the CJE's dissolution; (4) News about the dissolution that identified the CJE as a source.

The Twitter analysis looked at the use and circulation of the hashtag #salvemoselCJE. The study consisted in an analysis of the tweets that were posted between the 20th of June 2013 (date of the first tweet including the campaign's hashtag) and the 23rd of November 2015 (date of the last tweet). By looking at the Twitter activity, we aimed to identify the key actors of the CJE's defence and their interactions, the virality of #salvemoselCJE on Twitter during the campaign, as well as the nature of the interactions. We aimed to gather precise information on the type of account that issued each tweet, the number of followers that these had, the number of likes, retweets, and answers that each tweet received, as well as the positioning of the tweets in relation to the campaign.

A set of related hashtags was also identified, and a tag cloud analysis was performed, through TagCrowd, which helps to visualize the frequency of the different hashtags that were used. Twitter accounts were identified and classified as ‘institutional’ or ‘individual’, and (in both cases) additional data on the identity of each actor (in terms of political affiliation, belonging to a group, etc.) was gathered whenever possible. The data and the method used in this study allowed us to shed light on the extent of young people’s access to the public sphere and on the dynamics of social media-based political participation and campaigning.

Article #3: Echo chambers on social media: A systematic review of the literature

In order to comprehend the debate surrounding the existence of echo chambers on social media, this third article is based on a systematic review of the existing (peer-reviewed) literature. The idea was to take stock of the scientific knowledge on the topic to shed light on the different approaches, their similarities and differences, and offer a consolidated perspective that can hopefully support future research in this area.

For the sake of manageability and coherence, this systematic review took into account scientific studies on the existence of echo chambers on social media, written in English, and published in peer-reviewed journals or in peer-reviewed conference proceedings before the 1st of January 2020 (which corresponds to the cut-off point of this systematic review).

In order to identify and retrieve relevant studies published in peer-reviewed social science journals and conference proceedings, we performed a clearly-defined keyword search in two dedicated academic databases: Scopus and Web of Science. An additional search was then performed in Google Scholar, to account for peer-reviewed journals or conference proceedings missed by these databases and/or published in lower impact journals or conferences. We performed Boolean searches using the following keyword phrase: 'social media' OR 'social network*', in combination with (AND) 'echo chamber*' OR 'filter bubble*'. This was done through a topic search, looking for correspondence in the studies' titles, abstracts and keywords. The same Boolean search was carried out in Google Scholar. However, as this search engine tends to inflate the number of relevant studies (the Boolean search yielded more than 10,000 results), we focused on the first 500 results, sorted by relevance.

The searches in Scopus (222 results), Web of Science (169 results) and Google Scholar (first 500 results) together yielded 891 studies that were then subject to a careful eligibility assessment process. These 891 results were first checked for duplicates (n=164), after which the titles and abstracts of the remaining 727 studies were screened. Based on clear exclusion criteria, 509 records were excluded in this first screening. The full text of the remaining 218 studies was then checked for relevance in a second screening process. This last step of eligibility assessment left us with 55 studies (46 articles and 9 conference proceedings) that were included for analysis in this systematic literature review.

Article #4: *Media effects on the perception of the impact of immigration: Evidence from 9 European countries*

For this fourth and last article, I relied on panel data from a two-wave survey conducted in nine European countries (namely France, Germany, Greece, Italy, Poland, Spain, Sweden, Switzerland, and the United Kingdom). The data were collected by the specialised polling agency Qualtrics through online surveys administered in April-December 2018 and April-July 2019. The dataset is composed of 7,240 individuals (14,480 observations including both waves) and was built using quotas for gender, geographical location (regional-level), education and age.

To analyse the data and the determinants of the perception of the economic and cultural impacts of immigration, two Ordinary Least Squares (OLS) models were used. In the first model, the dependent variable corresponds to the perception of the impact of immigration on the economy, while in the second model it corresponds to the perception of the impact of immigration on culture. Given the low expected variation on the dependent variables between wave 1 and 2 and the desire to estimate the effects of time-invariant factors, a random-effects approach was favoured, controlling for individual, country and wave random effects.

The use of random-effects (over fixed effects) allowed me to generate narrower confidence intervals and to estimate the effect of time-invariant variables, which enabled a comparative perspective on the determinants of immigration attitudes, ranging from respondents' media diets to their education level and political orientation,

among others. I also ran separate within (fixed) and between effects analyses to evaluate whether the effects were mostly driven by longitudinal or cross-sectional differences.

1.5. Main findings

Through a multifaceted and multi-country approach combining qualitative and quantitative methods, this research contributes to shedding light on some of the political implications of social media use. The interdisciplinary and integrated approach building upon previous knowledge from communication and political sciences allowed me to go beyond the findings of each individual article. The thesis builds upon and consolidates the results of four studies into one coherent contribution that offers a broad perspective on the intricacies of social media and the public sphere. This perspective ranges from political participation and access to the public sphere to political deliberation, viewpoint diversity and public opinion. The main finding of this thesis is that the potential of social media in democratising the public sphere does not seem to have materialised, or at least not in the way that early theorists had anticipated. Indeed, scholars have claimed that the internet would enrich the political realm and increase exposure to political divergence by taking down social and geographical boundaries, and that the advent of the cyberspace would increase the role of the public in social and political affairs, laying the ground for a new democratic ideal (Benkler, 2006; Papacharissi, 2002).

Although the internet and social media have undoubtedly revolutionized the way we communicate and access information, the research carried out in this thesis casts doubts regarding the potential of social media in easing access to and opening up the public sphere, as well as in promoting political deliberation, viewpoint diversity and unfettered communication flows. This is in line with the normalization hypothesis, according to which the use of social media – instead of revolutionizing politics – is simply reinforcing existing power relations and contributing to maintaining the status quo (Vergeer & Hermans, 2013). More specifically, we will see that social media do not seem to contribute to political equality when it comes to young people's access to the public sphere through the mainstream media, and that young people's voice and political claims do not have a prominent place in the news. This research also concludes that the increased potential for visibility offered by social media is not always maximized and does not necessarily alter the prominence of an issue in the public sphere. In terms of political deliberation and viewpoint diversity, we will see how social media campaigns can remain within a 'gated community' of like-minded participants, effectively precluding external visibility and exchanges as well as a potential deliberative process. We will also see that, although potential biases of different approaches to studying social media echo chambers might weigh on the findings of these studies, there seems to be a broader consensus supporting the idea that social media users will most likely interact with like-minded others and/or be exposed to ideologically-congruent content on social media. This is all likely to contribute to the reinforcement of previously-held beliefs while impeding political deliberation and viewpoint diversity. Lastly, and in line

with these issues of echo chambers and viewpoint diversity, this thesis will show that a having a less diverse 'media diet' or getting news primarily on social media (compared to print newspapers) negatively influences public opinion on immigration.

The introductory section of this thesis has already laid out the context, the research questions, the objectives, the data and methods, as well as presented an overview of the main findings. In the following sections, the studies that compose this compendium will be presented, before moving on to the conclusions.

2. Results

2.1. Article 1: Falling on Deaf Ears? An Analysis of Youth Political Claims in the European Mainstream Press

Ludovic Terren, Anna Clua Infante, Núria Ferran-Ferrer

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Ludovic Terren¹ , Anna Clua Infante¹,
and Núria Ferran-Ferrer¹

Abstract

There is a growing body of work on the ability of young people and minorities to have their voices heard in the public sphere, particularly with advances in information and communication technologies and the emancipatory expectations that ensued. Are all young people, in all their diversity, equally likely to have their political claims relayed by the mainstream press? Is the growing prevalence of social media communication reflected in mainstream media agenda setting? Does it contribute to political equality in terms of representation in the mainstream press? This article aims to answer these questions through a large-scale political claims analysis in 45 newspapers across nine European countries. It comes to confirm the theoretical underpinnings laid out by scholars like Herman and Chomsky with their analysis of media agenda setting and power relations or Chantal Mouffe and her notion of agonistic pluralism and the need to address unequal access to the public sphere. Overall, our findings suggest that young people in general—but even more so disadvantaged youth socioeconomic groups—are misrepresented in mainstream newspapers and that the increasing prevalence of social media communication does not seem to be reflected in mainstream media agenda setting.

Keywords

mainstream press, mainstream media, youth, social media, journalistic routines, agenda setting, political claims, inequalities, public sphere, media sphere

¹Universitat Oberta de Catalunya, Barcelona, Spain

Corresponding Author:

Ludovic Terren, Department of Information and Communication Sciences, Universitat Oberta de Catalunya, Avinguda del Tibidabo, 39, 08035, Barcelona, Spain.
Email: lterren@uoc.edu

Introduction

Over the past decade, young people in Europe have oftentimes been labeled as the “lost generation,” or as “the first generation in living memory that will be worse off than their parents.” They are faced with significant challenges, many of which have drastically heightened since the financial crisis, particularly in southern countries (Lima & Artiles, 2013). These include, but are not limited to, high levels of youth unemployment, precarious work, lack of affordable housing, and poor access to education. This state of affairs and the alarming figures that illustrate it are often represented in the media as a decomplexified phenomenon, a by-product of the financial crisis, or as the fate of an apathetic and depoliticized young population (Carpentier & Cammaerts, 2006). However, one ought to question not only what young people have in their power to tackle these challenges but also the extent to which young people, in all their diversity, are salient in the mainstream media and have the opportunity to voice their political claims.

Authors like Herman and Chomsky (1988) have long theorized about the mainstream media and their editorial bias, maintaining that they have established a routine of privileging “elite” sources, often linked to governments’ press offices, institutions, or large companies. This eclipses different realities that deviate from the normalcy established by the elites’ hegemonic discourse, as well as severely limits conflict and diversity in the public sphere, which are essential for real democratic debate (Mouffe, 2005).

More recently, with the advent of the Web 2.0 and the subsequent emergence and widespread use of social media, there have been hopes that young people, seen as “digital natives,” would have the opportunity to progressively escape a condition of political inequality through the adoption of new communication technologies and strategies (Xenos, Vromen, & Loader, 2014), diversifying the public sphere and calling the gatekeeping role of the mainstream media into question.

Today, based on these theoretical underpinnings and given the widely agreed upon agenda-setting influence of the mainstream media, it seems essential to once again address young people’s presence (or absence) in the media sphere as political actors as well as the much-debated potential of the Internet and social media in alleviating a condition of political inequality that youth in general, but even more so specific socioeconomic groups, have traditionally been subject to.

This article will do just that, by addressing the following questions: (1) To what extent does the mainstream media relay young people’s political claims? (2) Which youth socioeconomic groups are more, or less, likely to have their political claims relayed by the mainstream media? (3) To what extent is the growing prevalence of social media communication reflected in mainstream media agenda setting?

Based on a large-scale political claims analysis in 45 mainstream newspapers across nine European countries, our data show that youth political claims are few and far between (despite our reliance on youth-related keywords in the searches), that the mainstream media still lack the defining features of diversity as a significant majority of these youth political claims come from more educated and socially included young people, and that optimism regarding the potential of social media in contributing to

political equality in the public sphere does not seem justified, at least not when it comes to the mainstream press.

This article will start with a brief presentation of the theoretical framework, touching on some of Herman and Chomsky's statements about the filters and biases of the mainstream media as well as Chantal Mouffe's notion of "agonistic pluralism." These conceptual approaches will be completed by a brief overview of the literature on the impact of information and communication technologies and social media on the flow of information and on news-sourcing practices. This will be followed by a methodological section presenting the data collection and exploitation. The last section of the article includes a presentation of our findings, followed by a discussion and concluding thoughts.

Theoretical Framework

Previous works on mainstream media filters and biases provide an essential theoretical framework for analyzing the salience of political claims from young people and disadvantaged youth socioeconomic groups in the mainstream media. Drawing on Walter Lippmann's (1922) concept of "manufacturing consent," Herman and Chomsky (1988) analyzed the way in which the mainstream media constituted themselves as tools of establishment propaganda. The advent of the Internet meant that their work had to be reedited and recontextualized (Goss, 2013; Mullen, 2009; Mullen & Klaehn, 2010; Pedro, 2009; Zollmann, 2017), so that the bases of their critical reflection continue to be applicable today. It is particularly useful to look back at their five filters of editorial bias: the business structure, the dependence on advertising, the nature of the information sources, the external forms of control over content, and the antagonistic logic with which reality is framed. For the purposes of this article, we will mostly dwell on their reflections on the sources of information and the antagonistic logic.

Regarding the sources of information, Herman and Chomsky maintain that the mainstream media have established a routine of privileging information sources that are linked to governments' press offices, institutions, and/or large companies. Within this context, the actors that generate information outside these circuits are not considered as reliable sources, and, therefore, their acts or claims are not recognized as newsworthy. The mainstream media have thus managed to give the impression that the veracity of information is directly linked to the status, power, and prestige of the sources.

Regarding the antagonistic logic diffused through the mainstream media, Herman and Chomsky describe the way in which the mass media eclipse those realities that do not correspond to the normalcy established by the elites' hegemonic discourse. This means that the voices that do not fit the hegemonic standards of "normalcy" or "correctness" are silenced. The "others," considered as antisocial or undesirable elements, thus, do not have the capacity of agency nor are represented in the mainstream media. In line with these claims, when looking at youth representation in the mainstream press, our findings point to a significant overrepresentation of young people who are more educated and socially included.

As we look at the prominence of different youth socioeconomic groups in the mainstream media, it is also interesting to consider the work of Chantal Mouffe, her notion of “agonistic pluralism,” and her arguments regarding the importance of diversity and confrontation in the public sphere. Chantal Mouffe (2005) moves away from the Habermasian conception of “public sphere,” according to which public debate culminates with consensus. She maintains that some level of conflict should be recognized as necessary for real democratic debate. Her notion of “agonistic pluralism” precisely encapsulates this idea of diversity that is constantly confronting social reality. According to her, the capacity to enrich democracy lies in the ability of different identities and voices to recognize one another in diversity. Therefore, she questions the belief that the public sphere can only be based on consensus and on the need for people to put their particular interests aside, since this always implies that the terms in which this consensus is expressed are the result of the hegemonic character of dominant groups. This article suggests the absence, when it comes to the mainstream press, of a space in which this idea of agonistic pluralism can flourish and in which differences can be confronted and contrasted, as our data suggest a significant lack of diversity in the mainstream media’s sources.

Studying the extent to which nonhegemonic groups and their political claims are represented in the mainstream media seems all the more important when considering the agenda-setting influence of the mainstream media. Indeed, the power of the media and its ability to tell the world what is important are issues that have been—from the early 20th century onward—widely described in agenda-setting research (from Lippmann in 1922 to McCombs and Shaw’s seminal article in 1972). In a well-known and compelling statement, Cohen (1963) declared, “The press may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about” (p. 13). Later studies have extensively revisited this claim, oftentimes making it more encompassing by arguing that the media are successful not only in telling people what to think about but also in telling them how to think about it, and, thus, by extension, what to think (McCombs & Shaw, 1993; Page & Shapiro, 1992).

More recently, many have seen the development of the Web 2.0 as something that would reduce the power of the media and contribute to political equality in the public sphere. Indeed, the advent of the Internet and social media have contributed to the increasing questioning of the role of the mainstream media in the configuration of the spaces through which information flows. The “post-digital era,” coined by some authors as “hyperdigital” (Feixa, Fernández-Planells, & Figueras-Maz, 2016), is, thus, characterized by the multiplication of discourses and information channels, as well as by the increasing speed at which this information circulates. This “hyperconnectivity” (Rovira Sancho, 2017) leads to greater complexity in the constitution of the public sphere, with information overload and new actors gaining weight in public debates.

However, from a media studies perspective, there is a growing concern that the mainstream media—despite the advent of the Web 2.0—has not fully grasped or adapted to the shift from mass communication to digital communication. There have been several works on the ways in which social media and the Internet have changed

and are changing traditional journalism as well as on the extent to which journalists rely on social media in their sourcing and information-gathering practices. While a number of studies claim that social media and digital technologies more generally are changing the way in which news are sourced and produced as well as power relations in terms of who gets to say what (Broersma & Graham, 2012; Chao-Chen, 2013; Hermida, 2013; Newman, 2011), others suggest that the use and prominence of social media and digital technologies in the mainstream press remain very limited and that they are mostly used as a “backup” for traditional sources (Clua, Ferran-Ferrer, & Terren, 2018; Knight, 2012; Lariscy, Avery, & Sweetser, 2009; Machill & Beiler, 2009; Tylor, 2015; Van Leuven, Heinrich, & Deprez, 2015). The analysis carried out in this article seems to support these past studies, suggesting that the growing prevalence of social media communication is not reflected in the productive routines of the mainstream newspapers analyzed here, nor does it seem to contribute to political equality in terms of media representation.

Methodology

This article is based on a political claims analysis (Koopmans & Statham, 1999) in which we systematically studied, among other things, the actors intervening in public debates through mainstream media, the way in which their claims were raised, the issues that were raised, the policy positions, and the frames that were advanced. In this study, the political claim was understood as a strategic intervention, either verbal or nonverbal, in the public space made by a given actor on behalf of a group or collectivity, expressing a political opinion and bearing on the interests or rights of other groups or collectivities.

For each country, five daily newspapers of national coverage were selected (45 in total). Only newspapers that fit the definition of mainstream media were included in the sample. All the newspapers had to be print newspapers of national coverage, with a high level of circulation and of generalist scope. The selection took into account the respective characteristics of each country’s media landscape and tried to find the best possible equilibrium across the ideological spectrum.

We retrieved articles that were published between 2010 and 2016, and that included any or all of the following keywords (translated into nine different languages): *young people*, *adolescent**, *student**, *youth*. Within these parameters, the articles were randomly selected and political claims were identified and extracted through a systematized screening and coding process (for more information on methodology, see EURYKA project, 2018).

Each team retrieved around 100 political claims per newspaper, amounting to a total of 4,525 claims that were coded using a codebook. The codebook included, but was not limited to, variables such as the “actor(s)” making the claim or the form through which the claim was made (i.e., the means of claim making). A reliability test was performed on each variable of the study (Krippendorff, 2004). Results were above 0.70 on all the variables analyzed in this article (*actor* variable, 0.75; *form* variable, 0.95).

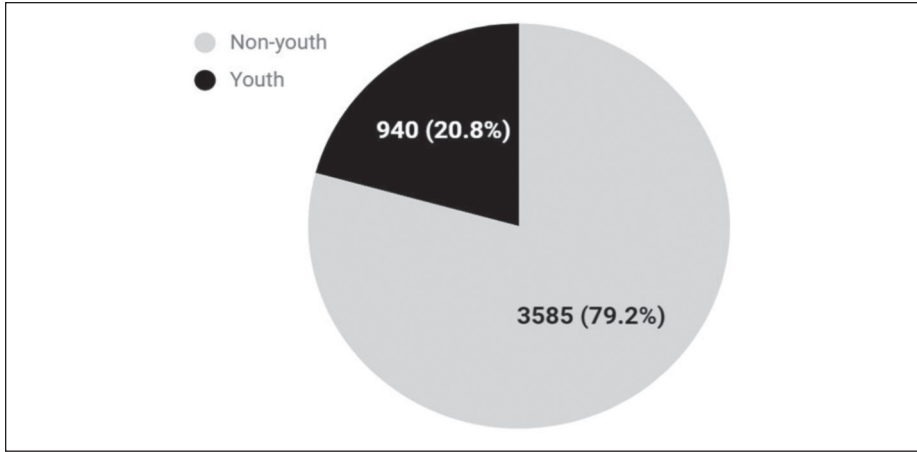


Figure 1. Number of political claims ($n = 4,525$) made by youth and nonyouth actors.

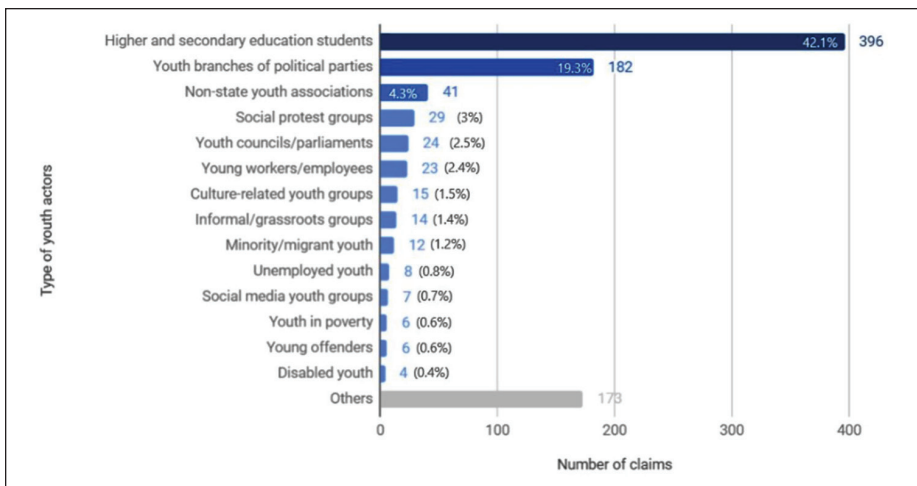


Figure 2. Number of political claims ($n = 940$) by different types of youth actors.

To see the extent to which the mainstream press relayed the voice of young people, we focused on the *actor* variable, telling us, among other things, when the claim was made by a “youth actor” (see Figure 1). This variable also gave us the number of claims that were made by different youth actors from different backgrounds and socio-economic groups (see Figure 2). To see the way in which the political claims of these different youth actors were made, we focused on the *form* variable, telling us, for example, when the relayed claim was made through a direct declaration to the media, a demonstrative protest action, or through social media, among others (see Figure 3).

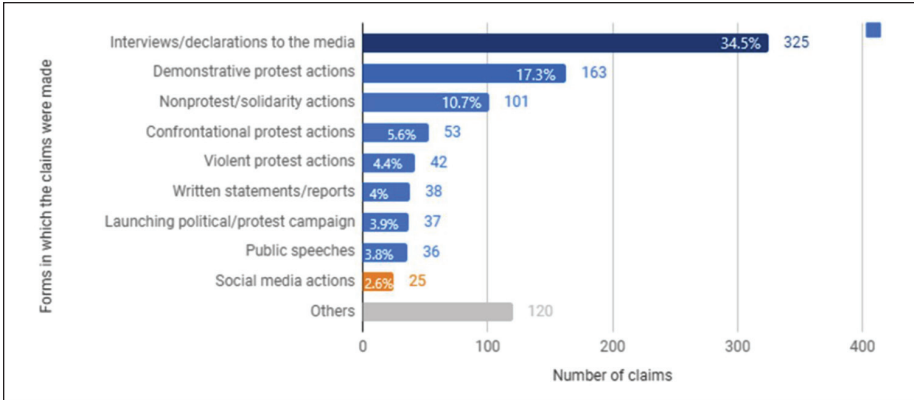


Figure 3. Number of youth political claims ($n = 940$) by forms of action.

Analysis and Results

This section will first present the data that illustrate the extent to which the mainstream press relays young people's voice. Second, we will look at the proportion of political claims from different youth socioeconomic groups in the mainstream press before moving on to the means through which these youth claims were made and picked up by the mainstream newspapers in our sample.

Young People's Voice in the Mainstream Press

Despite the fact that political claims were coded only to the extent that they were about and/or made by young people, as well as the fact that the search terms used for retrieving the news articles were closely related to youth, we found that only 940 (20.8%) of the 4,525 claims that appeared in the selected mainstream newspapers were made by young people (see Figure 1). Therefore, more than three quarters (79.2%) of the claims—while having young people as objects of the claims—were made by nonyouth actors. These included state actors and judiciary (36.5% of the 3,585 claims made by nonyouth actors), education stakeholders (school and university teachers and management; 16.2%), and political parties and groups (12.8%), among others.

Youth Socioeconomic Groups Relayed by the Mainstream Press

In relation to the 20.8% of claims that were made by young people, the data analysis revealed significant disparities when it comes to the different youth actors or groups whose political claims were relayed by the selected mainstream newspapers (see Figure 2). This disparity is characterized by an overwhelming majority of students and members of youth branches of political parties and a near-total absence of young people who could be characterized as unemployed, in poverty, or disabled, to name a few.

Indeed, out of the 940 claims made by youth actors, 396 (42.1%) were made by higher (27.6%) or secondary (14.6%) education students or graduates, and 182 (19.4%) were made by members of youth branches of political parties. On the other hand, only 6 (0.6%) of the 940 claims relayed by the newspapers in our sample were made by young people who could be characterized as being in poverty, suggesting a clear tendency of journalistic routines to favor young people who are more educated and socially included.

Despite the fact that youth unemployment in the European Union stood at 20.3% in 2015 and 18.7% in 2016 (Eurostat, 2017), unemployed youth were the actors of only 0.8% of all the claims that were made by young people. On the other hand, higher and secondary education students or graduates and members of youth branches of political parties, taken together, were the actors of 61.5% of all the claims made by young people.

Ways in Which the Youth Claims Were Made

Let us now go back to the question of how and if social media and digital technologies are changing the way in which news are sourced and produced and look at the ways in which the youth claims were made. We found that while 325 (34.5%) of the 940 youth claims relayed by the mainstream press were made through interviews or direct declarations to the media, only 25 (2.6%) were made through social media (see Figure 3), suggesting that the growing prevalence of social media communication is not reflected in the way in which the mainstream newspapers in our sample relayed these political claims.

Looking at the different youth actors of the claims that were made through interviews or declarations to the media, the disparity is no less striking. Indeed, almost half (45.2%) of the claims made through interviews or declarations to the media were made by students and graduates, while 23.1% were made by members of youth branches of political parties, representing together 68.3%. On the other hand, among the claims made through interviews or declarations to the media, only 3 (0.9%) were made by unemployed youth, 3 (0.9%) by social protest groups, and 2 (0.6%) by young people who could be characterized as being in poverty (see Figure 4). These figures once again support Herman and Chomsky's claims regarding the mainstream media's preference for "elite sources," justify Chantal Mouffe's concerns regarding diversity in the public sphere, as well as mirror apparent inequalities in terms of access to media representation.

Discussion and Conclusion

Throughout this article, we saw, first, that the voice of young people represents a minority and young people still seem misrepresented in the European mainstream press. The low proportion (20.8%) of claims made by youth actors could partly be due to the fact that young people's political activity increasingly takes place online but that, as our data suggest, mainstream media seem reluctant to use social media sources. It also seems to support Herman and Chomsky's assertion that the mainstream media

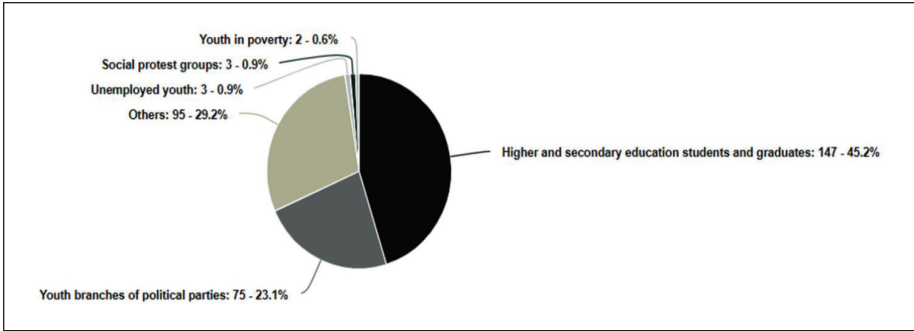


Figure 4. Number of interviews/declarations to the media ($n = 325$) by different types of youth actors.

have established a routine of privileging “elite sources” that are linked to governments’ press offices, institutions, or large companies, at the expense of “nonhegemonic” groups (in this case, young people) and diversity.

Second, social inequalities seem reflected in, and reproduced by, the mainstream media, as we observed a clear tendency of the newspapers in our sample to relay the voice of young people who are more educated and socially included, at the expense of disadvantaged youth groups and diversity. These findings relate back to Chantal Mouffe’s view on hegemonic relations and agonistic pluralism as well as to Herman and Chomsky’s idea of the antagonistic logic of mainstream media discourses. They not only illustrate the absence (at least when it comes to the mainstream newspapers in our sample) of an arena in which this idea of agonistic pluralism can take place and in which differences can be confronted but also mirror substantial inequalities in the representation of different youth socioeconomic groups in the mainstream newspapers analyzed here. Within the framework of this study, their ideas have formed a useful theoretical basis to analyze how and to what extent the mainstream media take into account different young political actors and relay their concerns. Despite the hypothetical greater role and protagonism that could be assigned to young people, and disadvantaged youth socioeconomic groups, as political actors dealing closely with the past decade’s economic crisis (e.g., in the face of worsening labor conditions), their voice, which is finding a place in digital culture and social media, still represents a minority in the mainstream media.

Third, our results also suggested that the prominence of social media in the mainstream press remains very limited and that, despite early optimism, these online applications do not seem to contribute to political equality when it comes to mainstream media coverage and representation. The low salience of claims made through social media could imply, among other things, that traditional ways of reaching sources are not compromised by the growing prevalence of social media communication. While the new media have developed and spread rapidly, and even though many scholars have claimed that social media are transforming journalism, our data suggest that their growing

prominence is not reflected in the mainstream press. This finding could suggest that, so far, the long-predicted potential of the World Wide Web and social media in the democratization of the public sphere has not materialized, at least not when it comes to the mainstream newspapers analyzed here. This point illustrates Herman and Chomsky's idea of the mainstream media's rigid understanding of news sourcing. On the one hand, it remains to be demonstrated that the mainstream media have incorporated social media and its actors as "serious" sources of information. On the other hand, the fact that social media discourse is more porous to "nonhegemonic" information makes them less attractive from the perspective of the established canons of newsworthiness.

Although beyond the scope of this study, the fact that no significant differences were found among newspapers of different editorial lines (e.g., between conservative and liberal newspapers) should encourage further research—not on the ideology of different news outlets but on the business models that govern them. To be able to make a leap forward in mapping and understanding the mass media today, it would be necessary to take into consideration all the journalistic projects that, while not identifying with the mainstream press or depending on the interests of the establishment, have a wide circulation on digital platforms.

Last but not least, this study is based on and limited to a content analysis of political claims found in newspaper articles. A more comprehensive study could go further and take into account what journalists themselves have to say about journalistic routines and the questions addressed in this article as well as how these mainstream media are run and function on a day-to-day basis.

In light of this study, it is important to underline that one should not view the mainstream media as entities that are independent of the economic, political, social, and historical context in which contents are legitimized and consensus reached. The extent (if any) to which social media and information and communication technologies can and do alleviate political inequalities, as well as alter power relations and the way in which discourse is articulated in the mainstream media (and in the public sphere) represents an important and challenging topic that is worth studying.

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ORCID iD

Ludovic Terren  <https://orcid.org/0000-0002-7075-7573>

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Author Biographies

Ludovic Terren is a PhD fellow in the Department of Information and Communication Sciences of the Universitat Oberta de Catalunya in Barcelona, Spain. His research interests include (social) media use, opinion formation, polarization, and youth political participation.

Anna Clua Infante is an associate professor in the Department of Information and Communication Sciences of the Universitat Oberta de Catalunya in Barcelona, Spain. Her main research interests include media studies, urban studies, gender studies, and social exclusion.

Núria Ferran-Ferrer is an associate professor in the Department of Information and Communication Sciences of the Universitat Oberta de Catalunya in Barcelona, Spain. Her teaching activities mainly concentrate on research methods and journalism, while her main research interests include communication behaviors and gender representation in public spheres.

2.2. Article 2: Youth Impact in the Public Sphere: The Dissolution of the Spanish Youth Council in the Press and on Twitter

Anna Clua Infante, Núria Ferran-Ferrer, Ludovic Terren (corresponding author)




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Youth impact in the public sphere: The dissolution of the Spanish Youth Council in the press and on Twitter

El impacto de los jóvenes en la esfera pública: La disolución del Consejo de la Juventud de España en la prensa y en Twitter

-  Dr. Ana Clua is Contracted Professor in Information and Communication Sciences at the Open University of Catalonia in Barcelona (Spain) (acluai@uoc.edu) (<https://orcid.org/0000-0001-9397-8793>)
-  Dr. Núria Ferran-Ferrer is Contracted Professor in Information and Communication Sciences at the Open University of Catalonia in Barcelona (Spain) (nferranf@uoc.edu) (<https://orcid.org/0000-0002-9037-8837>)
-  Ludovic Terren is Research Assistant for the EURYKA Project at the Open University of Catalonia in Barcelona (Spain) (lterren@uoc.edu) (<https://orcid.org/0000-0002-7075-7573>)

ABSTRACT

This article aims to contribute to the study of the difficulties that young people face in accessing the public sphere as political actors. It looks at the press coverage and the Twitter activity surrounding the restructuring process and the subsequent dissolution of the Spanish Youth Council (Consejo de la Juventud de España - CJE). A content analysis was carried out on the news published in 22 newspapers between 2012 and 2014, as well as on the use of Twitter within the framework of the “Salvemos el CJE” campaign during the same period of time. The main objective of the analysis has been to see the prominence of this issue on both the media and citizens agendas. In most newspapers, the measures taken by the government vis-à-vis the CJE were treated as punctual news of peripheral importance. The online campaign, mainly orchestrated by youth grassroots movements, raised the controversy on the biased nature and the political consequences of this plan. The core of the campaign addressed the representation of young people in public institutions. The results of the study suggest that the increased potential for visibility offered by social media is not always maximized and does not necessarily alter the prominence of an issue in the public sphere.

RESUMEN

Este artículo pretende contribuir al estudio de las dificultades que encuentran los jóvenes a la hora de acceder a la esfera pública como actores políticos. Concretamente, se centra la atención en la cobertura en prensa y la repercusión en Twitter de la información relativa al proceso de disolución del Consejo de la Juventud de España (CJE). El texto da cuenta del análisis de contenido realizado sobre las noticias aparecidas en 22 periódicos españoles entre los años 2012 y 2014, así como del análisis del posicionamiento en Twitter de la campaña «Salvemos el CJE» durante el mismo período de tiempo. El principal objetivo es ver cómo la cuestión de la disolución del CJE es planteada desde la agenda mediática y desde la agenda ciudadana. En la mayoría de periódicos analizados, las medidas tomadas por el gobierno respecto al CJE son tratadas como un hecho noticioso puntual y de baja repercusión. La campaña online ofrece un discurso gestado desde los movimientos juveniles de base y plantea abiertamente la controversia acerca del sesgo y las consecuencias políticas de esta medida. La campaña gira entorno a la representación de la juventud en las instituciones públicas. Los resultados del estudio muestran cómo las crecientes oportunidades de visibilización que ofrecen las redes sociales no siempre comportan un mejor posicionamiento de un tema en la esfera pública.

KEYWORDS | PALABRAS CLAVE

Youth, public sphere, press, Twitter, youth agencies, cyberpolitics, media agenda, citizens agenda.
Juventud, esfera pública, prensa, Twitter, agencias de juventud, ciberpolítica, agenda mediática, agenda ciudadana.



1. Introduction

The youth is under scrutiny in numerous studies aimed to analyze their access to the public sphere as political actors (Briggs, 2017; Cammaerts & al., 2016; Chou & al., 2017). In Spain, some analyses have pointed to the need of considering the “question of youth” as a structural element that places young people as a group characterized by lingering inequality and poverty, which significantly curtails the democratic quality of today and tomorrow’s societies (Tezanos & Díaz, 2017; Observatorio Social La Caixa, 2017). Under worsening conditions of precariousness, according to these studies, the capacity of young people to access the public sphere is doubly hindered: On the one hand, the youth find themselves in a situation of inferiority in public debates; on the other hand, the problematic that results from their secondary role goes largely unnoticed as a structural social issue.

The present case builds upon the first results of the research developed within the framework of the H2020 EURYKA Project. A study of the public policies and practices promoting youth inclusion and participation was recently carried out, across the nine countries of the project (EURYKA, 2017). Youth agencies were one of the aspects that had been taken into account. The sampling focused on contemporary policies, including recent changes related to the economic crisis. The results of this particular study placed Spain at the bottom of the list, having obtained the only negative score as far as government policies on youth agencies are concerned. This result reflected the dissolution (decreed by law in 2014) of the youth independent agency Spanish Youth Council (CJE), as well as the fact that Spanish youth demands regarding this decision went unanswered.

This article will present the results of a research addressing the question of how a relevant issue remains of secondary importance in the public sphere. It aims to look at how the dissolution of the CJE has been reported in the Spanish press, as well as the way in which Twitter has been used to put the issue on the citizens agenda.

2. Context

Spain has two legally constituted youth agencies: The Youth Institute (Instituto de la Juventud – INJUVE) and the Youth Council (Consejo de la Juventud de España - CJE). Whereas the INJUVE is a governmental body that provides public services to the youth under the direction of a policy officer appointed by the Executive power through the corresponding Ministry, the CJE is an autonomous organism composed of 60 associations and youth organisations from across the country, and which representatives are elected and not appointed by bureaucrats. It is in charge of developing specific programs tackling social inequalities affecting young people. The CJE’s Presidency and Permanent Commission are chosen by the entities that take part in the Council’s General Assembly. Furthermore, the CJE is the Spanish agent in the European Youth Forum (YJF).

Five years ago, in a context of economic crisis in response to which the EU demanded austerity measures, the Spanish government decreed the Organic Law 2/2012 on Budgetary Stability and Financial Sustainability and created the Commission for the Reform of Public Administrations (Comisión para la Reforma de las Administraciones Públicas, CORA). It was then entrusted to carry out a comprehensive study of Public Administrations in order to identify areas of improvement and to propose a course of action. The CORA Executive Report was submitted to the Council of Ministers on June 21, 2013. It recommended the dissolution of the CJE (among other agencies), arguing that its functions duplicated those of the INJUVE. The Council of Ministers agreed on a bill that would eliminate the Youth Council, claiming that its suppression would bring savings of about EUR 4.3 million to the national administrative budget. The CJE was one of the smallest organisms inside the Administration (0.08% of the budget of the ministerial structure) and was already subject to a 54% budget reduction during the period 2008-2012 (CJE, 2013).

As a result, defenders of the CJE started an online campaign, first on the Internet at the URL <http://salvemoselcelje.com/>, and later on Twitter (with the hashtag #salvemoselCJE). “Salvemos el CJE” (meaning in English “let us save the CJE”) was a campaign aimed at denouncing the fact that the CJE’s “restructuring” process was, in fact, a means of making it disappear. Defenders of the CJE criticized the political bias of this measure, in line with the well-known critical positioning of this organism vis-à-vis the Government’s youth policies.

The Law of Rationalisation of the Public Sector was approved in September 2014 (Ley 15/2014). It declared the dissolution of the CJE and its subsequent conversion into a private entity. This was followed by a long period characterized by an absence of news regarding this issue. A few years later, on July 20, 2017, the CJE and the INJUVE signed an agreement to unlock the situation. During the negotiation between both agencies, the Secretary of State for Social Services and Equality was also present. It culminated with the signing of the draft of the Royal

Decree that will govern the future Spanish Youth Council as a private entity. In its press release on July 21, 2017, the CJE reported that the processing of the legislative decree had begun, although further changes in the text could take place until its final publication. None of the newspapers analysed in this case study mentioned this event, just like on Twitter, where the campaign #salvemoseJCJE came to an end in November 2015 (the hashtag has never been used since).

3. Theoretical framework

This article builds upon some of the theoretical premises that try to shed light on the formation of public opinion and the processes of deliberation. In relation to this, it is essential to go back to the debate between theories of deliberative democracy, based on the works of Habermas, and theories of agonistic pluralism, of which Mouffe is a prominent representative. The Habermasian conception of the public sphere and communicative action starts from the understanding of deliberative processes as opportunities for consensus (Habermas, 1994). Agonistic pluralism criticizes, however, that this consensus can only be built at the expense of the dissenters' voice. Mouffe argues that the constitution of citizens as political subjects goes through their identification with the values that define democracy, not understood as universal and normative values, as Habermas held, but as values that give meaning to the different conflicting identities that make up society (Navarro, 2014).

The Twitter activity surrounding the #salvemoseJCJE campaign very much resembled an “echo chamber” in which all users agreed, effectively canceling the potential for debate beyond this “circle” of CJE defenders. Spanish youth political demands do not succeed when only their interests (as young people) are at stake. The results of the study suggest that the increased potential for visibility offered by social media is not always maximized and does not necessarily alter the prominence of an issue in the public sphere.

At present, cyber politics introduces an important questioning of both perspectives. Like never before, social networks open new forms of political expression that give rise to an interconnected public sphere, in which immediacy marks the rhythm of communication (Cotarelo & Gil, 2017; Kurban, Peña-López, & Haberer, 2017). However, we are now also witnessing the hegemonization of some forms of government in which statism or immobility of democratic principles in times of crisis generate an increase in inequality. Thus, while the technological revolution seems to open up a scenario in which agonistic pluralism is possible, the truth is that even in a context characterized by multiple voices and the right to communication, the dissolution of counter-hegemonic discourses is still possible.

The configuration of the citizens agenda (Miralles, 2001) must confront the problem of the atomization of the social subject, while the media agenda seeks to preserve its privileged position in the expression of public opinion (Coleman & Ross, 2010). One can wonder whether the factors that currently put forth or silence a given controversy can simply be justified as consequences of the increased complexity of communicative action or if they continue to respond to old schemes of political action. Beyond the technological determinism that accompanies the emancipatory vision of the new media (Castells, 1996), it is necessary to consider whether the mediations about which Martín-Barbero (1987) was talking have been strengthened or weakened by the advent of social networks. Which groups are effectively capable of accessing (and transforming) the spaces of deliberation?

Several works take a critical stance against the stigmatization of young people with an image of apathy, consumerism, and anomie (Cammaerts & al., 2014; Chou & al., 2017). Authors such as Tezanos and Díaz (2017) have come to equate the political relevance of the issue of the youth with the former one of the working class. The economic and social crisis manifests itself particularly among young people, who often have to delay the age of economic and social emancipation. According to Eurostat, the youth unemployment rate in Spain was 40.5% in

2017 (which puts the country in second place, behind Greece, in terms of youth unemployment in Europe).

This being said, the youth have not always assumed a passive role (Giugni & Lorenzini, 2017). In Spain, for instance, the organization –by the youth– of massive citizen mobilizations such as the one of the 15M (Indignados movement) have proven that ICTs offer key advantages for activism (Hernández, Robles, & Martínez, 2013) and that in certain circumstances these movements have the capacity to influence media coverage (Casas & al., 2016; Monterde & al., 2017), although other studies have proven that the relationship between journalists and activists remains a difficult one (Micó & Casero-Ripollés, 2014). We can also highlight their capacity to access social capital through the use of mobile technology (Vidales-Bolaños & Sábada-Chalezquer, 2017), or their active participation in the network society (García-Galera, Del-Hoyo, & Fernández, 2014). What makes the political action of these young people different from that of other generations in Spanish democracy is that, despite their greater use of communication technologies, they have neither the effective capacity to alter the status quo nor ways to influence the political decisions that affect the country's future. The dissent that the youth can manifest is diluted in a public sphere that reproduces the discourse of the normative and the prescriptive, and that provides, at last, no room for controversy.

4. Methodology

A quantitative approach was used to study the prominence of the “Salvemos el CJE” campaign in the public sphere through the press and Twitter. On the one side, a content analysis was performed on newspaper articles that included the keyword phrase “Consejo de la Juventud de España”. On the other side, a Twitter analysis of the campaign against the CJE's dissolution was performed by looking at the use and circulation of the hashtag #salvemoselCJE.

The choice of (and limitation of the study to) these two media follows the initial hypothesis that the traditional public sphere does not end up being reshaped or supplanted by the “new public sphere” (Castells, 2008) for the mere fact of providing new online opinion and political spaces. To test this hypothesis, the following objectives have been set:

- Demonstrate that the configuration of the media agenda about the dissolution of the CJE has been determined more by the journalistic routines than by the editorial lines (or the ideological slant) of each specific newspaper.
- Demonstrate the low impact of young people's voice on this issue, which is partly due to its articulation around offline organizational structures that are neither able to act as primary sources for mainstream media nor adapted to (or with little capacity for integration in) the dynamics of online networks and social media communication.

4.1. Newspaper analysis

The database used for retrieving data from the Spanish newspapers was Factiva (a database with more than 32.000 sources, 100 of them from Spain). A set of 22 sources were selected according to the criteria of daily publishing and national coverage: “20 Minutos”, ABC, “El Confidencial Digital”, “El Confidencial.com”, “Crónica Global”, “El Correo”, “El Diario Montañés Online”, “Diario Siglo XXI”, “El Diario Vasco Online”, “El Diario.es”, “Diariocritico.com”, “El Huffington Post-Spain Edition”, “Elmundo.es”, “El País”, “El Pais.com”, “El Español.com”, “Gaceta.es”, “El Imparcial”, “El Independiente”, “Infolibre”, “El Mundo”, “El Periódico de Catalunya”.

The data retrieval covered a five-year period, from 2012 (when the campaign started) to July 2017 (when the CJE signed an agreement on its dissolution). No data appeared from 2015 onwards. This situates the press coverage of the CJE's dissolution between the years 2012 and 2014.

A codebook was used in order to code the 81 retrieved articles. Two variables were identified: The coverage and the degree of visibility assigned to the CJE's dissolution, as well as the temporality (permanence of the news in the media agenda). As far as the first variable is concerned, the codebook established four types of news: (1) News that mentioned the CJE somewhere in the article, but did not mention the agency's dissolution; (2) News that mentioned the CJE's dissolution, but that was not specifically about the CJE and/or its dissolution; (3) News about the CJE's dissolution; (4) News about the dissolution that identified the CJE as a source.

4.2. Twitter analysis

The Twitter analysis looked at the use and circulation of the hashtag #salvemoselCJE. The study consisted in an analysis of the tweets that were posted between the 20th of June 2013 (date of the first tweet including the campaign's hashtag) and the 23rd of November 2015 (date of the last tweet).

The study also looked more specifically at the tweets that were posted on the 11th of September 2014 (date of the announcement of the Spanish Congress Plenary's approval of the Law 15/2014). By looking at the Twitter activity on such a crucial date, the study aimed to identify the key actors of the CJE's defense and their interactions.

The purpose of the analysis was to assess the virality of #salvemoseJCJE on Twitter during the campaign, following Gladwell's model, which studies the users as sources, the content and the spread of the messages (Gladwell, 2000). By looking at the Twitter activity over the course of one day, the study aimed to gather precise information on the type of account that issued each tweet, the number of followers that these had, the number of likes, retweets, and answers that each tweet received, as well as the positioning of the tweets in relation to the campaign.

A set of related hashtags was also identified, and a tag cloud analysis was performed, through TagCrowd, which helps to visualize the frequency of the different hashtags that were used. Twitter accounts were identified and classified as "institutional" or "individual", and (in both cases) additional data on the identity of each actor (in terms of political affiliation, belonging to a group, etc.) was gathered whenever possible. Each of the accounts was subsequently typified in relation to a specific network profile. In this case, the effort was centred on confirming the existence or absence of "influencers" (actors who run accounts with more than 100.000 followers) (Jivkova-Semova, Requeijo-Rey, & Padilla-Castillo, 2017).

5. Analysis and results

This section will focus on the quantitative analysis of the 81 newspaper articles that were published between 2012 and 2014, and the 184 tweets that used the hashtag #salvemoseJCJE on September 11th, 2014. This analysis will evaluate the extent to which the CJE's dissolution was treated as a controversy in the press and on Twitter. Based on the analysis, this section will try to answer the following research questions:

5.1. Did the CJE's dissolution represent a controversial issue in Spanish newspapers?

5.1.1. How long had the dissolution of the CJE been visible for?

The first appearance of the CJE and/or its dissolution in the news dates back to the 11th of March 2012, one month before the approval of the Law 2/2012. The last news published on this issue appeared on the 28th of December 2014, two months after the publication of the Law 15/2014).

As figure 1 shows, June and August 2013 were the most active months, with 14 and 12 articles, respectively. This was due to the fact that on the 21st of June 2013 the Council of Ministers announced its decision to dissolve the CJE as part of a larger plan to rationalize the public administration. In August 2013, the CJE released a report on youth housing opportunities in Spain.

Later, on the 27th of July 2017, the CJE and the INJUVE finally signed the dissolution agreement. Between the 21st and the 31st of July 2017, 15 newspaper articles mentioned the CJE but none of them addressed the issue related to the press release.

5.1.2. Did the CJE's dissolution occupy a prominent place in the news?

The CJE was mentioned in 81 articles of the 22 newspapers during the campaign's timeframe. A significant majority of the news (86.5%) merely mentioned the CJE and/or its dissolution somewhere in the article. The remaining 11 articles (13.5%) were about the CJE, of which 8 (9.8% of the total) were about its dissolution. Only three newspapers ("El Diario.es", "El Periódico" and "Infolibre") published articles about the CJE's dissolution, and in which the CJE was identified as a source ("El Diario.es" published three articles, and "El

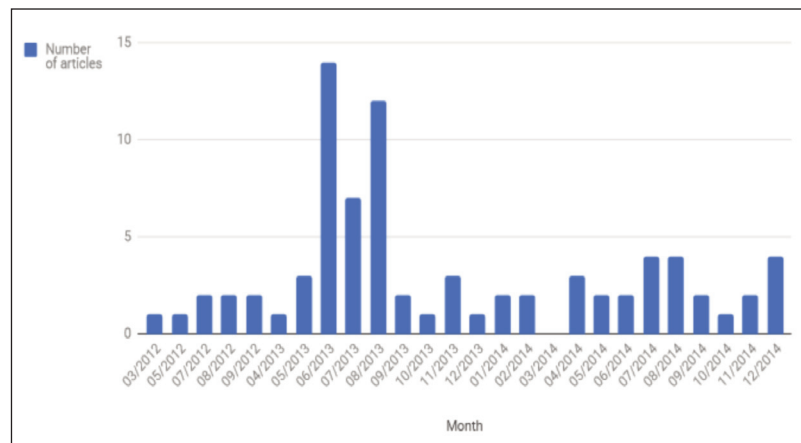


Figure 1. Monthly evolution of the number of news articles during the campaign.

Diario.es", "El Periódico" and "Infolibre") published articles about the CJE's dissolution, and in which the CJE was identified as a source ("El Diario.es" published three articles, and "El

Periódico” and “Infolibre” both published one). The newspaper that covered this issue the most was “El Diario”.es, which dedicated three news articles to the CJE’s dissolution, and relayed the CJE’s voice as a source.

The press coverage of the CJE’s dissolution varied significantly from one newspaper to the next. While “El Diario” published 3 articles on the dissolution of the CJE (out of 4 articles mentioning the CJE), other newspapers such as “El Mundo”, “La Vanguardia” or “ABC” did not publish any (out of 12, 4 and 8 articles mentioning the CJE, respectively). Moreover, out of the 81 retrieved articles and the 11 articles that were about the CJE and/or its dissolution, only 8 had “Consejo de la Juventud de España” or “CJE” in the headline.

This discrepancy and the dramatically low number of articles that directly addressed the dissolution of the CJE show that this issue has at no point been considered as an issue of primary concern, despite the fact that the youth represent an important part of the Spanish population. Indeed, 10.533.437 people (22.59% of the Spanish population) were between the ages of 15 and 35 in 2015 in Spain (INJUVE, 2016).

5.2. How influential has the hashtag #salvemoselCJE been on Twitter?

5.2.1. How long has the campaign been active for on Twitter?

There was a first period of intense activity between the 20th and the 30th of June 2013, during which a total of 902 tweets were posted. As shown in Figure 2, the next peaks of activity were few and far between. A more detailed study focused on the last peak of the 11th of September 2014, when the Spanish Congress Plenary announced the approval of the Law of Public Sector Rationalization which would definitively dissolve the CJE (although, as Figure 2 shows, this was not the most active period in terms of the number of tweets).

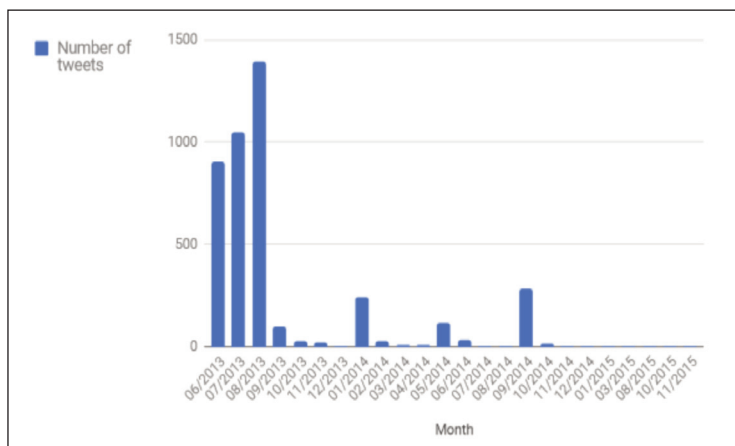


Figure 2. Monthly evolution of the number of tweets (#salvemoselCJE) during the campaign.

5.2.2. What was the impact of #salvemoselCJE on September 11th 2014?

The hashtag #salvemoselCJE appeared in 184 tweets from 123 accounts on the day the Law 15/2014 was approved. The most significant result of the data analysis shows that there was no disagreement or controversy within the content of the #salvemoselCJE campaign, as its name suggests. Indeed, as it is often the case on Twitter, the activity surrounding the #salvemoselCJE campaign very much resembled an “echo chamber” in which all users agreed, effectively canceling the potential for debate beyond this “circle” of CJE defenders.

Figure 3 below illustrates the relevance of each of the hashtags that were used within the campaign. The size is proportional to the frequency of appearance.

5.2.3. Did the information circulate broadly on a crucial date (September 11th, 2014)?

Around half of the 184 tweets that have been analysed were published by institutions and the other half by individuals. There were a few more individuals (65) than institutions (58) tweeting the hashtag, but this result is not clear-cut as a significant number of them (44.6%) could be identified as being linked to an institution. These results suggest that the Twitter protest that followed the approval of the Law 15/2014 (the day of its announcement) had a potentially significant impact among the members of offline (and probably linked) organisations. This structure shows a centripetal flow of connections, placing the CJE as a very important node in the information circulation (this coincides with the fact that the CJE works as an umbrella organisation).

The tweets including the hashtag #salvemoselCJE posted on September 11th, 2014, did not have a significant impact in quantitative terms, mainly due to the actors’ low capacity for influence. 8 institutions (6.5%) had more than 10.000 followers (Table 1). The institutional account with the highest number of followers was that of UGT union (with 32.000 followers), whereas only one individual account exceeded this amount (a journalist with 78.600

followers who tweeted once and got one retweet, 16 likes, and two replies). This means that none of the actors of this campaign could be identified as “influencers”. According to Jivkova-Semova & al. (2017), this category can only be attributed to accounts with more than 100.000 followers.

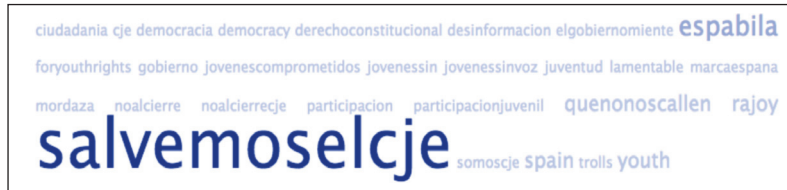


Figure 3. The relevance of related hashtags on September 11th, 2014.

Nevertheless, following Congosto (2015), among the Twitter accounts with the highest number of followers, five institutional users could be identified as “influencers” as their number of retweets was high in this context (the coefficient between the number of tweets and the number of retweets was bigger than 4). These “influencers” (INF) are represented in Table 1.

Congosto’s Twitter actor classification in relation to their activity and impact (2015) has been used in order to analyse the institutional and the individual accounts. A relevant result has been obtained in relation to this question, as data confirmed that the activity surrounding #salvemoselCJE was not highly influential: almost 25% of the institutions and individuals were passive, in that their number of tweets was inferior to the average (1.6 tweets). Another 13.9% of the actors were considered as “isolated” users, as they did not receive any retweet nor any like. Only a

Table 1. Most followed institutions that tweeted #salvemoselCJE on September 11th, 2014

Account	#followers	#T	#replies	#RT	#likes	type	INF
Unión General de Trabajadores (UGT) @UGT_Comunica	32,000	2	2	13	1	union	no
Área de Juventud de Izquierda Unida @JovenesIU	30,100	1	0	14	3	youth party	yes
European Youth Forum @Youth_Forum	23,200	1	1	31	11	umbrella association	yes
Cumbre Social @SocialcumbreS	19,300	5	1	55	8	umbrella association	yes
EQUO Madrid @equomadrid	13,500	1	0	7	1	association	yes
Juventudes Socialistas de la Comunidad de Madrid @JSMadrid	11,700	1	0	21	2	youth party	yes
Federación de Scouts- Exploradores de España ASDE Scouts España @scout_es	11,000	3	0	66	20	scouts	no
Consejo de la Juventud España @_CJE	10,900	14	13	398	84	public agency	no

small minority (4%) were identified as “networkers”, as they published more tweets than the average, and received a proportional amount of retweets.

6. Conclusions

This article contributes to understanding the possible reasons why issues concerning young people’s political claims in Spain do not reach the status of public controversies in the public sphere. In relation to the initial hypothesis, the results of the analysis suggest the idea that Spanish youth political demands do not succeed when only their interests (as young people) are at stake. The study has raised a paradox in describing a well-established and traditionally organized youth agency that fails in its attempt to reach the public sphere.

Following the first objective of the study, the results demonstrate that the newspaper coverage of the CJE’s dissolution did not trigger any controversy. The evolution of this press coverage over time has shown that the relevance of the topic was determined by a journalistic routine that conceives the news under an ephemeral logic. This same routine placed the focus of interest on governmental action rather than on the social demands and activity of the “Salvemos el CJE” campaign. All the newspapers adopted the productive routine when placing the issue on the media agenda at the very beginning of the process. However, none of the analysed newspapers covered the outcome –whether positive or negative– of this issue, in July 2017. The CJE’s dissolution exited the media agenda before becoming a public controversy. This statement confirms one of the main points of the article, as described

in the second objective. That is, the idea that Spanish young people do not have access to political debates and do not reach the public sphere. Although their demands produce a questioning of the status quo, they are often dismissed by the press and seen as marginal. In general, their voice does not have a prominent place in the news.

The peaks of attention that the hashtag #salvemoselCJE received on Twitter largely coincide with the peaks of interest that the dissolution of CJE generated in the press. This result shows a parallel running of both the citizens and the media agenda. However, this does not mean that the press and Twitter share productive routines, but rather that their respective agendas follow the flow of the Spanish Government's decision making concerning the case under scrutiny. This could be confirmed by the fact that the peaks of activity (both circulation of news and tweets) coincide with the Government's political moves. This behavior can be seen as being normal when it comes to press coverage, but an organized civil society should not need to set its public agenda the same way.

Another finding helps to explain why young people's ability to reach the public sphere through Twitter has remained limited in the case of this campaign. As the case study shows, the high organisational capacity of the youth can prove useless when potential controversies are kept within the realm of "internal youth affairs". The campaign "Salvemos el CJE" has been kept within the very same networks that already exist offline in the form of youth organizations under the CJE's umbrella. Even if the Twitter hashtag #salvemoselCJE has circulated, it does not mean that young people's claims and demands can effectively transcend the walls of a "gated community". The Twitter discussion analysed in this case study shows how the lack of external actors expressing dissent could limit the success of the campaign, as far as there is no possibility to bring the issue "out there", particularly in the absence of an elaborated communication strategy. Youth matters remain, thus, mostly invisible to the broader society.

In this conclusion, the importance of reviewing principles of agonistic pluralism in light of the digital society can be stressed. Internet and social media open the possibility of competing with the dominant position of traditional media, which could lead to the configuration of a new public sphere, more open to a diversity of voices and issues. Notwithstanding, this should not be considered as a rule or as a given just yet. By considering the absence of coverage of the outcome of the case under scrutiny and contextualizing it, along with other such "silences" that have characterized youth issues, we could get a glimpse of the mechanisms that contribute to consolidating structural inequalities.

In future studies, it would be interesting to broaden the scope of the analysis beyond this particular case in order to better grasp the position and impact of youth opinions and youth-related issues in the public sphere, as well as within the wider realm of social demands. In this sense, one might call for a more arduous analysis of the way in which counterpublic discourses weigh on the public agenda through offline and online media (including audiovisual content). The study also points to the challenge of uncovering how youth agencies and campaigns can use social networks as effective spaces of political action instead of reproducing a usage pattern that, far from maximizing the significant potential of these online networks, leads to self-referencing and "ghettoization".

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2.3. Article 3: Echo Chambers on Social Media: A Systematic Review of the Literature

Ludovic Terren, Rosa Borge Bravo

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Echo Chambers on Social Media: A Systematic Review of the Literature

Ludovic Terren
Universitat Oberta de Catalunya, Spain
lterren@uoc.edu

Rosa Borge
Universitat Oberta de Catalunya, Spain
rborge@uoc.edu

Abstract

There have been growing concerns regarding the potential impact of social media on democracy and public debate. While some theorists have claimed that ICTs and social media would bring about a new independent public sphere and increase exposure to political divergence, others have warned that they would lead to polarization through the formation of echo chambers. The issue of social media echo chambers is both crucial and widely debated. This article attempts to provide a comprehensive account of the scientific literature on this issue, shedding light on the different approaches, their similarities, differences, benefits, and drawbacks, and offering a consolidated and critical perspective that can hopefully support future research in this area. Concretely, it presents the results of a systematic review of 55 studies investigating the existence of echo chambers on social media, providing a first classification of the literature and identifying patterns across the studies' foci, methods and findings.

We found that conceptual and methodological choices influence the results of research on this issue. Most importantly, articles that found clear evidence of echo chambers on social media were all based on digital trace data. In contrast, those that found no evidence were all based on self-reported data. Future studies should take into account the possible biases of the different approaches and the significant potential of combining self-reported data with digital trace data.

Highlights

- This article attempts to provide a comprehensive account of the literature on the existence of social media echo chambers.
- We provide a comparative perspective by addressing variations and patterns across the studies' foci, methods and findings.
- A majority of the studies focus on communication and interactions on social media, while the rest focus on content exposure.
- The studies in our sample relied on two types of data: digital trace data and self-reported data.
- Articles finding clear evidence of echo chambers were all based on digital trace data, while those finding no evidence were all based on self-reported data.
- Future studies should consider the strengths and weaknesses of different approaches and the significant potential of combining self-reported data with digital trace data.
- State of the literature at January 2020.

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Keywords: echo chambers; filter bubbles; social media; selective exposure; algorithmic curation; systematic literature review.

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Introduction

Throughout the last decades, the advent of the internet and the Web 2.0 have drawn a significant amount of scholarly attention to their potential impact on democracy and the public sphere. The latter, following Dahlgren's (2005) more recent take on Habermas' (1991[1962]) seminal work, is to be understood as "a constellation of communicative spaces in society that permit the circulation of information, ideas, debates, ideally in an unfettered manner, and also the formation of political will" (p. 148). Some adopted an optimistic view, seeing these new technological developments as enabling a diversification of communicative action and the promotion of viewpoint diversity (e.g., Gimmler, 2001; Papacharissi, 2002); as advancing freedom, disrupting the elites' grip on democratic discourse and ultimately leading to the creation of an online knowledge commons (Benkler, 2006; Rheingold, 2003); or as providing opportunities to participate in civic life as well as increasing incidental exposure to news and political opinions (Bode, 2012; Gil de Zúñiga *et al.*, 2012; Xenos *et al.*, 2014). Others, however, were more pessimistic, thinking that digital technologies would lead to polarization through users' careful selection of information that matches previous beliefs and the formation of increasingly homogenous online groups (McPherson *et al.*, 2001). Among the most emblematic embodiments of

this pessimistic vision, we find Sunstein's (2001; 2017) metaphor of the echo chamber and Pariser's (2011) image of the online filter bubble. The underlying assumption behind the idea of echo chambers is that social media users selectively engage with like-minded others and ideologically-aligned content, thus rarely being exposed to the conflicting ideas that make up the agonistic public sphere (cf. Mouffe, 2005). This process is believed to be exacerbated by social media platforms' algorithmic curation of content based on users' past activity (cf. filter bubbles), which limits the novelty and diversity of the content that users are exposed to, and which – instead of contributing to viewpoint diversity – leads to online clustering and polarization. Within the framework of this paper, the metaphors of the echo chamber and the filter bubble are thus to be understood as a situation or a space in which pre-existing beliefs are repeated and reinforced – like reverberations in an acoustic echo chamber. For the sake of clarity, we will use the term "echo chambers on social media" to refer to both the issue of echo chambers and filter bubbles. While the concepts of echo chambers and filter bubbles – which are not mutually exclusive – are often used interchangeably and can be considered as embodying the same problem when it comes to political information environments and polarization, there is a distinction in the situation they depict (Nguyen, 2017). Indeed, the notion of the echo chamber usually refers to a situation in which users

mostly communicate with – and are exposed to content from – like-minded others. This situation is often attributed to homophily, the human tendency to interact and associate with similar others (McPherson *et al.*, 2001); selective exposure, which is linked to processes of challenge avoidance and reinforcement seeking and translates into the tendency to consume ideologically-aligned information (Garrett, 2009; Stroud, 2010); or confirmation bias, the propensity to seek, choose and interpret information in line with one’s own belief system (Nickerson, 1998). These tendencies are assumed to stem from our willingness to avoid cognitive dissonance, the psychological stress that is experienced when one simultaneously holds multiple contradictory beliefs (Festinger, 1957).

On the other hand, the concept of the filter bubble is usually associated with the idea that social media users are mostly exposed to ideologically-aligned content in their news feed, as a result of the platforms’ algorithmic selection of content based on users’ past behavior (Raynauld & Greenberg, 2014; Thorson *et al.*, 2019).

Generally speaking, there is variation in the way that this issue is addressed and understood, with different scholars choosing different empirical approaches and building their analysis around different terms. Yet, the core normative concern remains the same: the potential breakdown of a shared environment for information seeking, debate, and opinion formation. Social media have the potential to be a free and autonomous space for information and communication among citizens, contributing to the public sphere as envisaged by Habermas (1991[1962]) and Dahlgren (2005). However, this potential is not realized when diversity is lacking, when there is no (or little) exchange of opinions, no reasoned debate between opponents, and therefore no common ground or shared concerns.

The information segregation that likely results from echo chambers and filter bubbles is a serious concern, given the increasing reliance on social media for news consumption (Pew Research Center, 2018) as well as the fact that political deliberation and awareness of other political opinions represent cornerstones of a healthy democracy. Exposure to opposing viewpoints induces reflective political reasoning (Muradova, 2020), while the confrontation of ideas is a trigger for deliberation (Guttman and Thompson, 1998). The issue with social media, however, is the tendency to build up closed communities mostly valuing like-minded and inside voices, and turning into echo cham-

bers that preclude deliberation. It is an issue that has implications for political polarization, being one of the main challenges of our time, and that touches upon the ability of digital media to help with the formation of an informed public opinion and the promotion of political deliberation, diversity, and tolerance.

Several widely-cited scientific works have found support for the “social media echo chamber hypothesis”, highlighting the clustered nature of online social networks (Barberá, 2015a; Conover *et al.*, 2011; Aragón *et al.*, 2013; Schmidt *et al.*, 2017). Yet, the contrasting nature of the literature – scientific or otherwise – as well as the different approaches that are used warrant deeper investigation. So far, there is no comprehensive account (to the best of our knowledge) of the literature on the existence of echo chambers on social media. This systematic review intends to provide such an account, taking stock and providing a first classification of the scientific knowledge on the topic. It aims to shed light on the different approaches, their similarities, differences, benefits and drawbacks, and offer a consolidated and critical perspective that can hopefully support future research in this area.

Concretely, this article presents the results of a content analysis of 55 peer-reviewed studies investigating the existence of echo chambers on social media. It provides an encompassing perspective by addressing variations and patterns across the foci, methods, and findings of these studies, before moving on to a discussion and a conclusion.

The results highlight a division between studies that focus on social media communication and interactions or on content exposure; and another division between those that rely on digital trace data or those that rely on self-reported data. Most significantly, our results highlight the influence of conceptual and methodological choices on research outputs. Although a majority of the studies included in this review found some evidence of echo chambers on social media, conceptual and methodological choices seem to weigh on the findings of these studies (see Table 1). Indeed, in our sample, the studies that focused on interactions and/or relied on digital trace data tended to find significantly more evidence of echo chambers and polarization than the studies that focused on content exposure and/or relied on self-reported data. Among the latter, some found no evidence of echo chambers, finding – on the contrary – heterogeneity and cross-cutting interactions and exposure on social media.

While this tendency might be better understood by taking into account the respective weaknesses and potential biases

of these two approaches and types of data, it is not uncommon in the social sciences to find different results depending on the methodological approach. Social media research is not an exception¹.

In sum, this paper constitutes a first classification of the peer-reviewed literature on social media echo chambers, shedding light on the different approaches and potential biases, and further suggesting the need to consider the promising – yet challenging – combination of digital trace data and self-reported data in future studies.

Scope and Methodology

The development of the Web 2.0 and the widespread adoption of social media have given rise to a plethora of studies and research areas of which we cannot give a complete account here. For the sake of manageability and coherence, and drawing on existing guidelines for selection and reporting (Fink, 2014; Moher *et al.*, 2009), this systematic review will take into account scientific studies investigating the existence of echo chambers on social media, written in English, and published in peer-reviewed journals or in peer-reviewed conference proceedings before the 1st of January 2020 (which corresponds to the cut-off point of this systematic review). Narrowing down our topical scope meant discarding a significant number of studies touching upon – or based on – the idea of social media echo chambers but not specifically centered on the presence (or absence) of echo chambers on social media. Many of these studies departed from the assumption that there *are* echo chambers on social media and looked at – among others – their polarizing effect; the causes and consequences of online selective exposure (e.g., Borah, Thorson, and Hwang 2015); or different tools to counter the formation of echo chambers, burst the filter bubble by increasing exposure diversity or raise awareness among social media users (e.g., Bozdag & van den Hoven, 2015). Other types of discarded works included studies on echo chambers online but not specifically on social media,

such as studies on internet browsing recommender systems (Nguyen *et al.*, 2014), or hyperlink interaction patterns online (Häussler, 2019).

Although restrictive, the decision to exclusively take into account peer-reviewed journals and conference proceedings is – aside from the above-mentioned issue of manageability – based on a willingness to establish systematic search criteria to identify relevant studies. This approach more closely conforms to the methodological norms of primary empirical research, such as transparency and reproducibility. These selection criteria, however, meant overlooking potentially important contributions published in technical reports, books and book chapters (e.g., Pariser, 2011; Sunstein, 2001, 2017), press articles, as well as in studies published in other languages. Therefore, this paper should not be seen as a review of all the existing literature on social media echo chambers, but as a systematic review² of a representative collection of the academic literature, following the selection criteria laid out at the start of this section.

Based on a sample of the peer-reviewed literature on the existence of echo chambers on social media, this review will take an encompassing look at how the issue is approached, the methods and data that are used, and the findings that are generated.

In order to identify and retrieve relevant studies published in peer-reviewed social science journals and conference proceedings, we performed a clearly-defined keyword search in two dedicated academic databases: *Scopus* and *Web of Science*. An additional search was then performed in *Google Scholar*, to account for peer-reviewed journals or conference proceedings missed by the above-mentioned databases and/or published in lower impact journals or conferences. We performed Boolean searches using the following keyword phrase: “social media” OR “social network*”, in combination with (AND) “echo chamber*” OR “filter bubble*”. This was done through a topic search, looking for correspondence in the studies’ titles, abstracts, and keywords. The same Boolean search was carried out in *Google Scholar*. However, as this search engine tends to inflate the number of relevant studies

¹ See, for example, meta-analyses from Shelley Boulianne (2009, 2015) on the effects of the Internet and social media on political participation where studies using panel data are less likely to report positive and statistically significant coefficients between internet or social media use and participation, compared to cross-sectional surveys.

² Given the broad character of the collected literature as well as the fact that many of the studies on the existence of echo chambers on social media are qualitative and not based on statistical results, a meta-analysis was not applicable.

(the Boolean search yielded more than 10,000 results), we focused on the first 500 results, sorted by relevance.

The searches in *Scopus* (222 results), *Web of Science* (169 results) and *Google Scholar* (first 500 results) together yielded 891 studies that were then subject to a careful eligibility assessment process detailed in the PRISMA flow³ diagram (see Figure 1). Titles and abstracts of extracted records were independently reviewed by a second investigator (RB) and potential discordances were resolved through discussion

with a third party.

The 891 results were first checked for duplicates ($n=164$), after which the titles and abstracts of the remaining 727 studies were screened. Based on the exclusion criteria laid out in Figure 1, 509 records were excluded in this first broad screening process. The full text of the remaining 218 studies was then checked for relevance in a second in-depth screening process. This last step of eligibility assessment left us with 55 studies (46 articles and 9 conference proceedings)

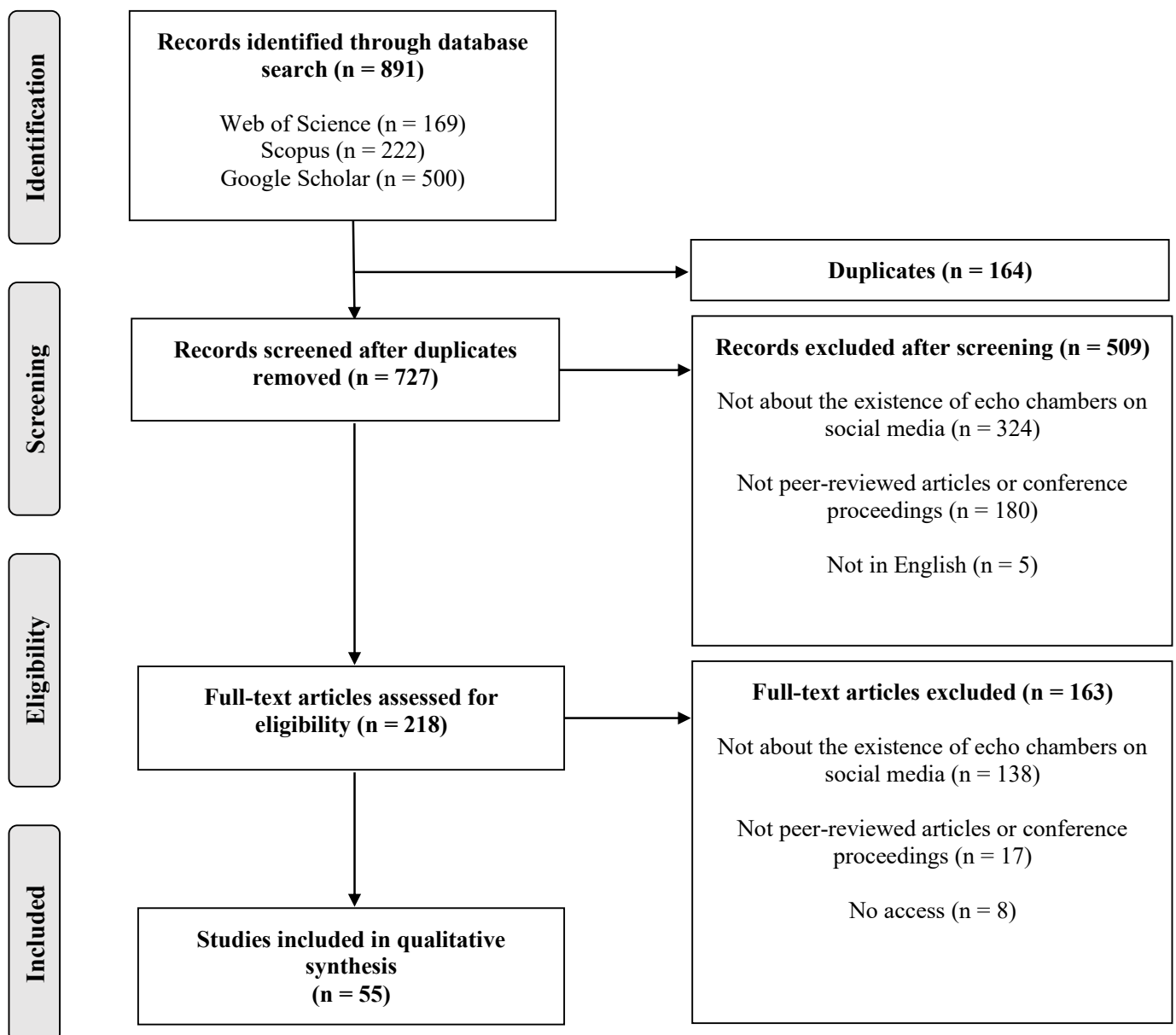


Figure 1. PRISMA flow diagram

³ PRISMA is an evidence-based minimum set of items for reporting in systematic reviews and meta-analyses. See <http://www.prisma-statement.org/>

that were included for analysis in this systematic literature review.

Throughout the articles’ screening and selection process, we started building an analytical framework to classify the studies using a bottom-up approach, which resulted in the use of three main categories: foci, methods, and findings. This process allowed us to evaluate the role of conceptual and methodological choices on research findings on this topic. It also helped us to identify similarities and differences, assess strengths and weaknesses, and provide a broader view of scholarship on this crucial issue.

Results

In this section, we scrutinize the studies included in this systematic review and try to make sense of a diverse set of research outputs on the existence of echo chambers on social media.

Although we did not restrict our search by year of publication, the studies in our sample were published between 2011 and 2020 (year of the search cut-off point), with a significant increase from 2014 onwards.

Taking into account the number of occurrences of analytically-relevant keywords in the full text of the 55 studies included in our sample, Figure 2 shows the rather obvious centrality of the concept of “exposure” as well as a significantly more important focus on echo chambers than on filter bubbles (although these were both included in the keyword search). Despite these two being closely related, this imbalance suggests a more important emphasis on communication, interactions, and exposure to like-minded *users* (closer to the concept of echo chambers), and a less important emphasis on algorithms and on exposure to like-minded *content* (closer to the concept of the filter bubble), as will be further developed in the next section.

In trying to investigate the existence of echo chambers on social media, the studies in our sample used a variety of

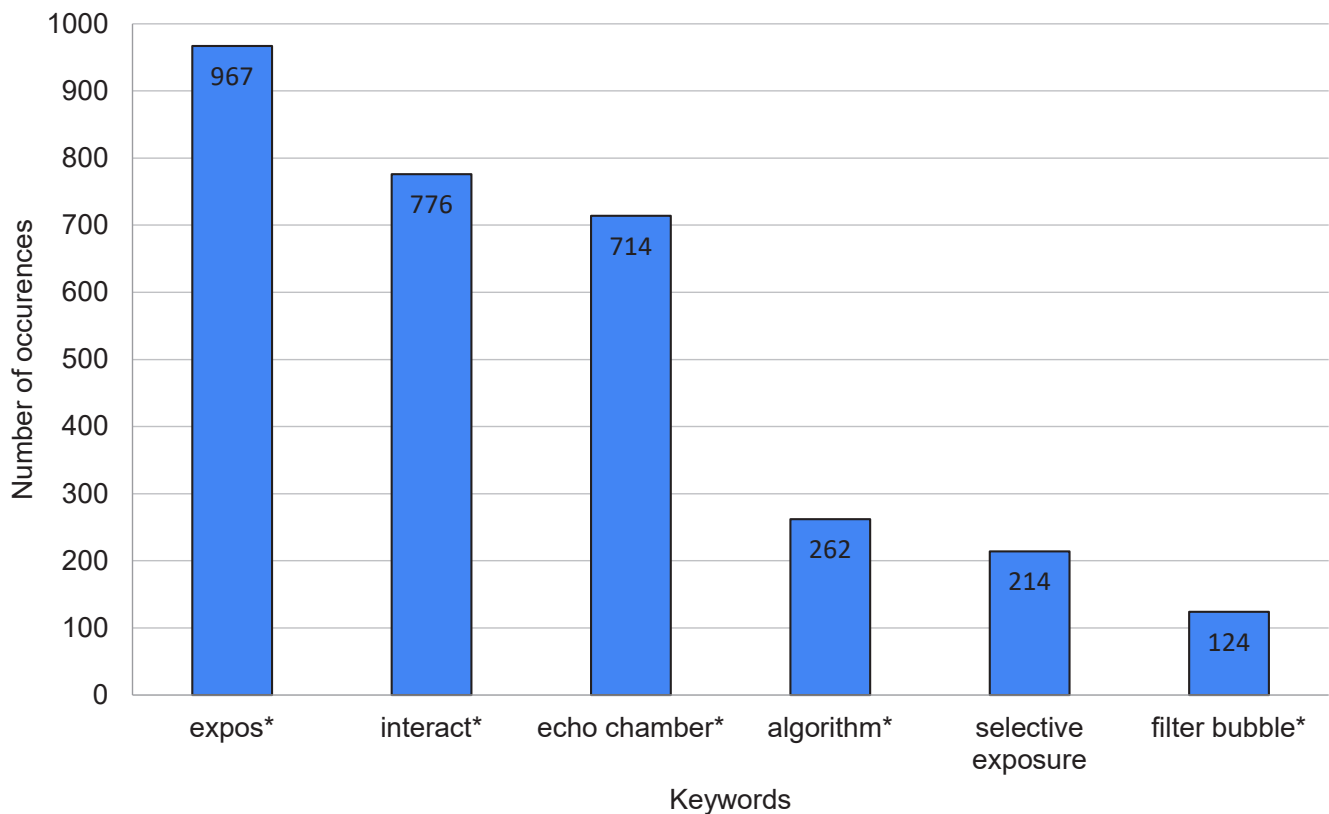


Figure 2. Number of occurrences of analytically-relevant keywords⁴ from all the studies included in the sample.

⁴ The * at the end of the keywords were used to include all the variants of these words. For example: algorithm* accounts for algorithm, algorithms, algorithmic and algorithmically.

approaches –both in terms of focus and methodology– which are reviewed in the following sections.

1. Foci: Communication and Interactions vs. Content Exposure

Although the 55 studies included in this review are about the existence of echo chambers on social media, they differ in their chosen focus to address this issue and how they operationalize it. Yet, a broad distinction could be made between two types of studies: those focusing on communication and interactions on social media (usually more related to the issue of echo chambers), and those looking at content exposure on social media (usually more related to the issue of filter bubbles). Broadly speaking, studies focusing on communication and interactions tend to operationalize the issue of echo chambers as the presence or absence of cross-cutting interactions between social media users. The idea is that the development of a public sphere through social media is only possible when political discussions are characterized by the presence of opposite ideas and diverse sources of information are shared on online social networks (Dahlgren, 2005). The main assumption underlying this approach is that fragmented and homogenous online publics within social networks reflect echo chambers and polarization (Batorski & Grzywinska, 2018).

Studies focusing on content exposure tend to operationalize the issue as the presence or absence of cross-cutting content in users' news feeds. The general assumption behind this approach is that exposure to diverse content and opinions will be associated with lower levels of polarization, and vice versa (Williams *et al.*, 2015).

Studies focusing on communication and interactions

As it can be expected when studying echo chambers on social media, a significant share of the studies in our sample focused on communication and interactions between different (and often ideologically-discordant) users on social media.

More specifically, some of these studies looked at the level of interactions between climate skeptics or activists (Williams *et al.*, 2015), followers of two gun policy organizations (Merry, 2015), the audiences of partisan TV shows (Hayat & Samuel-Azran, 2017; Jacobson *et al.*, 2016), between users on both sides of the left-right ideological divide (Grömping, 2014; Takikawa & Nagayoshi, 2017), or on op-

posite sides of a polarized political issue (Balcells & Padró-Solanet, 2016; Del Vicario *et al.*, 2017; Furman & Tunç, 2019).

Others used a communication approach to focus on social media use and polarization. While some analyzed social media's potential contribution to partisan polarization by looking at the *Twitter* readership of more extreme or moderate politicians (Hong & Kim, 2016), others studied the relationship between political communication on social media and extremity of attitude in different contexts (Chan & Fu, 2017; Lee, 2016; Bodrunova, Litvinenko, Gavra, & Yakunin, 2015).

Many of the studies focusing on communication and interactions analyzed political homophily and the level of social media interactions between groups or entities that are already highly polarized (e.g., conspiracy vs. scientific; democrats vs. republicans), which is a potential bias that ought to be taken into account.

Also, interactions on social media are not uniform, and different studies focused on different social media platforms and different interaction networks (e.g., reply, mention, follower, or retweet networks for *Twitter*). One ought to consider the fact that these choices can have a significant influence on the results. Indeed, with some knowledge of microblogging platforms such as *Twitter*, one could assume that the mention and reply networks – being more confrontational in nature – will tend to display less segregation and more cross-cutting interactions. The follower and retweet networks, on the other hand, will tend to show more political homophily, endorsement and ideologically-congruent interactions, as suggested by previous studies (Williams *et al.*, 2015; Esteve Del Valle & Borge Bravo, 2018; Conover *et al.*, 2011).

Studies focusing on content exposure

Although a larger number of studies looked at communication and interactions on social media, close to a quarter focused on the content that users are exposed to and consume on social media. This approach is based on the premise that the more users are exposed to opinion-reinforcing content in their social media news feeds, the more they can be considered as being in an echo chamber/filter bubble.

Some of these studies looked at the relationship between network diversity and content exposure on social media (Wohn & Bowe, 2016), and the role of “weak ties” or heterogeneous friends in increasing content diversity (Bakshy *et al.*, 2015).

Others observed the diversity and the nature of news or information that is reached from social media platforms (Flaxman *et al.*, 2016; Nikolov *et al.*, 2015), or the level of viewpoint diversity encountered in *Twitter* users' news feeds (Bozdag *et al.*, 2014).

Some scholars focused on selective exposure and news consumption habits among social media users, looking at the relationship between social media use, media diversity, and the likelihood of being in an echo chamber (Dubois & Blank, 2018; Messing & Westwood, 2014). Studying content exposure on social media is challenging, given researchers' severely limited access to the actual content of social media news feeds and the subsequent need to rely on individual self-reports and proxies for exposure. Some of the limitations of the above-mentioned studies include small, unrepresentative samples as well as a focus on active news consumers and users who openly volunteer their ideological affiliation online.

While most of the studies scrutinized social media echo chambers by either looking at communication and interactions or content exposure on social media, a few studies took both perspectives into account. For example, some focused on the relationship between exposure and subsequent interactions with specific types of content, whether looking at scientific and conspiracy pages and topics (Bessi *et al.*, 2016; Del Vicario *et al.*, 2016), Brexit-related posts (Del Vicario *et al.*, 2017), or exposure and subsequent engagement with "supportive", "oppositional", and "mixed" networks on social media (Vaccari *et al.*, 2016). While these studies – by taking both perspectives into account – might do more justice to the complexity of the issue of social media echo chambers, they do not account for the diversity (or lack thereof) of the content that users are exposed to in their social media news feeds.

Overall, and as already suggested in Figure 2, it seems that scholars tend to favor analyses of communication and interactions on social media over analyses of exposure to like-minded content, although this is – arguably – equally problematic and essential to our understanding of users' political information environment. Moreover, the decision to focus on communication and interactions or content exposure might also weigh on the findings, as will be further developed later on in this article. The larger number of studies focusing on communication and interactions could be partly due, on the one hand, to the difficulty of obtaining

data on the content that users are exposed to in their social media news feeds, and on the other hand, to the relative ease of gathering digital trace data (detailed in the next section), often in the form of social network analyses, giving the researcher access to interaction data for thousands, sometimes millions, of social media users. In spite of this, one ought to consider the need to take into account both communication and interactions (arguably more related to social media use) and content exposure (arguably more related to the design and functioning of social media platforms) if we are to better understand the issue of the potential breakdown of a shared environment for information seeking, debate, and opinion formation. This encompassing view could probably more easily be achieved through a mixed-methods approach, focusing on both self-reported data (shedding light on individual-level characteristics and on the media repertoire of individual users) and digital trace data (allowing for direct observations of human activity and behavior across entire networks), as will be developed in the following sections.

2. Research Methods and Data

Although there were variations in the methods applied and the data used in the studies included in this review, we were able to group all the studies into two main methodological (i.e., data collection) approaches. The first – and most frequently used – approach consisted in direct observations of online activity through the use of digital trace data (n=43), while the second approach was based on self-reported data obtained from social media users themselves (n=11), mostly through surveys, interviews, or focus groups. We found that only one of the 55 studies included in our sample combined digital trace data with self-reported survey data, despite the advantages of this approach. This could be partly due to the challenges associated with such combination, as will be touched upon later in this section.

Studies based on digital trace data

Digital trace data can be briefly defined as records of activity that took place in the digital world (Howison *et al.*, 2011). In our sample, most of the studies that relied on digital trace data focused on the social network *Twitter* (n=28), while the rest used *Facebook* (n=10), *YouTube* (n=1), or a combination of multiple platforms (n=4). Although *Twitter* – with 330 million active users globally in 2019 (Statista, 2019) – is not representative of the world's online population (estimated at

more than 4 billion in 2019 - Internet World Stats, 2019), it is arguably the most open and easily-accessible source of social media data.

It is worth mentioning that a large majority (n=44) of the studies included in this review based their analysis on a single social media platform, which potentially limits the generalizability of the results.

Although digital trace data can be collected and analyzed in different ways, among the studies that used this type of data, we found an overwhelming majority of social network analyses, systematically looking at social media activity in the environment in which it naturally occurs. Broadly speaking, Social Network Analysis (SNA) investigates patterns in relationships between interacting units, looking at network structures in terms of nodes (usually individual users) and ties or edges (the interactions or relationships that exist between these nodes) (Prell, 2011; Scott & Carrington, 2011). This type of analysis can be performed using a variety of digital tools for data processing and visualization (e.g., NodeXL, R, Python, Gephi, UCINET).

These SNAs took different forms. Some used social network maps to identify the formation – around specific topics or debates – of distinct ideological clusters (Barberá, 2015a; Del Vicario *et al.*, 2016, 2018; Wieringa *et al.*, 2018), and the distance between them (Garimella, 2017; Lynch *et al.*, 2017). Others looked at the frequency and direction of edges (i.e., relationships and actions between users, such as likes, retweets, comments, etc.) between ideologically-discordant users as well as the distance between them (Bodrunova, Smoliarova, Blekanov, Zhuravleva, & Danilova, 2018; Colleoni, Rozza, & Arvidsson, 2014; Takikawa & Nagayoshi, 2017; Williams *et al.*, 2015). SNAs were also carried out by focusing on the sharing of URLs and hyperlinks across different social media platforms (Bessi *et al.*, 2016; Callaghan *et al.*, 2013), or from social media to news websites (Garimella *et al.*, 2018). Others retrieved content produced by ideologically-distant groups or pages and looked at users' interactions in relation to them (Bessi *et al.*, 2016; Del Vicario *et al.*, 2016; Merry, 2015; Del Vicario *et al.*, 2017). Some studies relied on “click experiments”, investigating the place of social media in users' news consumption habits via web tracking data (Flaxman *et al.*, 2016; Nikolov *et al.*, 2015).

Digital trace data, and SNAs in particular, are very good at illustrating movements and trends in network dynamics, including the formation of ideological clusters, the quantity of interactions between distinct users, or the centrality of

specific users (e.g., “opinion leaders”). Digital trace data provide unsolicited and precise records of human behaviour in their “natural” environment, and can be collected from numerous platforms. This being said, the notable potential of this approach should not cloud the need for individual-level data and qualitative, in-depth assessments of these social media interactions, which could for instance shed light on the nature (e.g., whether more supportive, confrontational or deliberative) of these interactions. Indeed, few of the studies included in this review have carried out SNA to focus on the nature of social media interactions. Williams *et al.* (2015) retrieved *Twitter* data on climate-related hashtags and performed a sentiment analysis, classifying users based on their expressed attitude towards climate change. Balcells and Padró-Solanet (2016) built a manageable sample of *Twitter* replies by users following accounts for or against Catalan independence and manually coded them to assess their deliberative character. It is one of the only studies in our sample that qualitatively focused on the deliberative nature of social media interactions.

Over-relying on digital trace data and SNA without taking into account the nature of social media interactions nor the content to which social media users are exposed in their news feeds might not only promote a one-sided view of online media environments, but might also exaggerate the level of fragmentation or segregation that actually exists (Webster & Ksiazek, 2012). Digital trace data generally provide incomplete or no information about individual attributes or their activity across different online and offline spaces. On their own, they are arguably of limited use in linking human behaviour with social science theories or in shedding light on individual-level factors explaining these human behaviours (Stroud & McGregor, 2018).

Finally, SNAs usually rely on social media platforms' Application Programming Interface (API), which cannot account for acts of “disconnectivity” like “unfriending” or “unliking”, and which might therefore paint a biased picture of social media communication (John & Nissenbaum, 2019).

Studies based on self-reported data

The second approach was based on more traditional means of data collection, relying on self-reported data for which users were asked about their own social media usage and news consumption habits, mostly through surveys and – to a lesser extent – focus groups and interviews.

Within this approach, some scholars used survey re-

sponses combined with regression analyses to study the links between the use of diverse media and respondents' network diversity (Hampton *et al.*, 2011) or the likelihood of users finding themselves in echo chambers on social media (Dubois & Blank, 2018). Other studies combined survey methods with experiments reproducing online settings and exposing users to opinion-challenging arguments, subsequently analyzing reported perceptions and attitude change (Karlsen *et al.*, 2017). In a similar study, users were exposed to news stories from left- and right-wing newspapers to look at the role of social and political cues on news content selection using a web interface similar to *Facebook* or *Twitter* (Messing & Westwood, 2014).

Several studies investigated respondents' *Facebook* use and their interactions through focus groups and follow-up interviews (Wohn & Bowe, 2016) or through survey questions and follow-up interviews (Grevet *et al.*, 2014; Seargeant & Tagg, 2018).

Although self-reported survey data provide rich individual-level data shedding light on – for instance – sociodemographic characteristics and outcome variables such as political attitudes, they are not devoid of limitations. Studies relying on individually self-reported data – besides being based on significantly smaller samples – are exposed to measurement issues (Andersen *et al.*, 2016) and social desirability bias (Fisher, 1993; Stodel, 2015; Vraga & Tully, 2020), or the tendency of survey respondents to give approval-seeking answers, over-reporting “good behaviors” and under-reporting “bad” or objectionable ones. They also suffer from the potential lack of accuracy of retrospective self-reports, which might be worsened by today's image-saturated and fast-paced digital information environments (Stier *et al.*, 2020).

Studies combining digital trace data and self-reported data

Among the 55 studies included in this systematic review, only one combined digital trace data with self-reported (survey) data, despite the advantages of such an approach (Resnick *et al.*, 2015). Eady *et al.* (2019) combined survey data (including self-reported ideological placement) with data from respondents' public *Twitter* accounts. They analyzed the political and media environment of these users by merging ideology estimates with content from the set of *Twitter* accounts followed by the respondents in order to see whether – and the extent to which – liberals and conservatives

encounter cross-cutting content. By linking survey data with digital trace data, these researchers were able to study online behavior and political information environments at the individual level, using publicly available data.

The integration of digital trace data and self-reported survey data seems to be significantly underexplored in the study of social media echo chambers, although it represents a promising way to account for the respective weaknesses of these two types of data. Their combination allows for the cross-validation of measurements, using both rich individual-level data and large-scale social media data, providing more depth of analysis and a more fine-grained understanding, while observing online behavior and dynamics in their natural environment.

This being said, the combination of digital trace data and self-reported survey data is not without challenges. Perhaps most importantly, these include ethical issues of consent at different levels. Indeed, researchers need explicit consent for different stages, as well as active participation in these stages (e.g., survey, online platform, web tracking). These multiple stages increase the risk of low consent and response rates, and subsequently, of potential selectivity bias (Jürgens *et al.*, 2020). Other issues include the representativity of subsets of (active and motivated) social media users or the equivalence of conceptual measurements across online and offline indicators (for a review on integrating digital trace data and survey data, see Stier *et al.* 2020).

3. Findings: Echo Chamber vs. Public Sphere?

After scrutinizing similarities and differences in terms of the topics addressed, and the methods and data used, we shall now review what these studies have found and concluded. Going through the findings, a clear distinction could be made between studies that painted scenarios of echo chambers, public sphere, or a combination of both. More concretely, we could divide the studies between (i) those that found clear evidence of echo chambers on social media; (ii) those that generated mixed findings; and (iii) those that did not find evidence of echo chambers on social media, instead finding evidence of heterogeneity and cross-cutting interactions and exposure. The “mixed findings” category refers to studies that found echo chambers to be likely on social media, but under certain conditions. The findings of the studies in our sample were independently coded by two investigators. As nuances in these findings could be subject to inter-

pretation, we performed a reliability test. The inter-coder reliability was satisfactory (Krippendorff's alpha of 0.90).

When comparing the studies' methods/data and foci with their findings, clear patterns emerged (see Table 1). Indeed, while more than half (n=24) of the studies based on digital trace data (n=43) found clear evidence of echo chambers on social media, none of the studies based on self-reported data did. Additionally, 22 out of the 24 studies that found clear evidence of echo chambers on social media either focused on communication and interactions (n=16) or combined a focus on communication/interactions and content exposure

(n=6). On the other hand, only 2 out of these 24 studies focused solely on content exposure on social media.

These results – which might help us better understand the sometimes contrasting nature of the literature on social media echo chambers – suggest that the findings of research on this issue are significantly influenced by the studies' focus and methodological approach. This further reflects the impact of conceptual, measurement and data choices on research outputs. These choices inevitably highlight some aspects of media environments at the expense of others (Napoli, 2011). In this sense, it is worth mentioning another

Methods/data	Findings		
	Evidence of echo chambers on social media	Mixed findings	No evidence of echo chambers on social media
Digital trace data	24 studies: Del Vicario <i>et al.</i> 2016** Williams <i>et al.</i> 2015* Hong & Kim 2016** Bessi <i>et al.</i> 2016** Jacobson <i>et al.</i> 2016** Batorski & Grzywinska 2018* Zollo <i>et al.</i> 2017* Nikolov <i>et al.</i> 2015*** Del Vicario <i>et al.</i> 2017** Lynch <i>et al.</i> 2017* Hayat & Samuel-Azran 2017* Chung-hong & King-wa 2017* Merry 2015; Grömping 2014* Takikawa & Nagayoshi 2017* O'Callaghan <i>et al.</i> 2013*** Garimella <i>et al.</i> 2018** Park <i>et al.</i> 2016* Bodrunova <i>et al.</i> 2018* Schmidt <i>et al.</i> 2018* Chen & Milojević 2018* Del Vicario <i>et al.</i> 2018* Wieringa <i>et al.</i> 2018** Furman & Tunç 2019*	19 studies: Balcells & Padró-Solanet 2016* Colleoni <i>et al.</i> 2014** Barberá <i>et al.</i> 2015a* Flaxman <i>et al.</i> 2016*** Bozdag <i>et al.</i> 2014*** Garimella <i>et al.</i> 2017* Bright 2018* Bodrunova <i>et al.</i> 2015* Bakshy <i>et al.</i> 2015*** Hanusch & Nölleke 2018* Esteve Del Valle & Borge Bravo 2018* Shore <i>et al.</i> 2018** Dehghan 2018** Matuszewski & Szabó 2019*** Cota <i>et al.</i> 2019* Bodrunova <i>et al.</i> 2019* Rathnayake & Suthers 2019* Hodson & Petersen 2019* Urman 2019***	-
Self-reported data	-	6 studies: Vaccari <i>et al.</i> 2016** Wohn & Bowe 2016*** Grevet <i>et al.</i> 2014* Seargeant & Tagg 2018** Karlsen <i>et al.</i> 2017* Lee 2016**	5 studies: Hampton <i>et al.</i> 2011** Dubois & Blank 2018*** Lee <i>et al.</i> 2014** Semaan <i>et al.</i> 2014** Messing & Westwood 2014***
Combination of both	-	1 study: Eady <i>et al.</i> 2019***	-

Table 1. Foci, methods/data and findings of the studies in our sample (n=55). “Foci” legend: * Communication/interactions; ** both communication/interactions and exposure; *** exposure.

potentially important distinction, namely that between *media-centric* and *user-centric* approaches. Studies based on digital trace data and focusing on communication and interactions will tend to favor a media-centric approach, accounting for activity across entire networks and platforms. On the other hand, studies based on self-reported data and focusing on content exposure will tend to take a user-centric approach, accounting for the media repertoire of individual users (Webster & Ksiazek, 2012), as will be further developed in the discussion.

Evidence of echo chambers on social media

Close to half of the studies found clear evidence supporting the “social media echo chamber hypothesis”, according to which social media users will most likely interact with like-minded others and/or be exposed to ideologically-aligned content on social media. As mentioned above, 22 out of the 24 studies in this category focused on communication and interactions or combined a focus on communication/interactions and content exposure, and all of them relied on digital trace data (as shown in Table 1).

The findings pointing to the existence of echo chambers on social media varied across the studies reviewed in this paper. On several occasions it was concluded that social media activity is characterized by attitude-based homophily and takes place within segregated communities of like-minded users. Conflicting narratives on controversial topics were shown to lead to the clustering of users into homogenous echo chambers, whether around conspiracy and scientific topics (Schmidt *et al.* 2018; Bessi *et al.*, 2016; Chen and Milojevic, 2018; Del Vicario *et al.*, 2016; Zollo *et al.*, 2017), within the framework of Hong Kong’s Occupy Movement (Chan & Fu, 2017), or in the context of Egypt’s uprisings between 2011 and 2013 (Lynch *et al.*, 2017). Others found that social media users tend to selectively expose themselves to and engage with a restricted array of content and information sources that correspond to their political orientation, thereby severely limiting the potential for cross-cutting exposure and interactions (Grömping, 2014; Jacobson *et al.*, 2016). Two social network analyses on climate change (Williams *et al.*, 2015) and gun control (Merry, 2015) found that most *Twitter* users only (or almost only) interact with like-minded others, while avoiding direct confrontation with their “opponents”.

A study of *YouTube*’s recommender system suggested that users find themselves in echo chambers when consuming content on the platform. In this instance, they identified the

existence of an extreme-right filter bubble in which users who click on extreme-right content are highly likely to be recommended further extreme-right content (Callaghan *et al.*, 2013).

A social network analysis of the *Twitter* activity surrounding Korea’s 2012 presidential campaign found an overwhelming majority of retweets and a small number of replies and mentions, suggesting that, more than debating with one another, users relayed other users’ content. This is in line with the idea that social media such as *Twitter* work as echo chambers in which dominant opinions are reinforced at the expense of plurality (Park *et al.*, 2016).

Mixed findings

Close to half of the studies included in our sample generated mixed findings. Among these, some found evidence of echo chambers on social media, but mostly around political topics (Barberá, 2015a; Grevet *et al.*, 2014), controversial issues (Garimella, 2017), or between groups that are further apart in ideological terms (Bright, 2018; Eady *et al.*, 2019).

Other studies found that social media users tend to be mostly exposed to ideologically-aligned content but to a somewhat limited extent (Bakshy *et al.*, 2015; Flaxman *et al.*, 2016), or that disagreement persisted on social media, despite users’ tendency to engage with networks that support their views (Vaccari *et al.*, 2016). Some argued that the level of ideological segregation on social media depended on the profile of the users. They found that followers of Democrat accounts showed higher levels of political homophily than those following Republican accounts (Colleoni *et al.*, 2014).

No evidence of echo chambers on social media

Only five out of the 55 studies included in this review did not find any evidence of echo chambers on social media; instead, they found evidence of heterogeneity and cross-cutting exposure and interactions. All five studies based their analysis on self-reported data and either focused on exposure or combined a focus on exposure and communication/interactions (see Table 1). For example, through a survey of internet users in the UK, a study by Dubois and Blank (2018) found no evidence of echo chambers on social media. Their results showed that, on the contrary, social media users tended to check multiple sources and tried to confirm information using external searches, thereby often encountering things they disagreed with and opinions that changed their views. Similarly, others (Semaan *et al.*, 2014) found that

– far from creating echo chambers of like-minded users – social media activity gave users access to a heterogeneous group of people with whom they could discuss political issues. Their results showed that their sample of interviewees actively sought out an environment that could facilitate deliberation. According to other scholars, social media use increases users' network diversity (Lee *et al.*, 2014; Hampton *et al.*, 2011;) and exposure to a variety of news and politically-diverse information (Messing & Westwood, 2014), thereby lessening concerns about social media echo chambers.

In this section, we have highlighted the findings of the studies included in our sample. As we have seen, the literature is not unanimous on the existence of echo chambers on social media. Different studies – and different approaches – generate significantly more or less evidence of segregation and polarization on social media, further emphasizing the weight of methodological and measurement choices on research findings.

Discussion and Conclusions

In this article, we have provided a first classification of the literature on social media echo chambers and identified patterns across the studies' foci, methods and findings. These were characterized by a significant focus on communication and interactions, as well as a tendency of studies focusing on communication/interactions and/or based on digital trace data to generate more evidence of echo chambers than studies focusing on content exposure and/or based on self-reported data.

Throughout the analysis, we noticed that a majority of the studies focused on communication and interactions on social media, while fewer of them focused on content exposure, or combined both perspectives. Although this can partly be explained in terms of data availability, future studies should consider that an exclusive focus or an over-emphasis on communication and interactions on social media might not only weigh on the findings (potentially overestimating polarization), but also miss the bigger picture. Indeed, the problem not only lies with users communicating with like-minded others on social media but also (and perhaps even more importantly) with users – often passively – consuming and being exposed mostly or solely to attitude-reinforcing content (cf. metaphor of the filter bubble). Users that are actively engaged in political debates on

social media (and more specifically on *Twitter*, like in many of the studies included in this review) represent a minority in comparison to those who use social media to consume media content and inform themselves. As an illustration, a 2016 survey of social media users in the US found that most of them never (50% of respondents) or hardly ever (24%) commented, posted, or discussed about politics with others on social media (Statista, 2016).

As we saw in this paper, there were not only differences in the way echo chambers were operationalized (e.g., cross-cutting content exposure vs. interactions), but also in the way that social media interactions were operationalized, whether taking into account (in the case of *Twitter*) the follower network, the retweet network, the mention, or the reply network. Future scholars should consider that the decision to focus on one network or the other might influence the results in a way that cannot be overlooked.

As shown in Table 1, the results of research on this issue seem largely influenced by the choice of methods and approach to data collection, with most evidence of echo chambers found through analyses based on digital trace data. As mentioned before, methodological and conceptual choices often weigh on research outputs. In our case, it might be said that digital trace data and a media-centric approach – for instance, by focusing on specific (often polarized) networks or by neglecting the role of user agency across different platforms and networks – could overestimate the level of fragmentation that actually characterizes social media. On the other hand, it might be said that survey data and a user-centric approach – for instance, by relying on small samples and on potentially inaccurate and biased self-reports – might underestimate fragmentation and polarization on social media. When studies are focused on individual behavior and take into account user agency on different platforms and networks and across longer timeframes, a different (and perhaps deeper) vision might show individuals being exposed to and interacting with opposing viewpoints (Barberá, 2015b; Dubois & Blank, 2018; Semaan *et al.*, 2014).

Given the centrality of the exchange of information and opinions characteristic of the notion of public sphere, the issue of social media echo chambers cannot be captured solely through structural analyses of online networks or qualitative methods based on self-reported data. Indeed, more attention should be given to online intertextuality and methods of discourse analysis, which are key to better understand the multimodal forms of expression encountered

on social media (Herring, 2019).

In our sample, a clear distinction could be made between the many studies based on digital trace data and those based on self-reported data, both approaches providing rich insights. However, as we have seen, each of these approaches also comes with potential drawbacks and biases (e.g., lack of individual-level data and depth of analysis in the case of digital trace data; inaccuracy of retrospective self-reports; social desirability bias and issues of generalizability in the case of self-reported data). While these issues need to be addressed, the significant potential of combining self-reported data with digital trace data should be taken into account in future studies. This could provide a more complete account of users' political information environments through a combination of rich individual-level data and conspicuous observations of online behavior in its natural setting. Although challenging on several counts, such a combined approach could help to account for the respective weaknesses of these two types of methods/data and perhaps contribute to disentangling the apparent relationship between methodological choices and research findings. An insightful account of potential ways forward can be found in Stier *et al.* (2020) and their special methodological issue on integrating digital trace data and survey data. Finding innovative ways to combine these two types of data (for instance, through survey experiments and web tracking - see Vraga & Tully, 2020) could also make it easier for future studies to take into account both communication/interactions and content exposure on social media, allowing for a more comprehensive understanding of this multifaceted issue.

Among the studies in our sample, there seems to be a broader consensus supporting the "social media echo chamber hypothesis". However, considering the potential biases of the different approaches and the seeming correlation between foci, methods and findings, one ought to be careful not to fall in "absolutist" interpretations of the results in terms of the full-fledged existence or nonexistence of echo chambers on social media. While social media use can sometimes positively contribute to – and at other times impede – democratic deliberation and plurality, there is a need to acknowledge the fact that this is far from being a binary issue. Moving beyond the metaphors of the echo chamber and the filter bubble, we ought to consider that any given increase in opinion-reinforcing arguments and decrease in opinion-challenging information is a likely source of polarization. There can certainly be different magnitudes of echo cham-

bers, the lowest of which should already be seen as problematic. This magnitude will depend upon the network, the issue, as well as a multifaceted interplay between the architecture of social media platforms and users' individual characteristics. It would perhaps give us perspective to see this issue in relation to an ideal environment in which social media would truly enhance democratic deliberation, an environment reminiscent of early optimism about the potential of social media and ICTs in contributing to the creation of an independent public sphere and in diversifying people's networks and perspectives.

Although research on the existence of echo chambers on social media is still relatively young, through this review we were able to identify relevant similarities and differences, and provide a descriptive, yet critical, picture of the peer-reviewed work on this timely issue.

This is a challenging and rather fragmented field of research, often relying on variables and data that are difficult to gather, measure, and interpret. Still, the importance and potential of research on social media echo chambers – and their implications for political deliberation and democracy – are manifest.

This paper shed light on the restrictive – and potentially biased – character of one-sided operationalizations of the issue of social media echo chambers as well as of one-sided data collection approaches. Future scholars should carefully take into account the available body of work and avoid reproducing studies that focus solely on communication and interactions or content exposure, or rely solely on digital trace data or self-reported data, as such approaches might fail to do justice to the complexity of the issue of political exposure on social media.

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Corresponding author

Dr. Ludovic Terren
Department of Law and Political Science
Universitat Oberta de Catalunya
Av. del Tibidabo, 39, 08035, Barcelona, Spain
lterren@uoc.edu

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2.4. Article 4: Media Effects on the Perception of the Impact of Immigration: Evidence from 9 European Countries

Ludovic Terren

Under review

Media Effects on the Perception of the Impact of Immigration: Evidence from 9 European Countries

Ludovic TERREN

*Department of Law and Political Science, Open University of Catalonia, Av. del Tibidabo, 39,
08035 Barcelona, Spain.*

Email: lterren@uoc.edu

ORCID: 0000-0002-7075-7573

Word count: 8635

Abstract

A better understanding of media effects on immigration attitudes is crucial for policy development and innovation. While many studies have focused on immigration discourses or the salience of this issue in print media and broadcast TV, few have looked at how different “media diets” influence immigration attitudes. Using two-wave panel data composed of 14,480 observations (7,240 individuals) from across 9 EU countries, this article specifically analyzes the role of online and social media news consumption as well as media diversity on Europeans’ perception of the economic and cultural impact of immigration. The results show that relying primarily on online or social media to get news (compared to print newspapers), consuming news less frequently, or having a less diverse media diet all significantly and negatively affect people’s perception of the impact of immigration. Results and implications are discussed in light of today’s changing media landscape and news consumption habits.

Keywords

media effects, media exposure, media diversity, social media, immigration attitudes, panel data

Introduction

Over the past decades, intensified migration flows to more developed countries have brought the issue of immigration to the fore in political debates and the media. In Europe, it has been – and still is – a polarizing issue based on which a rising wave of populist nationalist parties have gained increasing support through fearmongering and anti-immigration discourse (Goodwin & Milazzo, 2017). While the economic, sociocultural and labor market benefits of immigration are well documented (IOM, 2019; OECD, 2014; Oxford Economics, 2018), negative views and perceived threats are still commonplace when looking at public opinion on this issue. Such views are often based on significant misperceptions. Indeed, several studies have shown that immigrants are believed to be more numerous, culturally distant, unemployed and less educated than they actually are (Alesina et al., 2018; Banulescu-Bogdan, 2018). In an era of rampant misinformation and fake news (Vosoughi et al., 2018), and given the gap between official reports and public views on immigration, it is essential to study media effects on Europeans' perception of immigration. This is important for public opinion research as well as to better understand current trends – and their evolution – in immigration attitudes and policy. In trying to explain attitudes towards immigration, much of extant research has revolved around perceived economic and cultural threats. Indeed, the more positive or negative character of these attitudes can be related to the extent to which individuals perceive immigrants as a new source of competition for available jobs (economic threat), or as jeopardizing the dominance, legitimacy and stability of the host nation's norms and values (cultural threat). While factors like education, financial security or media framing have often been pointed to as some of the determinants of immigration attitudes, few studies (if any) have quantitatively and comparatively analyzed the effects different "media diets" – including social media news consumption and media diversity – on people's perception of immigration. Aside from content

analyses of (social) media coverage and discourse in relation to immigration and the refugee crisis (e.g., Bennett 2016; Boukala & Dimitrakopoulou 2018; Heidenreich et al., 2019, 2020), the comparative analysis of media effects – including online and social media – on the perception of immigration has been, so far, largely neglected in the scientific literature (Eberl et al., 2018). With some exceptions (see Meltzer et al., 2020), most media effects studies to date are either single country studies (Arendt, 2010; Czymara & Dochow, 2018), or do not take social and online media into account (Theorin, 2019). This study contributes to filling these gaps, an endeavor that is all the more important when looking at the ever-increasing proportion of people who rely – sometimes exclusively – on social media in their news consumption habits (Pew Research Center, 2018; We Are Social, 2021), as well as the spread of fake news online (Carr et al., 2019; Vosoughi et al., 2018). By taking online and social media use into account, this study captures an often-neglected – and increasingly important – part of media reality that Europeans rely on in their daily lives.

The main objective of this study is thus to provide an account of media effects on Europeans' perception of the economic and cultural impact of immigration on host societies, taking into account respondents' main media platform used for news, frequency of news consumption and level of media diversity (the use of different media platforms, as opposed to sources). To do so, I used two random effects Ordinary Least Squares (OLS) models. The first one takes into account the perception of the economic impact of immigration while the second one focuses on the perception of the cultural impact of immigration. The analysis is based on two-wave panel data resulting in 14,480 observations collected through online surveys in 9 European countries between April-December 2018 and April-July 2019. This study thus provides a multifaceted and European perspective on media effects on immigration attitudes, comparatively illustrating the important influence of media diversity and of relying primarily on online and social media. The

results show, first, that having a less diverse media diet and consuming news less frequently significantly and negatively affect people's perception of the economic and cultural impact of immigration. Second, they show that relying primarily on social media or news websites (compared to print newspapers) to get news is significantly and negatively associated with the perception of the economic and cultural impact of immigration.

Perceived threats, media diets and immigration attitudes

Attempts to make sense of attitudes towards immigration are often articulated around two main perceived threats, one of an economic and the other of a cultural nature (Esses et al., 2017; Meltzer et al., 2017).

As described below, differences in the *perception* of these threats – and individuals' attitudes towards immigrants – can be due to a diverse range of factors, among which media exposure, education, financial security or political orientation.

A growing number of studies on the representation of immigration in the media have concluded that media content and frames significantly influence beliefs about immigration. Indeed, the framing of immigration around negative stereotypes often related to physical, economic or cultural threats has been shown to elicit negative attitudes towards immigration (Boomgaarden & Vliegenthart 2009; Florack, Piontkowski, Rohmann, Balzer, & Perzig 2003; Igartua, Barrios, Isabel, & Ortega 2012; Igartua & Cheng 2009; Mauro, 2020). On the other hand, the positive framing of immigration has been shown to reduce negativity towards immigration as well as overestimations of the actual size of the population of "illegal" immigrants (Blinder & Jeannet, 2018; van Klingeren et al., 2015).

Main media used for news consumption

While the above studies were primarily interested in the impact of news content and framing on immigration attitudes, less attention has been given to the impact of different types of media, looking at how relying primarily on different media platforms (a measure of media diets in this study) influences people's perception of immigration. Some found a significant relationship between exposure to commercial broadcasting (as opposed to public service broadcasting) as well as alternative, non-traditional media, and negative attitudes towards immigrants (Beyer & Matthes, 2015; Jacobs et al., 2016; Štětka et al., 2020; Theorin & Strömbäck, 2020), or that the increasingly sensationalistic nature of mass media coverage reinforced negative perceptions of immigration (Battegay & Boubeker, 1993; Benson, 2002). Television news tends to frame immigration more negatively – and to lead to less accurate perceptions of the immigrant population size – than print newspapers (Igartua, Muñiz, Otero, & De la Fuente 2007; Herda 2010). On the other hand, individuals who get more news through newspapers and radio (compared to other media) were shown to hold a more positive opinion on the economic impact of immigration (Héricourt & Spielvogel, 2013). When it comes to online and social media news consumption, the expectation is that these contribute to anti-immigration attitudes. This can be due – in part – to the business model's imperative to attract more clicks (often through dramatic and attention-grabbing content) as well as to social media's open and participatory nature and the absence of journalistic gatekeeping, making them a fertile ground for the spread of fake news, anti-immigrant and extremist content (Carr et al., 2019; Ekman, 2019; Nichols, 2017). In this sense, I hypothesize that using social media as a main source of information will be associated with a more negative perception of the impact of immigration (H1).

Media diversity

Another important and related factor in the formation of public opinion and perceptions of immigration is media diversity (a measure of media diets in this study), usually referring to the media that news consumers select within all the available media (McQuail, 1992). People can access information on social and political matters through a multitude of media, including television, social media websites, news websites, radio or traditional newspapers. As with different news outlets, they can choose to combine these but can also rely on one or some of them exclusively (Yuan, 2011). Individuals exposed to more than one newspaper were found to perceive ethnic minorities as less threatening than those who only read one newspaper (Vergeer et al., 2000). People's knowledge of political and current affairs has been shown to be related to the number of sources that they use – with more sources making individuals more knowledgeable (Kohut et al., 2007). The assumption is that a more diverse news diet (in our case through the use of several media platforms) is more enlightening and broadens the range of contents and perspectives that people are exposed to, thereby reducing the likelihood of media “echo chambers” in which users are mostly exposed to content that matches their political views and confirms pre-existing opinions (Dubois & Blank, 2018). This is an issue that is most commonly associated with social media and online news aggregators (e.g., Aragó et al. 2013; Barberá 2015; Conover, Ratkiewicz, & Francisco 2011), and that represents a serious concern, given that deliberation and awareness of different political opinions represent cornerstones of a healthy democracy (Mouffe, 1999). In this “echo chamber scenario”, pro-immigration users would likely gradually adopt an increasingly pro-immigration stance, and vice-versa, contributing to more polarization. However, this depends on the extent to which these users find themselves in echo chambers (e.g., depending on their media diversity both within and

across platforms) as well as on the immigration narratives that are dominant on social media. One could imagine that a sensationalistic online information environment privileging emotions over information and accuracy (García Orosa et al., 2017), and prone to extremist content (Carr et al., 2019; Nichols, 2017), would contribute to the development of anti-immigrant sentiment. Technically, news consumers could also find themselves in cross-platform echo chambers. However, this is unlikely as the use of more platforms will increase the likelihood of incidental exposure to different types of content (Dubois & Blank, 2018). Indeed, by switching platforms, one might for instance be exposed to right-wing content posted by a Facebook friend, browse a general news site tackling a diversity of issues in a non-partisan way (Weeks et al., 2016), and watch a TV debate between ideologically-discordant politicians. Highlighting the relevance of media platforms in news exposure, a study found that users who rely on the same news outlet but on different platforms have a different perception of the most important political issues facing their country (Althaus & Tewksbury, 2002). Although the following assumption has recently been challenged in a specific single country study focusing on the 2019 elections in the Czech Republic (Štětka et al., 2020), I hypothesize in this paper that having a more diverse media diet (relying on more media platforms to get news) and consuming (political) news more frequently (regardless of the media platform used) are both associated with a more positive perception of the impact of immigration (H2). Media diversity favors fact-checking practices (Dubois & Blank, 2018) and informed reasoning on social and political issues, potentially reducing confirmation bias, a process whereby individuals stick to information that confirms pre-existing views (Lord et al., 1979; Nickerson, 1998).

Other influencing factors are in fact considered as moderating the effects of media exposure on immigration attitudes. For example, numerous studies have shown that individuals with a higher

level of education tend to favor immigration more and see it more positively, or as less of a threat, than their less educated counterparts (Brenner & Fertig, 2006; Hainmueller & Hiscox, 2007; Héricourt & Spielvogel, 2013; Matthes & Schmuck, 2015; Vergeer et al., 2000). Education is believed to moderate the effects of media exposure on individuals' perception of immigration through improved cognitive skills and critical processing of information (Matthes & Schmuck, 2015).

Negative attitudes towards immigration have been shown to be more common among individuals who are more vulnerable socioeconomically and confronted with economic strain (Bobo & Hutchings, 1996; Gang et al., 2002; Schmuck & Matthes, 2017; Semyonov et al., 2008). In this sense, economically less successful individuals are more likely to perceive immigrants as a threat in terms of labor market competition and as a burden on the welfare state, a threat perception that is likely to be activated by negative mass-mediated textual and visual contact with immigrants (Atwell Seate & Mastro, 2016).

In line with motivated reasoning theory (Kunda, 1990; Tetlock & Levi, 1982), several studies have shown that political orientation shapes attitudes and levels of hostility towards out-groups – as more conservative individuals display less tolerance than their liberal counterparts (Inbar et al., 2009; Jost et al., 2009). Political orientation can also influence how individuals react to different types of immigration-related frames (Lahav & Courtemanche, 2012; Pardos-Prado, 2011).

In recent years, there have been significant changes in the media landscape, characterized by high choice, increased news avoidance (Neuman, 2018; Prior, 2007), and the rise of a new generation of news consumers bypassing print newspapers and favoring online platforms – sometimes exclusively (Karlsen et al., 2020; Papathanassopoulos et al., 2013). It is thus essential and timely to further our understanding of the effects of sourcing news primarily on online and

social media as well as of having a more or less diverse news diet on public opinion and on perceptions of immigration.

The determinants of immigration attitudes – including media consumption – have been the subject of much research. However, this is the first study that, based on two-wave panel data from nine European countries, comparatively analyses the role of exposure to different types of media (including social media), frequency of news consumption, media diversity, as well as a series of socioeconomic and demographic variables, on the perception of immigration.

Methodology

Data

This study is based on panel data from a two-wave survey conducted in nine European countries (namely France, Germany, Greece, Italy, Poland, Spain, Sweden, Switzerland, and the United Kingdom). It should be mentioned here that the media landscape across these countries is comparable. They share similarly high levels of media pluralism (*Media Pluralism Monitor*, 2020) and internet access (Statista, 2019). Although these countries have different histories – more or less recent – of immigration, in recent years this issue has been both salient and sensitive across Europe as a whole (European Commission, 2018).

By having repeated observations, panel data analyses allow for robust and accurate inferences and provide several advantages over time-series or cross-sectional data to capture the complexity of human and social phenomena (Hsiao, 2007). The data used for this paper were collected by the specialized polling agency Qualtrics through online surveys administered in April-December 2018 and April-July 2019. The sample was built using quotas for gender, geographical location (regional-level), education and age. A total of 27,446 respondents

participated in wave 1. The sample size per country in wave 1 ranged between 3,018 and 3,080. The average age in wave 1 was 33 (SD: 14.90). 7,240 respondents completed the survey in wave 2 (retention rate ranges from 16.3% to 32.8%). The sample size per country in wave 2 ranged from 499 to 997. The average age in wave 2 was 42 (SD: 17.25). There were 50% of females in both waves. As shown in Table A5 (see Appendix), and as it is often the case in observational studies, attrition was not entirely random. In this case, it seems to have been driven notably by age. It is expected that this age difference explains differences in media diets between attriters and non-attriters (e.g., younger respondents – who were more likely to drop out – display less media diversity, consume news less frequently, and rely more on social media than their older counterparts). The dataset used in this analysis (see Appendix, Table A1) is composed of 7,240 individuals (14,480 observations including both waves).

Variables

The concept of “media diet” and its operationalization have been – and are still – debated, partly due to the inaccuracy of self-reports, including social desirability bias, which is believed to lead survey respondents to overreport news exposure (Prior, 2009). Among the advanced solutions, Andersen and colleagues (2016) suggest the need to broaden the scope of media types included in survey questions, as well as to include a measure of frequency of exposure. Based on the survey data at hand, this article refers to “media diets” as encapsulating respondents’ main source of information/media used for news consumption (including not only TV and print newspapers, but also social media, news websites and radio), frequency of (political) news consumption, and level of media diversity (the number of media platforms that they – more or

less frequently – rely on in their news consumption habits). The variables included in this study are described below. All of the corresponding questions were asked in both wave 1 and wave 2.

Dependent variables:

Perception of the economic impact of immigration. This variable was measured using a 10-point scale (0=bad, 10=good). Participants were asked: “Would you say it is generally bad or good for your country’s economy that people come to live here from other countries?” (Mean=5.15, SD=2.69).

Perception of the cultural impact of immigration. Like the latter, this variable was measured using a 10-point scale (0=undermined, 10=enriched). Participants were asked: “Would you say that your country’s cultural life is generally undermined or enriched by people coming to live here from other countries?” (Mean=5.45, SD=2.78).

Independent variables:

Media diversity (number of media). This variable was measured based on a five-item question using a five-point scale (1=every day, 5=never). Participants were asked how often they get news through each of the following: print newspapers, TV, radio, news websites, and social media. The number of media for which participants did not reply ‘never’ was then summed, providing a measure of respondents’ media diversity, ranging from zero to five media. (Mean=3.36, SD=1.67).

Frequency of news consumption. This variable was measured by asking participants “How often do you consume political news?”. A five-point frequency scale was pooled to ensure a more balanced distribution. Resulting categories include “every day”, “frequently” (i.e., at least once

a week), and “rarely or never” (i.e., less than once a week or never) (see Appendix, Table A2 for statistics on media diets by country).

Main source of information. This variable was measured by asking participants “What is the main way you get your news?”, using five items: TV, news websites, radio, print newspapers, social media (see Appendix, Table A2 for statistics on media diets by country).

Economic prospects. To measure individuals’ perceived economic prospects, a 10-point scale was used (0=much worse, 10=much better). Participants were asked: “Do you expect the financial situation of your household in the near future to be better or worse than it is now?” (Mean=5.31, SD=2.18).

Economic strain. To measure participants’ recent/current economic strain, they were asked whether they had experienced real financial difficulties (e.g., not being able to afford food, rent, electricity) in the past 12 months (0=No, 1=yes). (Mean=0.24, SD=0.43).

International mobility (born in country of residence). This variable, which allows to control for immigrant background, was measured by asking participants if they were born in their country of residence (0=No, 1=yes). (Mean=0.93, SD=0.24).

Political orientation. To measure respondents’ political orientation, they were asked: “People sometimes talk about the Left and the Right in politics. Where would you place yourself on the following scale where 0 means ‘Left’ and 10 means ‘Right’?” (Mean=4.90, SD=2.38).

Demographics. The analysis controlled for age, gender, education, employment status and country (see descriptive statistics in table A1).

Models

To study the role of different media diets on the perception of the economic and cultural impact of immigration, two Ordinary Least Squares (OLS) models were used. In the first model, the dependent variable corresponds to the perception of the impact of immigration on the economy, while in the second model it corresponds to the perception of the impact of immigration on culture. While the adequacy of different modelling strategies (e.g., fixed effects vs. random effects) is still debated (Bell et al., 2019; Vaisey & Miles, 2017), given the short time lag and low expected variation on the dependent variables between wave 1 and 2 and the desire to estimate the effects of time-invariant factors, a random-effects approach was favored, controlling for individual, country and wave random effects. Some advantages of random-effects (over fixed effects) frameworks include the ability to generate narrower confidence intervals, to estimate the effect of time-invariant variables and to allow for more degrees of freedom (Clarke et al. 2010; Bell, Fairbrother, and Jones 2019).

Both models can be described as:

$$\begin{aligned}
 y_{iw} = & \alpha_{iw} + \beta_1 \text{number_media}_{iw} + \beta_2 \text{frequency_news}_{iw} + \beta_3 \text{main_infosource}_{iw} + \\
 & \beta_4 \text{economic_prospects}_{iw} + \beta_5 \text{economic_strain}_{iw} + \beta_6 \text{pol_orientation}_{iw} + \\
 & \beta_7 \text{education}_{iw} + \beta_8 \text{employ_status}_{iw} + \beta_9 \text{intl_mobility}_i + \beta_{10} \text{country}_{iw} + \\
 & \beta_{11} \text{gender}_{iw} + \beta_{12} \text{age}_{iw} + \beta_{13} \text{wave} + \mu_{iw}
 \end{aligned}$$

where i = individuals and w = wave 1 and wave 2.

As the random effects estimator is a weighted average of the within and between estimators, I isolated within and between effects to evaluate whether the effects in the models are driven by longitudinal or cross-sectional differences. This was done by running separate within (fixed) and between effects analyses, respectively shown in Tables A3 and A4 (see Appendix). These analyses show that the observed effects in the models are mostly driven by cross-sectional differences, which is likely due to the short time lag and subsequently the small within-individuals variance between both waves. Therefore, time-constant unobserved heterogeneity cannot be ruled out.

As a robustness test to address selection bias in the estimates, I used propensity score matching (Rosenbaum & Rubin, 1985). The aim of this method is to control for potential confounding by comparing treated and untreated individuals on the observed characteristics. In this case, matching was used to compare (i) individuals who rely on more than one media (2 or more) with those that do not (1 or 0 media), as well as (ii) individuals who rely on social media as their main source of information with those that do not. Propensity scores were estimated based on all controls (economic prospects, economic strain, political orientation, education, employment status, born in country of residence, country, gender and age). Although it cannot reproduce a randomized experiment (ensuring balance on both observed and unobserved variables), propensity score matching helps ensure balance on the observed covariates. As shown in table A6 (see Appendix), for both independent variables of interest (media diversity and main source of information), the propensity score matching test shows bias figures standing under 3-5%, which is considered as sufficient balance in matching analyses (Caliendo & Kopeinig, 2008).

Results

Table 1 below presents the results for both models, taking into account respondents' perception of the economic (model 1) and cultural (model 2) impact of immigration. Overall, the results highlight the significant role of media exposure – along with other key factors – on people's perception of the impact of immigration.

Table 1. OLS estimation results (random effects). Determinants of the perception of the impact of immigration on the economy and culture.

VARIABLES	Model 1 (economy)	Model 2 (culture)
<i>Number of media</i>		
0 (base)		
1	0.102 (0.0892)	0.114 (0.0970)
2	0.136 (0.0903)	0.187** (0.0931)
3	0.300*** (0.0890)	0.315*** (0.0933)
4	0.316*** (0.0910)	0.308*** (0.0961)
5	0.454*** (0.0886)	0.406*** (0.0938)
<i>Frequency of news consumption</i>		
Rarely or never (base)		
Frequently	0.112* (0.0596)	0.082 (0.0609)
Every day	0.250*** (0.0682)	0.247*** (0.0698)
<i>Main source of information</i>		
Print newspapers (base)		
TV	-0.314*** (0.0970)	-0.400*** (0.102)
News websites	-0.172* (0.0992)	-0.194** (0.105)

Democratising and Enlightening?

Radio	-0.0702 (0.123)	-0.089 (0.130)
Social media websites	-0.295*** (0.118)	-0.347*** (0.125)

Economic prospects

0 – Much worse (base)

1	0.298 (0.184)	0.421** (0.192)
2	0.403*** (0.154)	0.444*** (0.158)
3	0.856*** (0.142)	0.976*** (0.142)
4	1.083*** (0.138)	1.074*** (0.138)
5	1.215*** (0.132)	1.270*** (0.132)
6	1.377*** (0.136)	1.396*** (0.136)
7	1.646*** (0.138)	1.640*** (0.139)
8	1.857*** (0.146)	1.911*** (0.146)
9	2.111*** (0.175)	2.041*** (0.179)
10 – Much better	2.117*** (0.193)	2.120*** (0.189)

Economic strain

No (base)

Yes	-0.204*** (0.0514)	-0.149*** (0.0546)
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Political orientation

0 – Left (base)

1	-0.0718 (0.150)	0.0120 (0.157)
2	-0.262** (0.127)	-0.145 (0.133)
3	-0.387*** (0.125)	-0.420*** (0.130)
4	-0.593*** (0.131)	-0.709*** (0.134)
5	-1.130*** (0.124)	-1.236*** (0.128)
6	-1.072***	-1.326***

Democratising and Enlightening?

	(0.131)	(0.135)
7	-1.357***	-1.664***
	(0.134)	(0.137)
8	-1.696***	-2.002***
	(0.141)	(0.147)
9	-1.820***	-2.063***
	(0.183)	(0.180)
10 - Right	-2.282***	-2.670***
	(0.180)	(0.182)

Education

Primary education or vocational school (base)

	0.196***	0.235***
High school or higher certificates	(0.0575)	(0.0590)
First-level university degree	0.477***	0.540***
	(0.0680)	(0.0699)
Postgraduate or PhD	0.613***	0.725***
	(0.0873)	(0.0924)

Employment status

Full time employment (base)

	0.467***	0.464***
In education	(0.0743)	(0.0815)
Other	-0.0164	0.0954
	(0.106)	(0.104)
Part time employment	0.175***	0.221***
	(0.0650)	(0.0681)
Retired/permanent incapacity	0.217***	0.126
	(0.0836)	(0.0891)
Unemployed	0.0991	0.0855
	(0.0777)	(0.0791)

Born in country of residence

Yes (base)

	0.458***	0.291***
No	(0.101)	(0.110)

Gender

Female (base)

	0.238***	0.0425
Male	(0.0522)	(0.0545)
Non binary/third gender	0.276	0.547
	(0.537)	(0.432)

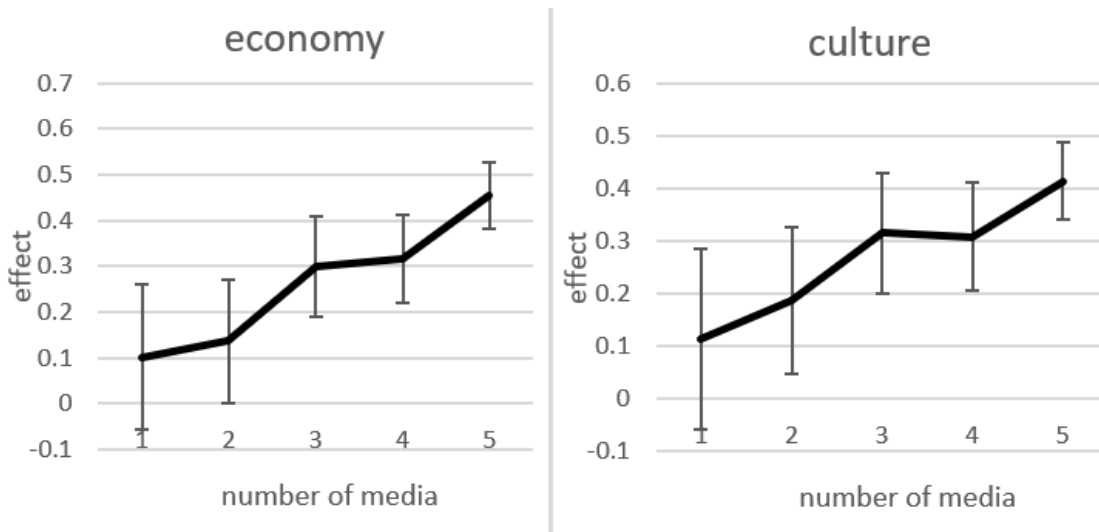
Democratising and Enlightening?

Age	0.000321 (0.00209)	-0.000442 (0.00222)
Country random effects	Yes	Yes
Wave random effects	Yes	Yes
Constant	3.739*** (0.239)	4.585*** (0.244)
Sigma μ	1.7630429	1.9010479
Observations	14,480	14,480

Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Coefficients are unstandardized.

Supporting H2, the results show that individuals who have a more diverse news diet (i.e., relying on a higher number of media platforms to get informed) have a more positive perception of the economic and cultural impact of immigration. The results are highly statistically significant and we see that relying on more media platforms increases the correlation coefficient (see Figure 1).

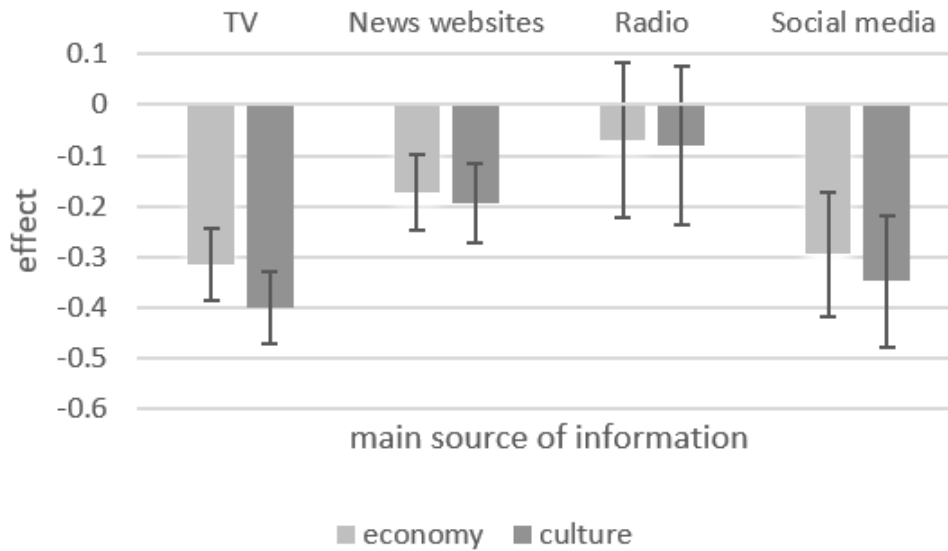
Figure 1. Effect of media diversity on the perception of the economic and cultural impact of immigration



Legend: effect of the number of media on the perception of the economic and cultural impact of immigration (reference group = 0 media). 95% confidence intervals.

Also in support of H2, the results show that consuming (political) news more frequently is associated with a more positive perception of the economic and cultural impact of immigration. In line with H1, and controlling for news consumption frequency and media diversity (among others), the results show that relying primarily on TV, social media or news websites (compared to print newspapers) to get news significantly and negatively influences individuals' perception of the economic and cultural impact of immigration (see Figure 2). Above all, we see that individuals who mainly rely on TV or social media (compared to print newspapers) to get news tend to have a more negative perception of immigration. Using the radio (compared to print newspapers) as a main source of information does not seem to significantly influence the dependent variables.

Figure 2. Effect of main source of information on the perception of the economic and cultural impact of immigration



Legend: effect of individuals' main source of information on the perception of the economic and cultural impact of immigration (reference group = print newspapers). 95% confidence intervals.

Taking country differences into account (see Appendix, Table A7), we see that the effect of relying on social media as a main source of information (compared to print newspapers) on the perception of immigration loses significance in various countries. However, it remains negative and significant in the case of Italy (culture), Poland (culture), and Sweden (both economy and culture). This is also the case for news websites as a main source of information in Poland (culture) and Sweden (culture). This suggests that the effects observed in Table 1 are mostly driven by these countries, in which strong political and online anti-immigrant rhetoric has been on the rise in recent years (Ekman, 2019; Krzyżanowska & Krzyżanowski, 2018). On the other hand, we see that the role of media diversity on the perception of the economic and cultural impact immigration remains positive and significant across most countries, except for Italy, France and Poland. In the majority of countries, consuming news more frequently is significantly associated with a more positive (except for Germany) perception of the impact of immigration.

Unlike in previous studies (Heidenreich et al., 2020), country differences in this analysis do not seem to reflect differences between so-called “receiving” and “non-receiving” countries. For example, in both Poland and Sweden, relying primarily on social media to get news is significantly associated with a more negative perception of the cultural impact of immigration, despite the fact that these two countries have a very different proportional migrant stock (Migration Data Portal, 2021).

Beyond media effects, the analysis shows that individuals’ perceived economic prospects are among the most important determinants of their perception of immigration. For both models, we observe that being more confident in one’s future economic situation significantly and positively affects one’s perception of the economic and cultural impact of immigration. Unsurprisingly, political orientation has a significant and substantial influence on the dependent variables (slightly more important for culture), representing another major determinant of attitudes towards immigration. Indeed, we observe that any move towards the right end of the traditional left-right political orientation scale is significantly associated with a more negative perception of immigration. The results highlight the key role played by education, whereby a higher level of education significantly and positively affects perceptions of the economic and cultural impact of immigration. Looking at both models, we observe that the independent variables (above all media exposure and political orientation) seem to have slightly more influence on individuals’ perception of the cultural (as opposed to economic) impact of immigration.

Discussion and conclusion

In this section, the results will be discussed, before presenting some concluding thoughts and limitations. This analysis highlights the important role of media exposure and of different media diets on individuals' perception of immigration. Although there is no clear and universally-accepted definition of what media diversity is (and should be), the five-point scale variable used in both models clearly illustrates the cumulative effect of using multiple media platforms on people's perception of immigration. As described above, the more diverse the news diet, the more positive the perception of immigration. A possible explanation is that people who are exposed to a larger number of media develop a more sophisticated and multifaceted view of the world, whereas single media users are more likely to align their view of social reality with what they find on the media platform in question (see Gerbner et al. 1986; Morgan, Shanahan, & Signorielli, 2015). Also, as suggested in the theoretical framework, a more diverse media diet – through exposure to a broader range of topics, frames and arguments – can help avoid media echo chambers, facilitate fact-checking practices and informed reasoning, as well as reduce confirmation bias (Dubois & Blank, 2018).

Regarding respondents' main source of information, the analysis showed that, compared to print newspapers, relying primarily on TV, social media, or news websites to get news negatively affects individuals' perception of immigration. The negative correlation between relying primarily on TV for news consumption and the perception of immigration could be related to the very characteristics of television news programs. Indeed, compared to print newspapers, television news broadcasts tend to adopt a sensationalist approach (Kleemans et al., 2017), appealing to our dramatic instincts; they are based on images, which more easily trigger emotional responses; and they provide a shallower coverage of social and political issues. This negative correlation might also be related to the way issues are framed on TV. According to

previous studies (e.g., Igartua et al. 2007) television news programs tend to portray immigration and immigrants in a more negative light than print newspapers.

When it comes to the finding that consuming news primarily on social media or news websites negatively affects individuals' perception of immigration, a few elements in the way of interpretation can be advanced. While print newspapers usually are broader in scope and provide more in-depth analyses, news content on social media and search engines is more easily curated and narrowed down (cf. filter bubbles/echo chambers), as well as often presented in a dramatic and provocative way, following the business model's imperative to attract more clicks and the fact that more extreme and dramatic content is more likely to be noticed and circulated on social media (Hong & Kim, 2016). This practice is often referred to as "clickbait" and usually privileges curiosity and emotions over information and accuracy, to the detriment of traditional journalistic values (Blom and Hansen 2015; García Orosa, Gallur Santorun, & López García 2017). Also, social media's participatory nature and lack of editorial oversight make them fertile grounds for the spread of misinformation, anti-immigrant and extremist content (Nichols 2017; Carr et al. 2019). The social architecture and technological affordance of online social media facilitate the large-scale diffusion of affective communication and xenophobic comments. User interactions on these platforms can contribute to the normalization of previously-unacceptable discourse, which likely further strengthens anti-immigration attitudes (Ekman, 2019). Looking at the role of media diversity and social media news consumption can be disquieting in light of current trends in news consumption, whereby people (especially younger generations) increasingly inform themselves through social media (Pew Research Center, 2018), sometimes exclusively. In this survey, one third (33%) of respondents under 25 years old reported relying exclusively on social media to get news.

Beyond media effects, the results illustrate the no less important role of factors like perceived economic prospects and political orientation. The analysis shows that more confidence in one's future economic situation is related to a more positive perception of the economic *and* cultural impact of immigration. This finding, along with the smaller influence of actual economic strain, also supports the idea that objective economic vulnerability bears less weight on immigration attitudes than subjective economic prospects (Valentino et al., 2017). In line with motivated reasoning theory (Kunda, 1990), the results show that political orientation is a major determinant of individuals' perception of immigration. It highlights the importance of prior beliefs in shaping public opinion as well as the enduring relevance of the left-right divide. Indeed, the results of this analysis stand in stark contrast with theoretical claims according to which political alignments play an increasingly limited role in structuring and defining issue positions in advanced industrialized democracies (Inglehart, 1997).

This study makes several contributions. It provides a multifaceted and European perspective on media effects on immigration attitudes. Related to issues such as online "echo chambers", fake news and the ramifications of social media news consumption (Carr et al., 2019; Jacobs et al., 2016; Nichols, 2017), the results show the important role of media diversity and of relying primarily on online and social media in shaping immigration attitudes and public opinion in Europe. This is particularly relevant at a time of significant changes in media consumption, including increased news avoidance (Neuman, 2018; Prior, 2007), readily-available entertainment content that redirects attention away from political concerns (Kim et al., 2013; Prior, 2005), and the rise of new generations bypassing traditional media, instead relying, sometimes exclusively, on online and social media (Karlsen et al., 2020; Papathanassopoulos et al., 2013).

Beyond theory-building, the results of this article highlight the need for a fact-based and solution-oriented narrative about immigration, addressing both its challenges and benefits. These results also provide additional evidence for the importance of education (including on ICT and social media use) as well as diverse and quality information in contemporary European societies. Education not only contributes to better economic prospects, but also improves cognitive skills and critical processing of information. A better-informed citizenry could – among many other things – lead to more accurate and constructive perceptions of immigration, which is in the interest of natives and immigrants alike, and which could help devise innovative integration policies aimed at maximizing the benefits of immigration for all.

This study is not without limitations. First, as mentioned previously, random effects models – unlike fixed effects – do not allow to control for unobserved time-invariant variables (e.g., cognitive abilities, genetic disposition), and will tend to introduce some bias in the estimates. Second, the use of survey data to measure media exposure is not devoid of measurement and accuracy issues, including respondents' believed tendency to overreport news exposure. Finally, the way media diets are measured in this article does not incorporate individuals' source diversity within these different media. The data does not allow an assessment of the role of specific media content or media outlets on immigration attitudes.

Today's high-choice media environment requires methodological adaptation and innovative ways of measuring exposure to political information in the media. Being able to link survey data with specific media content could allow future studies to develop a deeper understanding of the role of media exposure on the perception of immigration and public opinion more broadly.

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Data availability

The dataset used in this article is available upon request. Please contact Ludovic Terren at lterren@uoc.edu.

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Appendix

Table A1. Descriptive statistics by country (non-attritors)

	France	Germany	Greece	Italy	Poland	Spain	Sweden	Switzerland	UK
Sample size (N)	871	935	499	927	738	997	697	683	893
Median age	39	36	33	34	34	33	43	33	34
(SD)	(17.76)	(17.04)	(13.05)	(17.55)	(16.32)	(16.31)	(18.67)	(17.35)	(18.03)
Employment status									
N									
(freq.)									
Full time employment	387 (44.43%)	410 (43.85%)	210 (42.08%)	270 (29.13%)	382 (51.76%)	388 (38.92%)	271 (38.88%)	314 (45.97%)	374 (41.88%)
Part time employment	67 (7.69%)	142 (15.19%)	84 (16.83%)	120 (12.94%)	81 (10.98%)	121 (12.14%)	74 (10.62%)	100 (14.64%)	152 (17.02%)
Unemployed	72 (8.27%)	39 (4.17%)	126 (25.25%)	150 (16.18%)	43 (5.83%)	157 (15.75%)	66 (9.47%)	39 (5.71%)	60 (6.72%)
In education	76 (8.73%)	90 (9.63%)	32 (6.41%)	132 (14.24%)	42 (5.69%)	156 (15.65%)	56 (8.03%)	80 (11.71%)	59 (6.61%)
Retired/Incapacitated	227 (26.06%)	209 (22.35%)	37 (7.41%)	159 (17.15%)	135 (18.29%)	132 (13.24%)	220 (31.56%)	121 (17.72%)	197 (22.06%)
Other	42 (4.82%)	45 (4.81%)	10 (2%)	96 (10.36%)	55 (7.45%)	43 (4.31%)	10 (1.43%)	29 (4.25%)	51 (5.71%)
Education level									
N									
(freq.)									
Primary education or vocational school	240 (27.55%)	234 (25.03%)	43 (8.62%)	301 (32.47%)	97 (13.14%)	364 (36.51%)	142 (20.37%)	96 (14.06%)	190 (21.28%)
High school or higher certificate	341 (39.15%)	461 (49.30%)	199 (39.88%)	454 (48.98%)	354 (47.97%)	302 (30.29%)	298 (42.75%)	322 (47.14%)	305 (34.15%)
First-level university degree	252 (28.93%)	148 (15.83%)	193 (38.68%)	143 (15.43%)	178 (24.12%)	158 (15.85%)	187 (26.83%)	196 (28.70%)	283 (31.69%)
Masters or PhD	38 (4.36%)	92 (9.84%)	64 (12.83%)	29 (3.13%)	109 (14.77%)	173 (17.35%)	70 (10.04%)	69 (10.10%)	115 (12.88%)
Gender									
N									
(freq.)									
Female	418 (47.99%)	478 (51.12%)	309 (61.92%)	465 (50.16%)	374 (50.68%)	510 (51.15%)	335 (48.06%)	295 (43.19%)	430 (48.15%)
Male	447 (51.32%)	456 (48.77%)	189 (37.88%)	458 (49.41%)	363 (49.19%)	483 (48.45%)	359 (51.51%)	385 (56.37%)	461 (51.62%)
Non-binary	6 (0.69%)	1 (0.11%)	1 (0.20%)	4 (0.43%)	1 (0.14%)	4 (0.40%)	3 (0.43%)	3 (0.44%)	2 (0.22%)

Legend: N=sample size, SD=standard deviation, freq.=frequency.

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Table A2. "Media diets" by country (non-attritors)

	France	Germany	Greece	Italy	Poland	Spain	Sweden	Switzerland	UK
Sample size (N)	871	935	499	927	738	997	697	683	893
Number of media									
N (freq.)									
0	147 (16.88%)	57 (6.10%)	42 (8.42%)	41 (4.42%)	50 (6.78%)	63 (6.32%)	89 (12.77%)	79 (11.57%)	120 (13.44%)
1	111 (12.74%)	52 (5.56%)	43 (8.62%)	57 (6.15%)	31 (4.20%)	94 (9.43%)	57 (8.18%)	51 (7.47%)	76 (8.51%)
2	132 (15.15%)	87 (9.30%)	55 (11.02%)	110 (11.87%)	71 (9.62%)	107 (10.73%)	94 (13.49%)	71 (10.40%)	112 (12.54%)
3	138 (15.84%)	159 (17.01%)	76 (15.23%)	155 (16.72%)	80 (10.84%)	156 (15.65%)	120 (17.22%)	115 (16.84%)	136 (15.23%)
4	150 (17.22%)	237 (25.35%)	108 (21.64%)	189 (20.39%)	140 (18.97%)	186 (18.66%)	137 (19.66%)	154 (22.55%)	173 (19.37%)
5	193 (22.16%)	343 (36.68%)	175 (35.07%)	375 (40.45%)	366 (49.59%)	391 (39.22%)	200 (28.69%)	213 (31.19%)	276 (30.91%)
Frequency of news consumption									
N (freq.)									
Every day	615 (35%)	927 (49%)	348 (34%)	998 (53%)	693 (46%)	1065 (53%)	425 (30%)	404 (29%)	667 (37%)
Frequently	515 (29%)	595 (31%)	354 (35%)	564 (30%)	490 (33%)	599 (30%)	477 (34%)	485 (35%)	629 (35%)
Rarely or never	613 (35%)	348 (18%)	294 (29%)	292 (15%)	292 (19%)	329 (16%)	492 (35%)	477 (34%)	493 (27%)
Main source of information									
N (freq.)									
TV	364 (41.79%)	356 (38.07%)	99 (19.84%)	432 (46.60%)	207 (28.05%)	450 (45.14%)	217 (31.13%)	191 (27.96%)	368 (41.21%)
News websites	246 (28.24%)	279 (29.84%)	222 (44.49%)	326 (35.17%)	382 (51.76%)	253 (25.38%)	208 (29.84%)	227 (33.24%)	255 (28.56%)
Radio	91 (10.45%)	99 (10.59%)	19 (3.81%)	27 (2.91%)	52 (7.05%)	62 (6.22%)	61 (8.75%)	58 (8.49%)	69 (7.73%)
Print newspapers	92 (10.56%)	115 (12.30%)	3 (0.60%)	47 (5.07%)	15 (2.03%)	34 (3.41%)	74 (10.62%)	134 (19.62%)	72 (8.06%)
Social media	78 (8.96%)	86 (9.20%)	156 (31.26%)	95 (10.25%)	82 (11.11%)	198 (19.86%)	137 (19.66%)	73 (10.69%)	129 (14.45%)

Legend: N=sample size, SD=standard deviation, freq.=frequency.

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Table A3. OLS estimation results (fixed effects). Determinants of the perception of the impact of immigration on the economy and culture.

VARIABLES	Model 1 (economy)	Model 2 (culture)
<i>Number of media</i>		
0 (base)		
1	0.00305 (0.107)	-0.00967 (0.116)
2	0.0538 (0.111)	0.0572 (0.113)
3	0.104 (0.111)	0.0697 (0.115)
4	0.0462 (0.116)	0.0641 (0.121)
5	0.104 (0.116)	0.0872 (0.121)
<i>Frequency of news consumption</i>		
Rarely or never (base)		
Frequently	-0.033 (0.0741)	-0.013 (0.0733)
Every day	0.000 (0.0918)	0.060 (0.0905)
<i>Main source of information</i>		
Print newspapers (base)		
TV	Omitted	Omitted
News websites	Omitted	Omitted
Radio	Omitted	Omitted
Social media websites	Omitted	Omitted
<i>Economic prospects</i>		
0 – Much worse (base)		
1	-0.0386 (0.217)	-0.00160 (0.224)
2	-0.0255 (0.185)	-0.0451 (0.187)
3	0.475*** (0.179)	0.479*** (0.175)
4	0.556*** (0.182)	0.457*** (0.176)

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5	0.623*** (0.177)	0.599*** (0.170)
6	0.676*** (0.183)	0.609*** (0.178)
7	0.849*** (0.185)	0.784*** (0.181)
8	0.911*** (0.195)	0.978*** (0.191)
9	1.151*** (0.228)	1.008*** (0.224)
10 – Much better	1.132*** (0.245)	1.184*** (0.233)

Economic strain

No (base)		
Yes	-0.180** (0.0705)	-0.125* (0.0742)

Political orientation

0 – Left (base)		
1	-0.00996 (0.177)	0.103 (0.188)
2	-0.179 (0.155)	0.0694 (0.171)
3	-0.149 (0.162)	0.00801 (0.176)
4	-0.154 (0.176)	-0.0339 (0.183)
5	-0.236 (0.174)	-0.0404 (0.187)
6	-0.0374 (0.189)	0.0203 (0.197)
7	-0.0882 (0.196)	-0.0791 (0.203)
8	-0.249 (0.207)	-0.140 (0.217)
9	-0.106 (0.253)	0.0707 (0.249)
10 - Right	-0.266 (0.281)	-0.234 (0.277)

Education

Primary education or vocational school (base)		
High school or higher certificates	0.0612 (0.0881)	0.0760 (0.0870)
First-level university degree	0.143	0.189

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	(0.132)	(0.126)
Postgraduate or PhD	-0.00768 (0.187)	0.0154 (0.184)
<hr/>		
Employment status		
Full time employment (base)		
In education	0.0862 (0.117)	0.0857 (0.129)
Other	0.113 (0.170)	0.0534 (0.161)
Part time employment	0.0383 (0.0955)	0.0750 (0.101)
Retired/permanent incapacity	0.162 (0.165)	0.0624 (0.169)
Unemployed	-0.00237 (0.115)	0.0101 (0.113)
<hr/>		
Born in country of residence		
Yes (base)		
No	Omitted	Omitted
<hr/>		
Gender		
Female (base)		
Male	0.182 (0.337)	0.208 (0.274)
Non binary/third gender	0.420 (0.774)	0.822* (0.491)
<hr/>		
Age	0.00568 (0.00970)	0.00332 (0.0105)
<hr/>		
Country fixed effects	Yes	Yes
<hr/>		
Wave fixed effects	Yes	Yes
<hr/>		
Constant	0.727 (0.779)	2.173*** (0.811)
Sigma μ	4.1829396	3.7468554
R-squared	0.021	0.019
Observations	14,480	14,480
<hr/>		

Robust standard errors in parentheses
 *** p<0.01, ** p<0.05, * p<0.1
 Coefficients are unstandardized.

Table A4. OLS estimation results (between effects). Determinants of the perception of the impact of immigration on the economy and culture.

VARIABLES	Model 1 (economy)	Model 2 (culture)
Number of media		
0 (base)		
1	0.190 (0.159)	0.281* (0.168)
2	0.056 (0.149)	0.234 (0.158)
3	0.262* (0.149)	0.456*** (0.157)
4	0.307** (0.148)	0.327** (0.156)
5	0.537*** (0.140)	0.576*** (0.148)
Frequency of news consumption		
Rarely or never (base)		
Frequently	0.281*** (0.104)	0.169 (0.110)
Every day	0.438*** (0.103)	0.376*** (0.109)
Main source of information		
Print newspapers (base)		
TV	-0.244** (0.0991)	-0.325*** (0.104)
News websites	-0.163 (0.101)	-0.174* (0.106)
Radio	-0.0388 (0.126)	-0.039 (0.133)
Social media websites	-0.227* (0.117)	-0.275** (0.123)
Economic prospects		
0 – Much worse (base)		
1	0.918*** (0.290)	1.278*** (0.306)
2	1.143*** (0.228)	1.328*** (0.240)
3	1.221*** (0.191)	1.593*** (0.201)
4	1.646***	1.841***

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	(0.176)	(0.186)
5	1.835***	2.061***
	(0.153)	(0.161)
6	2.081***	2.329***
	(0.165)	(0.174)
7	2.523***	2.724***
	(0.170)	(0.180)
8	2.934***	3.032***
	(0.184)	(0.194)
9	3.088***	3.435***
	(0.245)	(0.259)
10 – Much better	3.309***	3.327***
	(0.218)	(0.230)

Economic strain

No (base)

Yes	-0.154**	-0.0992
	(0.0708)	(0.0748)

Political orientation

0 – Left (base)

	-0.222	-0.186
1	(0.224)	(0.237)
2	-0.293*	-0.312*
	(0.167)	(0.177)
3	-0.516***	-0.713***
	(0.154)	(0.163)
4	-0.741***	-1.035***
	(0.162)	(0.171)
5	-1.465***	-1.801***
	(0.137)	(0.145)
6	-1.360***	-1.829***
	(0.162)	(0.171)
7	-1.903***	-2.393***
	(0.159)	(0.168)
8	-2.219***	-2.893***
	(0.168)	(0.178)
9	-2.813***	-3.432***
	(0.238)	(0.251)
10 - Right	-3.196***	-3.887***
	(0.182)	(0.192)

Education

Primary education or
vocational school (base)

High school or higher certificates	0.265***	0.327***
	(0.0729)	(0.0770)

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First-level university degree	0.504*** (0.0797)	0.577*** (0.0841)
Postgraduate or PhD	0.755*** (0.101)	0.926*** (0.106)

Employment status

Full time employment (base)

In education	0.646*** (0.104)	0.671*** (0.110)
Other	-0.170 (0.135)	0.108 (0.142)
Part time employment	0.213** (0.0897)	0.287*** (0.0947)
Retired/permanent incapacity	0.314*** (0.0921)	0.108 (0.0973)
Unemployed	0.201* (0.103)	0.169 (0.108)

Born in country of residence

Yes (base)

No	0.436*** (0.104)	0.266** (0.110)
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Gender

Female (base)

Male	0.211*** (0.0531)	0.0348 (0.0561)
Non binary/third gender	0.140 (0.584)	0.530 (0.617)

<i>Age</i>	0.00351 (0.00230)	0.00469* (0.00243)
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Country random effects	Yes	Yes
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Wave random effects	Yes	Yes
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Constant	3.053*** (0.255)	3.786*** (0.269)
R-squared	0.274	0.256
Observations	14,480	14,480

Standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1. Coefficients are unstandardized.

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Table A5. Comparison between non-attritors and attritors.

Variable	Non-attritors		Attritors		Difference
	Mean	SD	Mean	SD	Mean
Perception of immigration (eco)	5.157	2.692	5.204	2.766	-0.047
Perception of immigration (culture)	5.458	2.784	5.579	2.800	-0.121
Number of media	3.369	1.679	1.634	2.028	1.735
Economic prospects	5.316	2.181	5.774	2.328	-0.458
Economic Strain	0.245	0.430	0.338	0.473	-0.093
Political orientation	4.900	2.386	4.886	2.367	0.014
Education	4.760	1.891	4.484	1.737	0.276
Born in country of residence	0.937	0.241	0.900	0.298	0.037
Age	41.929	17.256	29.791	12.637	12.138
Main source of information	<u>Freq.</u>		<u>Freq.</u>		<u>Freq.</u>
TV	37.07%		27.65%		9.42%
News websites	33.12%		36.02%		-2.90%
Radio	7.43%		6.43%		1%
Print newspapers	8.09%		5.21%		2.88%
Social media	14.28%		24.69%		-10.41%
Frequency news consumption					
Rarely or never	25.07%		65.12%		-40.05%
Frequently	32.51%		19.45%		13.06%
Every day	42.42%		15.42%		27%
Employment status	<u>Freq.</u>		<u>attriFreq.</u>		<u>Freq.</u>
Full time employment	42.00%		39.75%		2.25%
In education	9.87%		18.21%		-8.34%
Part time employment	12.95%		14.97%		-2.02%
Retired/incapacitated	20.22%		7.05%		13.17%
Unemployed	9.94%		14.04%		-4.10%
Gender	<u>Freq.</u>		<u>Freq.</u>		<u>Freq.</u>
Female	49.92%		49.70%		0.22%
Male	49.81%		49.69%		0.12%
Non binary	0.26%		0.61%		-0.35%

Legend: SD=standard deviation, freq.=frequency.

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Table A6. Propensity Score Matching test results

Propensity score match					
Diverse media (2 or more)	Sample	Treated	Controls	Diff.	S.E.
<i>Perception of immigration (economy)</i>	Unmatched	5.307	4.450	0.856	0.058
	ATT	5.302	4.760	0.542	0.155
<i>Perception of immigration (culture)</i>	Unmatched	5.595	4.812	0.782	0.060
	ATT	5.595	5.289	0.305	0.161
Propensity score test					
Diverse media (2 or more)	Mean		% bias	t-test	
	Treated	Control		t	p> t
<i>Frequency news</i>	1.637	1.637	-0.0	-0.02	0.985
<i>Economic prospects</i>	5.377	5.578	-9.3	-7.40	0.000
<i>Economic strain</i>	0.240	0.230	2.4	1.86	0.063
<i>Pol. orientation</i>	4.909	4.861	2.1	1.56	0.118
<i>Education</i>	2.309	2.256	4.8	3.75	0.000
<i>Employment status</i>	2.868	2.812	2.9	2.30	0.022
<i>Born in country of res.</i>	0.939	0.932	2.7	2.06	0.039
<i>Country</i>	4.975	4.990	-0.6	-0.45	0.652
<i>Gender</i>	1.528	1.425	20.6	15.85	0.000
<i>Age</i>	42.718	41.935	4.7	3.57	0.000
	Ps R2	LR chi2	p>chi2	Mean bias	Median bias
	0.010	315.75	0.000	5.0	2.8

Propensity score match					
Social media as main source of information	Sample	Treated	Controls	Diff.	S.E.
<i>Perception of immigration (economy)</i>	Unmatched	4.974	5.187	-0.213	0.063
	ATT	4.974	5.178	-0.204	0.091
<i>Perception of immigration (culture)</i>	Unmatched	5.345	5.477	-0.131	0.066
	ATT	5.345	5.595	-0.249	0.094
Propensity score test					
Social media as main source of information	Mean		% bias	t-test	
	Treated	Control		t	p> t
<i>Frequency news</i>	2.103	2.111	-1.0	-0.33	0.738
<i>Economic prospects</i>	5.376	5.282	4.1	1.34	0.181
<i>Economic strain</i>	0.321	0.334	-2.8	-0.86	0.389
<i>Pol. orientation</i>	4.687	4.715	-1.1	-0.37	0.710
<i>Education</i>	2.281	2.263	1.7	0.55	0.583
<i>Employment status</i>	2.746	2.813	-3.6	-1.15	0.249
<i>Born in country of res.</i>	0.921	0.925	-1.3	-0.41	0.683
<i>Country</i>	5.224	5.224	0.0	-0.00	1.000
<i>Gender</i>	1.414	1.424	-1.9	-0.62	0.537
<i>Age</i>	31.146	31.354	-1.4	-0.57	0.570
	Ps R2	LR chi2	p>chi2	Mean bias	Median bias
	0.001	4.83	0.902	1.9	1.5

Legend: ATT=Average Treatment Effect on the Treated; Ps=Pseudo; LR=Likelihood Ratio; Diff.=Difference; S.E.=Standard Error.

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Table A7. OLS estimation results (random effects) by country. Media diversity, frequency of news consumption and main source of information.

Perception of the impact of immigration on the economy (model 1)									
Variable	France	Germany	Greece	Italy	Poland	Spain	Sweden	Switzerland	UK
Number of media 0=base									
1	-0.242 (0.177)	0.140 (0.272)	0.471* (0.284)	-0.457 (0.383)	-0.102 (0.357)	0.348 (0.271)	0.332 (0.280)	0.498** (0.234)	0.249 (0.260)
2	-0.284 (0.197)	0.444* (0.231)	0.562** (0.306)	-0.606 (0.384)	0.367 (0.358)	0.324 (0.284)	0.246 (0.305)	0.269 (0.220)	0.503** (0.242)
3	-0.159 (0.207)	0.428** (0.217)	0.510 (0.325)	-0.028 (0.375)	0.239 (0.356)	0.511* (0.282)	0.519* (0.276)	0.468** (0.221)	0.331 (0.249)
4	-0.015 (0.227)	0.683*** (0.227)	0.377 (0.317)	-0.043 (0.384)	0.110 (0.354)	0.743*** (0.284)	0.506* (0.269)	0.358 (0.224)	0.227 (0.252)
5	0.096 (0.227)	0.775*** (0.212)	0.635** (0.307)	0.280 (0.374)	0.364 (0.332)	0.672** (0.270)	0.636** (0.280)	0.465** (0.206)	0.261 (0.269)
Frequency news consumption Rarely or never=base									
Frequently	0.371** (0.152)	-0.327** (0.157)	0.184 (0.193)	0.007 (0.198)	0.438** (0.211)	0.048 (0.193)	-0.016 (0.179)	0.188 (0.142)	0.335** (0.168)
Every day	0.338** (0.171)	-0.103 (0.183)	-0.023 (0.236)	-0.170 (0.206)	0.924*** (0.229)	0.422** (0.208)	-0.015 (0.210)	0.009 (0.183)	0.590*** (0.213)
Main source information Print newspapers=base									
TV	-0.597** (0.232)	-0.200 (0.232)	-1.112 (0.877)	-0.330 (0.348)	-0.356 (0.479)	0.030 (0.367)	-0.514 (0.321)	-0.113 (0.203)	-0.276 (0.308)
News websites	-0.167 (0.251)	-0.138 (0.239)	-0.685 (0.834)	-0.467 (0.352)	-0.400 (0.464)	0.122 (0.380)	-0.426 (0.337)	-0.201 (0.201)	-0.012 (0.320)
Radio	-0.212 (0.293)	0.126 (0.284)	-0.763 (0.928)	0.029 (0.511)	-0.091 (0.521)	0.349 (0.439)	-0.518 (0.423)	-0.470* (0.267)	0.102 (0.390)
Social media	-0.196 (0.352)	-0.388 (0.324)	-1.063 (0.870)	-0.500 (0.424)	-0.564 (0.529)	0.276 (0.391)	-0.867** (0.387)	-0.179 (0.272)	0.135 (0.373)

Perception of the impact of immigration on culture (model 2)									
Variable	France	Germany	Greece	Italy	Poland	Spain	Sweden	Switzerland	UK
Number of media 0=base									
1	-0.194 (0.207)	-0.123 (0.266)	0.288 (0.296)	-0.192 (0.339)	0.104 (0.416)	0.216 (0.312)	0.284 (0.307)	0.476* (0.285)	0.400 (0.296)
2	-0.240 (0.227)	0.108 (0.249)	0.691** (0.327)	-0.475 (0.353)	0.304 (0.313)	0.323 (0.325)	0.413 (0.273)	0.416* (0.247)	0.733*** (0.258)
3	0.199 (0.235)	0.203 (0.240)	0.463 (0.325)	-0.008 (0.347)	-0.072 (0.311)	0.454 (0.335)	0.772*** (0.295)	0.576** (0.241)	0.616** (0.257)
4	0.219 (0.248)	0.218 (0.244)	0.635* (0.329)	-0.386 (0.351)	-0.074 (0.306)	0.544 (0.336)	0.819*** (0.298)	0.555** (0.245)	0.528** (0.283)
5	0.129 (0.249)	0.425* (0.238)	0.440 (0.321)	-0.081 (0.346)	0.021 (0.297)	0.662** (0.327)	1.077*** (0.305)	0.628*** (0.232)	0.320 (0.274)
Frequency news consumption Rarely or never=base									
Frequently	0.342** (0.163)	0.020 (0.903)	0.175 (0.200)	-0.193 (0.206)	0.426** (0.189)	-0.160 (0.217)	-0.141 (0.184)	0.039 (0.152)	0.410** (0.166)

Democratizing and Enlightening?

Every day	0.299* (0.180)	0.085 (0.194)	0.092 (0.243)	-0.031 (0.216)	0.851*** (0.219)	0.257 (0.228)	-0.215 (0.318)	-0.122 (0.192)	0.780*** (0.200)
Main source information									
Print newspapers=base									
TV	-0.417 (0.257)	-0.193 (0.245)	-1.194 (0.861)	-0.554* (0.311)	-0.962** (0.410)	-0.135 (0.424)	-0.815** (0.320)	-0.124 (0.211)	-0.409 (0.315)
News websites	-0.029 (0.275)	-0.216 (0.254)	-0.664 (0.831)	-0.327 (0.317)	-0.951** (0.397)	0.222 (0.436)	-0.624* (0.345)	-0.161 (0.217)	-0.351 (0.326)
Radio	-0.115 (0.321)	0.208 (0.317)	-0.920 (0.905)	-0.072 (0.462)	-0.682 (0.462)	0.160 (0.470)	-0.408 (0.429)	-0.275 (0.277)	-0.203 (0.413)
Social media	-0.069 (0.367)	-0.381 (0.341)	-0.865 (0.848)	-0.653* (0.384)	-1.439*** (0.467)	0.080 (0.456)	-1.149*** (0.395)	0.141 (0.311)	-0.241 (0.370)

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Coefficients are unstandardized.

3. Conclusions

Going beyond the findings of each individual study, this work brings together insights from different sub-fields of social media research and offers a broad and multifaceted perspective on social media and the public sphere. It contributes to our understanding of the political implications of social media, more precisely of its role and potential in democratising the public sphere, promoting political deliberation and viewpoint diversity, as well as in shaping public opinion. The findings of this thesis suggest that despite early optimism – considering ICTs and social media as a new independent public sphere, facilitating political deliberation and increasing the public’s role in social and political affairs – the democratising potential of social media communication does not seem to have materialised, at least not the extent that some early theorists had envisioned. One should consider, however, that the democratising potential of ICTs and social media is not merely dependent on the technology itself but also on how this technology is used and regulated, as well as on the dynamics of collective action and political opportunity structures (Cammaerts, 2012; Wong & Wright, 2020).

In articles 1 and 2, we have seen that social media do not seem to ease (youth) access to the public sphere and that youth political activity and young people’s political claims seem to be of peripheral importance in mainstream media agenda setting. We have also seen that the increased potential for visibility offered by social media is not always maximized and does not necessarily alter the prominence of an issue in the public sphere. When it comes to political deliberation and viewpoint diversity, articles 2 and 3 have shown how social media campaigns can remain within a ‘gated community’ of like-minded participants, effectively precluding external visibility and exchanges as well as a

potential deliberative process. We have also seen that, although different methodological choices in studying social media echo chambers might influence the studies' findings, there seems to be a broader consensus in the peer-reviewed literature supporting the idea that social media users will most likely interact with like-minded others and/or be exposed to ideologically-aligned content on social media. This all contributes to the reinforcement of previously-held beliefs while hindering political deliberation and viewpoint diversity. In article 4, we have seen – from a quantitative and comparative perspective – how different types of media consumption influence public opinion on a crucial socio-political issue like immigration. This specific research has shown that a having a less diverse 'media diet', consuming news less frequently, or getting news primarily on social media (compared to print newspapers) all negatively influence people's perception of immigration.

RQ1: To what extent do social media facilitate (youth) access to the public sphere and alleviate political inequalities?

The first part of this research suggests that social media do not contribute to political equality and to easing access to the public sphere. In articles 1 and 2, we looked at young people's representation in the mainstream media as a measure of their ability to access the public sphere through various means, including social media. Findings suggest that the voice of young people represents a minority and that young people (and even more so disadvantaged youth socioeconomic groups) still seem misrepresented in the European mainstream press. One limitation of this article that ought to be mentioned

here is that for each claim, the actor(s) were coded in one single and most representative category, while there could have been overlaps between categories (e.g., someone who is both a student and living in poverty). This could have inflated the actual differences in the number of claims made by individuals in different socio-demographic categories.

As shown through the specific case of the campaign to save the Spanish Youth Council, young people are in a difficult position when it comes to accessing political debates and the public sphere, while their demands are often dismissed by the media and seen as matters of peripheral importance. In general, young people are far from having a prominent place in the news. This misrepresentation of young people in the media could partly be explained by the fact that young people's political activity increasingly takes place online but that, as suggested by the data, the mainstream press seems reluctant to use social media sources. This misrepresentation of young people also seems to support Herman and Chomsky's (1988) assertion that the mainstream media have established a routine of favouring 'elite sources' that are linked to governments' press offices, institutions, or large companies. In this sense, the mainstream media could be seen as sub-system through which the claims of young people are processed and represented (or not). It is useful here to mention Strömbäck's (2008) work on the different phases of mediatization, depicting the shifting balance between the political logic and the media logic, and thus – broadly speaking – the extent to which the media 'follow' governments or the other way around. The evolution of the press coverage of the Spanish Youth Council's dissolution over time has shown that the relevance of this

youth issue was determined by a journalistic routine that conceives the news under an ephemeral logic. This same routine put the spotlight on governmental action rather than on the social demands and activity of the 'Salvemos el CJE' campaign.

As illustrated in this thesis, the online campaign to save the Spanish Youth Council has been kept within the very same networks that already exist offline in the form of youth organisations under the Council's umbrella and has remained within an 'echo chamber' of defenders of the Spanish Youth Council. This research also suggests that the prominence of and references to social media in the mainstream press remain very low, which could imply – among other things – that traditional means of reaching sources are not compromised by the growing prevalence of social media in contemporary society. Indeed, while the new media have been adopted and developed rapidly, and although many scholars have claimed that social media are transforming journalism, this research has shown that their growing prominence is not reflected in the mainstream press. This idea illustrates Herman and Chomsky's (1988) notion of the mainstream media's rigid understanding of news sourcing. On the one hand, serious doubts remain as to whether or not the mainstream media have incorporated social media and its actors as 'serious' sources of information. On the other hand, one might argue that the fact that social media discourse is more porous to 'nonhegemonic' information reduces their attractiveness from the perspective of the established standards of newsworthiness. This finding might point to the fact that, so far, the long-predicted potential of the World Wide Web and social media in the democratisation of the public sphere has not materialised, at least not when it comes to the mainstream newspapers analysed in

articles 1 and 2. This is also in line with the normalization hypothesis, according to which the use of social media – instead of revolutionizing politics – is reinforcing existing power relations and contributing to maintaining the status quo (Vergeer & Hermans, 2013).

With these findings in mind, it is important to underline that the mainstream media are not independent of the economic, political, social, and historical context in which the journalistic production process takes place. Future studies should look at the determinants of journalistic routines, such as the business models (perhaps more so than ideology or editorial lines) that govern news outlets to shed light on the extent to which these factors shape the selection of sources and the production of content. These structural obstacles that impede young people's access to the public sphere also point to the challenge of finding how organisations and campaigns can use social media as effective spaces of political action instead of reproducing a usage pattern that, far from maximising the potential of these online networks, leads to self-referencing and 'ghettoization'. While the study in article 2 provides an in-depth analysis of one youth online campaign, it would be interesting to go beyond this specific campaign (and beyond the Spanish context and its specificities) and focus on several online campaigns from a comparative perspective. This would enable us to pinpoint some of the factors that determine whether a social media campaign reaches the public sphere and promotes engagement and deliberation.

RQ2: To what extent do social media facilitate political deliberation and viewpoint diversity?

Based on the findings of this thesis, social media do not seem to significantly promote political deliberation or viewpoint diversity.

In line with the rather metaphorical notion of ‘ghettoization’, articles 2 and 3 focused on the potential of social media in promoting political deliberation and viewpoint diversity. Looking at the campaign to save the Spanish Youth Council, we saw that the Twitter communication was devoid of debate or controversy, despite some attempts to involve ‘outsiders’ (e.g., elected officials) through mentions. The activity surrounding the campaign very much resembled an ‘echo chamber’ in which all users agreed, effectively cancelling the potential for debate beyond this community of defenders of the Spanish Youth Council. This closed dynamic and the lack of external actors has also arguably been a limiting factor in the campaign’s success, as this issue – and the claims of its stakeholders – could not be brought ‘out there’. The absence of controversy and the lack of attention given to the campaign might be due to various factors, which we were unfortunately unable to scrutinise in this study. We can, however, mention the failure of the campaigners’ communication strategy, as well as the political silencing of this issue (partly by making important decisions during the summer months – a period of significant demobilisation).

As a way to shed light on the external validity of the findings of this specific case study, a comprehensive analysis of the literature on the issue of social media echo chambers

was then carried out. Although there seems to be a broader consensus supporting the existence of echo chambers on social media, in this systematic review we were able to identify potential biases across the studies' foci, methods and findings.

In a nutshell, studies focusing on communication and/or based on digital trace data (more often adopting a media-centric approach) tended to generate more evidence of echo chambers than studies focusing on content exposure and/or based on self-reported data (more often adopting a user-centric approach).

The analysis showed that a majority of the studies in our sample focused on communication on social media, while fewer of them looked at exposure, or combined a focus on both exposure and communication. Although this can partly be explained in terms of data availability, an exclusive focus or an over-emphasis on communication on social media might be misleading, as the problem is not solely about users communicating with like-minded others on social media but also (and perhaps even more importantly) with users passively consuming and being exposed mostly or exclusively to opinion-reinforcing content. The analysis also suggested that the results of research on the topic seem largely influenced by the choice of methods and approach to data collection. Indeed, most evidence of echo chambers were found through analyses that were based on digital trace data (as opposed to other studies based on self-reported data). As proposed in article 3, it might be that a media-centric approach (focusing on specific and often polarized networks and neglecting the role of user agency) will tend to overestimate fragmentation, while a user-centric approach (relying on small samples and biased self-reports) will tend to underestimate fragmentation. This

suggests that there is no panacea for studying online political information environments, as each approach and method holds both promises and pitfalls. The solution might reside in innovative combinations of user-centric and media-centric approaches, as further suggested below.

Additionally, for the many studies on Twitter interactions, the decision to focus on the follower network, the retweet network, the mention or the reply network will likely influence the results in a way that cannot be overlooked. While the mention and reply networks will tend to display less segregation, the follower and retweet networks will be more likely to show political homophily and ideologically-aligned interactions.

Looking at the findings of these studies, although a higher number of them supported the 'social media echo chamber hypothesis', one ought to remain nuanced, especially in light of the potential biases of the different approaches and the patterns identified across the studies' foci, methods and findings. Surely, social media use can sometimes positively contribute to – and at other times impede – democratic deliberation and viewpoint diversity. One should, however, acknowledge the fact that this is not a binary issue and that there can be different magnitudes of echo chambers, the lowest of which should already be seen as highly problematic. This magnitude will depend upon – among other things – the network, the issue, as well as a multifaceted interplay between the architecture of social media platforms and users' individual characteristics. The issue of social media echo chambers should be seen against an ideal environment in which social media would truly enhance democratic deliberation, an environment reminiscent of

early optimism about the potential of social media and ICTs in creating a new independent public sphere and in diversifying people's networks and perspectives.

Given the findings of this systematic review of the literature, future studies should carefully and systematically take into account the available body of work as well as the different approaches in terms of foci and methods. While the respective drawbacks of the different approaches need to be addressed, the combination of media-centric and user-centric approaches, most importantly by linking self-reported data with digital trace data, should be considered in the future. This could enable more in-depth assessments along with conspicuous observations of online behaviour in its natural environment. Although challenging on several counts, such a combined approach could account for the respective biases of the different approaches and help disentangle the apparent relationship between methods and findings.

RQ3: What is the impact of social media news consumption and media diversity on public opinion on immigration?

The results of this research showed – among other things – that having a less diverse media diet, consuming news less frequently, or relying primarily on social media (compared to print newspapers) to get news all significantly and negatively affect public opinion on immigration.

In line with the limited – or limiting – potential of social media when it comes to facilitating political deliberation and viewpoint diversity, as well as the increasingly important role of social media in news consumption habits, article 4 analysed the

influence of different 'media diets' on immigration attitudes. The results highlight the important role of media diversity, whereby the more diverse the media diet, the more positive the perception of immigration. This can be related to the fact that those who have a more diverse media diet are likely to develop a more sophisticated and complex view of the world, while those exposed to a single media are more likely to align their view of social reality with that of the media in question (Morgan et al., 2015). This is particularly problematic when individuals consume news primarily on social media, as their participatory nature and lack of journalistic gatekeeping make them a fertile ground for the spread of fake news and extremist content (Carr et al., 2019; Nichols, 2017). It can also be suggested that a more diverse media diet – meaning exposure to a broader range of issues and opinions – can contribute to preventing media echo chambers, facilitating fact-checking practices and informed reasoning, as well as potentially reducing confirmation bias (Dubois & Blank, 2018).

Article 4 also showed that using social media as a primary source of news (compared to print newspapers) negatively affects individuals' perception of immigration. This can be related to the following: while print newspapers are usually broader in scope and provide more in-depth coverage, news content on social media is more easily curated and narrowed down (cf. filter bubbles/echo chambers), and is more likely to be presented in a dramatic and provocative way, given the business model's imperative to attract more clicks and the fact that more extreme and sensational content is more likely to be noticed and circulated on social media (Hong & Kim, 2016). This practice, usually referred to as 'clickbait', tends to favour curiosity and emotions over information and

accuracy, to the detriment of traditional journalistic values (Blom & Hansen, 2015; García Orosa et al., 2017).

The significant influence of media consumption on public opinion highlighted in this research calls for an accurate, fact-based and solution-oriented narrative on today's most crucial issues, immigration being one of them. It also provides additional evidence for the importance of education as well as diverse and quality information in contemporary societies. Education improves cognitive skills and critical processing of information, in all its diversity.

Article 4 is based on survey data in which respondents reported their media habits. This type of data is prone to a lack of accuracy of retrospective self-reports as well as to social desirability bias, or the tendency to overreport news exposure (Fisher, 1993). Also, the survey data used in this article does not account for the role of specific media content nor for the attention that news consumers pay to different media and their content. In future studies on social media's role in shaping public opinion, scholars ought to consider linking survey data with specific media content as well as linking survey data with digital trace data and/or experiments, which could allow for a more fine-grained and complete understanding of the role of media exposure on public opinion.

The four articles that compose this compendium all rally to suggest that social media and ICTs have not been the panacea that early theorists had envisioned – at least when it comes to democracy and the public sphere. This thesis also highlights the interlinkages that exist between the issues that are addressed in the different articles. From the

difficulty of accessing the public sphere, exiting 'gated communities' of like-minded users, and the subsequent lacking potential for deliberation and exposure to opinion-challenging content and individuals, to the potentially divisive impact of social media news consumption on public opinion on important policy issues such as immigration.

As argued throughout, this research brings into question the potential of social media in opening up the public sphere, giving a new voice to previously-marginalised groups, as well as in promoting political deliberation, viewpoint diversity and unfettered communication flows. While these are arguably all desirable, one ought to bear in mind – as mentioned before – that these developments are perhaps less dependent on the technology itself than on collective agency, political opportunity structures, as well as on the economic, historical and political contexts in which these technologies are developed, managed and used (Castells, 2000; Wong & Wright, 2020). Indeed, this thesis further highlights the need to beware of one-sided technology-centred approaches and unsubstantiated claims regarding the transformative potentials of ICTs in politics and democratic practices.

Theoretically, social media are a space in which we can discuss issues and voice our concerns instantly, potentially reaching millions of diverse users from across the world. However, we have seen that for lack of strong ICT skills and an effective online communication strategy, and given the dynamics of mainstream media journalistic routines, (young) people's concerns do not easily reach the public sphere.

We should be given the opportunity to learn how to use social media effectively, to enable us to bring our concerns 'out there' and reach people outside of our group or

movement. This would enable us to develop and adopt new strategies of online political participation, maximising the use of these technologies to our advantage.

Although theoretically expanding and diversifying the information that we are exposed to, social media and ICTs also brought about significant opportunities for users to selectively expose themselves to – and for social networking sites and search engines to automatically direct users towards – information and news that mostly strengthen previously-held views, or entertainment that moves our attention away from political concerns entirely. The business imperative to attract more clicks, by favouring curiosity and emotions over information and accuracy, also contributes to misinformation among the public.

My research in this thesis has tried to contribute to our understanding of some of the political implications of social media use, which is a topic of utmost and increasing importance in the contemporary world. We have massively adopted ICTs and social media in our everyday lives, but we are still mostly unsure about what they are doing to the functioning of democracy and to our minds. Our ability to better understand the impacts of social media and the evolution of how we deal with them (e.g., education policymaking, regulations) will be determining in the future of democracy.

If we are to really make a leap forward in our understanding of the issues addressed in this thesis, future studies should aim for creativity in their research design, for example by finding innovative ways to combine digital trace data with surveys or experiments. Scholars should also focus on solutions to minimize the risks that social media can represent for democracy and individuals, while maximising online opportunities. These

could investigate how a series of tools (apps, bots, browser extensions...) could prevent the spread of fake news and help users avoid misperceptions, empowering and equipping them to better navigate online and to encounter new and valuable information.

While the results of this thesis might appear gloomy, the democratic promise of social media is not lost forever. Its future will depend, however, on crucial developments on different fronts, including regulatory policy (see for example: Forum on Information & Democracy, 2020) and education.

When it comes to further developments beyond the direct study of the political ramifications of social media use, I would like to highlight the importance of education. As the previously-mentioned political and economic contexts are resistant to change, and as ICTs and social media are here to stay, I will argue here that the different potentials of social media described in this thesis could be improved through an education system that is adapted to our current – connected – reality. While ICTs can (and already do) certainly contribute to improving the learning process, it is equally important to teach young people how to properly use the technologies that we use on a daily basis, whether at school or at home. Instead of prohibiting the use of internet and social media at schools, we need to promote a school system in which ICTs (and social media) are integrated into the learning process, a system in which students appropriate the technology available and are taught how to take advantage of it while avoiding its pitfalls.

Beyond learning different subjects at school, we should be taught *how to learn*, how to look for information online, how to (critically) approach this information, how to go from information to knowledge, and then from knowledge to collective wisdom and a shared ethics for a shared future.

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