Article

How Polarized Are Online and Offline News Audiences? A Comparative Analysis of Twelve Countries

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Abstract

Polarization is a key area of interest for media and communication scholars. We develop a way of measuring how polarized news audience behaviour is at the national level. Then, we analyze survey data from twelve countries and find (1) that cross-platform (online and offline) news audience polarization is highest in the United States, and within Europe, higher in polarized pluralist/southern countries than in democratic corporatist countries. Furthermore, (2) in most countries, online news audience polarization is higher than offline, but in a small number it's lower. Taken together, our findings highlight that, despite the well-documented fears associated with algorithmic selection, news audience polarization is not inevitable in environments that are increasingly characterized by digital news consumption, and that the historical, economic, and political factors emphasized by the comparative tradition remain critically important for our understanding of global trends.

Keywords

journalism, media audiences, new technologies, press systems, Western Europe

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We aim to address three key questions facing media and communication researchers today. First, to what extent is news audience behavior politically polarized? Second, how does this polarization vary country-to-country? And third, is online news audience behavior more polarized than offline news audience behavior?

Previous research has shown that people engage in partisan selective exposure, where they are more likely to choose to consume news from sources aligned with their political views (Iyengar and Hahn 2009; Stroud 2011). Studies have also shown that the extent to which national news media parallel the political structure can vary, with some countries exhibiting higher levels of "political parallelism" than others (Brüggemann et al. 2014; Hallin and Mancini 2004). If viewed together, these findings suggest that we should see relatively polarized patterns of news audience behavior in some countries, but not in others. However, up to now, we have lacked a measure that would allow us to put this to the test.

A further key issue is whether the growth of digital media, and the accompanying expansion in media choice, has created online news audiences that are more polarized than offline news audiences. Early studies on the growth of online news consumption in the United States seemed to support this idea (Iyengar and Hahn 2009; Stroud 2011), and concerns have since been intensified by the popular notion that algorithmic news selection might trap people inside echo chambers and filter bubbles (Pariser 2011; Sunstein 2017). Others, however, have pushed back, arguing that polarization is not inevitable if people increasingly spread their news consumption across multiple outlets (Fletcher and Nielsen 2017; Nelson and Webster 2017; Webster and Ksiazek 2012), or if algorithms actually expose people to sources of news they would not otherwise use (Fletcher and Nielsen 2018; Weeks et al. 2017).

Because much recent research on news audience behavior and the implications of the move to a more digital media environment has been based on data from the United States, we still know little about how it differs across countries with different media systems. We aim to address this by developing an audience-centric (Webster and Ksiazek 2012) measure of the degree of left–right news audience polarization across different countries and different media platforms (print, broadcast, and online). We use the term "news audience polarization" to refer to the extent to which countries are home to large news outlets with both strongly left- and strongly right-leaning audiences, as opposed to outlets with mostly mixed or centrist audiences.

Using data from the 2017 Reuters Institute Digital News Report (Newman et al. 2017) in twelve countries (the United States, the United Kingdom, Australia, Ireland, France, Italy, Spain, Germany, Netherlands, Finland, Poland, and Czech Republic), we first measure the political leaning of audiences for individual news outlets, before presenting a way of visualizing the results on a country-by-country basis. We then use these data to produce an aggregate measure of news audience polarization that can be applied to different countries and different platforms.

We find, first, that the degree of cross-platform news audience polarization is higher in European countries with polarized pluralist/southern media systems than in countries with democratic corporatist media systems. However, news audience polarization was highest of all in the United States. Second, despite fears over highly polarized online media environments, we find that in most cases, online news audience

polarization currently differs little from offline news audience polarization. In eight of the countries we analyze, online news audience polarization is indeed slightly higher than offline news audience polarization, but in the four others, online news audience polarization is in fact lower.

Taken together, the results highlight the importance of approaching questions around news audience behavior using a comparative perspective, and caution against treating the United States—by far the most polarized of the twelve countries according to our results—as a microcosm of the rest of the world. They also show that news audience polarization is not inevitable in environments increasingly characterized by digital consumption, and that the historical, economic, and political factors emphasized by the comparative tradition remain critically important.

Polarization

Polarization is very widely discussed in the academic literature, and has been deployed as a concept in many different ways. In the United States—the source of much research on the topic—there is clear evidence that political elites are increasingly polarized (Hetherington 2009), but when it comes to the mass public, the picture is more complicated because different measures and conceptualizations of polarization tend to produce different results. Research into "ideological" polarization has looked at both the extent to which people consistently align themselves with a particular side, as well as the extent to which their ideologies diverge. Scholars have also studied "affective" polarization, referring to the extent to which opposing partisans dislike one another, and "perceived" polarization, which focuses on people's perceptions of the level of polarization in society (see Lelkes 2016, for an overview).

Research has explored how each of these conceptualizations of polarization has been influenced by the news media (e.g., Garrett et al. 2014; Prior 2013; Yang et al. 2016). But we might also ask about the extent to which news use itself has become ideologically polarized. Here, then, we are interested in news audience polarization, which we use to refer to the extent to which people form audiences for news outlets that are either strongly left-leaning or strongly right-leaning.

Selective Exposure

A clear starting point for thinking about news audience polarization is selective exposure. This is the simple idea that, all else being equal, people will self-select news media based on their beliefs and/or interests. This idea has a long history in communication research, but recent studies have focused on the impact of technological change, in particular, the consequences of the shift toward high-choice media environments. Iyengar and Hahn (2009) observed that the trend toward a more divided electorate in the United States occurred simultaneously with the explosion of digital media and cable television, and found strong evidence that people selected news outlets based on their political views. Stroud (2011) also found evidence of increased partisan selective exposure, observing that as the number of alternative sources of information increased,

people became more likely to choose news outlets that support their beliefs and opinions. Experimental studies tend to find similar effects, but perhaps surprisingly, partisan selective exposure does not necessarily lead to more polarized political attitudes for most people (Arceneaux et al. 2013; Trilling et al. 2017). And more recently, researchers have produced evidence that seems to downplay the extent of partisan selective exposure. Nelson and Webster's (2017) analysis of Comscore tracking data found that, despite huge choice, most people tend to congregate around a few popular news outlets, and that all news sites—including partisan ones—attract ideologically diverse audiences.

Many of the more recent studies of selective exposure have focused on the use of social media—prompted by widespread concerns over echo chambers, filter bubbles, and more broadly, the consequences of the move to algorithmically driven information environments (Bakshy et al. 2015; Flaxman et al. 2016). However, most of these studies find little evidence of pervasive echo chambers (Dubois and Blank 2018) or filter bubbles (Zuiderveen Borgesius et al. 2016), suggesting that the potential impact on polarization is small. Indeed, it has been shown elsewhere that social media is associated with incidental exposure to news, meaning that people who mostly use social media for other reasons nonetheless see news from sources they would not otherwise use. This could expand people's news repertoires, exposing them to a broader range of sources on average than people who do not use social media at all (Fletcher and Nielsen 2018).

Selective exposure to news does not have to be shaped by politics. Markus Prior has repeatedly emphasized the importance of people's relative preference for entertainment over politics for understanding news selection (Prior 2005). Studies from Europe in particular have found that while people do select media based on their left–right preferences, levels of political interest ultimately seem to matter more (Skovsgaard et al. 2016). This might suggest that news audience polarization is generally lower in Europe than in the United States. Furthermore, the importance of political interest is lower in countries with popular public service media, as they are more likely to show news at primetime, and thus more likely to reach people who lack the motivation to seek out news for themselves (Castro-Herrero et al. 2018).

Political Parallelism

One way of thinking about how the influence of partisan selective exposure might vary in different parts of the world is through the concept of political parallelism. In *Comparing Media Systems*, Hallin and Mancini (2004) saw political parallelism as one of the key variables for differentiating media systems in Western countries. As one-to-one connections between news outlets and specific political parties are relatively uncommon today, they used political parallelism to refer to the ideological alignment between news outlets and "general political tendencies" or political camps (Hallin and Mancini 2004: 27).

For Hallin and Mancini, political parallelism is manifest in phenomena like the political affiliations of journalists and the slant of media content. But more relevantly for our

purposes here, political parallelism can also be evident in partisan news consumption patterns, or, how audiences with distinct political ideologies tend to gravitate toward particular outlets (Hallin and Mancini 2016). As such, news audience polarization could be seen as a component of political parallelism, but political parallelism refers to a broader set of phenomena, and they are not synonymous. However, given that there is at least some overlap between the two, it should be possible to use insights from the comparative tradition to guide our expectations about news audience polarization.

Hallin and Mancini's (2004) original analysis placed eighteen countries into one of three media system ideal types: (1) polarized pluralist (France, Greece, Italy, Portugal, Spain), (2) democratic corporatist (Austria, Belgium, Denmark, Finland, Germany, Netherlands, Norway, Sweden, Switzerland), and (3) liberal (the United Kingdom, the United States, Ireland, Canada). They argued that polarized pluralist media systems are marked by high levels of political parallelism, democratic corporatist media systems by historically high-but-declining levels, and liberal media systems by low levels. However, more recent attempts to empirically validate these claims have showed different patterns. Brüggemann et al.'s (2014) quantitative operationalization of Hallin and Mancini's criteria led them to develop their own media system typology, grouping together (1) northern (Denmark, Finland, Norway, Sweden), (2) central (Austria, Switzerland, Germany, the United Kingdom), (3) western (Belgium, Ireland, Netherlands, Portugal, the United States), and (4) southern (Spain, France, Greece, Italy) countries. They found that political parallelism was highest of all in the southern countries, lowest in the northern countries, with western and central countries exhibiting similarly moderate levels.

Again, it is crucial to keep in mind that Brüggemann et al.'s (2014) operationalization of political parallelism was based on more than audience behavior. They also incorporated measures of the separation of news and commentary, policy advocacy, journalist ideology, political bias, and public service media independence. Indeed, these five indicators are fundamentally different in that they relate to news production and news content, rather than audience behavior. As such, studies that have understood political parallelism primarily through audience behavior are more relevant for our purposes here.

For example, van Kempen (2007) used data from the European Election Study to examine "media-party parallelism," or, the strength of the association between respondents' identification with political parties and their use of particular news outlets. As we might expect from other work, polarized pluralist countries like Greece, Italy, and Spain showed the highest levels of parallelism, and democratic corporatist countries like Germany and Finland the lowest. There were only two liberal countries in the sample, with Ireland showing the second lowest levels of parallelism, and Britain ranking seventh out of sixteen.

The results from all three aforementioned studies are summarized in Table 1. Glancing at this table, it is initially difficult to spot clear patterns. However, one pattern that is consistent across all three studies is the high level of parallelism in the polarized pluralist/southern countries, in particular Greece, Italy, Spain, and France. At the same time, it is also true that some of the democratic corporatist countries,

namely Germany and Finland, display low levels of political parallelism and media–party parallelism. But there are also obvious inconsistencies. Denmark, for example, has the fifth highest level of media–party parallelism, but the second lowest level of political parallelism. There is also missing data. In particular, a measure of media–party parallelism—the most relevant measure for our purposes here—is only available for two countries from the liberal model, making it difficult to form expectations about news audience polarization.

Although media–party parallelism is the most relevant concept, the survey data on which van Kempen's study was based were collected in 1999, and thus limited to legacy media. Van Kempen extended previous work by examining television as well as the printed press, but we have now reached the stage where online news access is so widespread that it should also be considered. Not only has the Internet allowed many new "digital-born" news sources to enter media systems, but—as we have seen from research into selective exposure—online news access is fundamentally different from traditional access, with possible implications for news audience polarization.

On this basis, our aim here is to build on research into selective exposure and political parallelism to define a measure of news audience polarization that is (1) quantitative, (2) comparable across countries, (3) cross-platform, and (4) audience-centric. Building on the approach developed by James G. Webster and his collaborators (Webster and Ksiazek 2012), we depart from measures that are media-centric (e.g., differences between outlets) or user-centric (differences between individuals) by instead taking the audience as the unit of analysis, and focusing on the patterns that exist between news audiences across the media system as a whole. As stated earlier, the term "news audience polarization" refers to the extent to which a given media system contains news outlets with both strongly left- and strongly right-leaning audiences. Put differently, a low news audience polarization score would indicate that a media system contains many audiences with a roughly equal mixture of left- and right-leaning and/or centrist people, whereas a high polarization score would indicate that audiences are strongly left- or right-leaning.

Placing our unit of analysis at this aggregate level allows us to compare across national contexts, responding to frequent calls for a greater emphasis on audiences in comparative media research (e.g., Blumler and Gurevitch 1995).[1] We can then use these measures to shed light on some of the most fundamental questions concerning news audience polarization, namely, how it differs across countries, and whether it is stronger offline or online.

Hypotheses

As we have seen, previous cross-national studies of political parallelism and media–party parallelism have produced conflicting results. But they do tend to suggest that parallelism is lower in countries originally classified as democratic corporatist, and higher in countries classified as polarized pluralist/southern. Although parallelism and news audience polarization are not the same, we can still hypothesize (H1) that

Table 1. Political Parallelism and Media–Party Parallelism by Country.

Country	Political Parallelism: Hallin and Mancini (2004) Category	Political Parallelism: Brüggemann et al. (2014) Score	Rank	Media–Party Parallelism: van Kempen (2007) Score	Rank
Greece	High	1.43	3	19.9	1
Italy	High	1.74	2	14.4	2
Spain	High	2.10	1	10.5	3
Denmark	High-but-declining	−1.32	16	9.1	5
France	High	0.62	4	7.5	6
United Kingdom	Low	−0.29	10	7.1	7
Sweden	High-but-declining	−0.39	11	6.8	8
Portugal	High	−0.08	8	6.2	9
Netherlands	High-but-declining	0.19	6	5.7	10
Austria	High-but-declining	0.35	5	5.3	11
Luxembourg	—	—	—	4.5	12
Finland	High-but-declining	−1.36	17	1.8	14
Ireland	Low	−0.06	7	1.6	15
Germany	High-but-declining	−0.56	13	1.0	16
United States	Low	−0.12	9	—	—
Switzerland	High-but-declining	−0.50	12	—	—
Belgium	High-but-declining	−0.70	14	—	—
Norway	High-but-declining	−1.04	15	—	—
Canada	Low	—	—	—	—

Note. Van Kempen did not provide a figure for Belgium because Flanders and Wallonia were analyzed separately (ranking fourth and thirteenth, respectively).

democratic corporatist countries will exhibit lower levels of news audience polarization than polarized pluralist/southern countries.

> **Hypothesis 1 (H1):** Cross-platform (online and offline) news audience polarization will be higher in countries with polarized pluralist/southern media systems than in countries with democratic corporatist media systems.

This leads us to an important point, namely, that some countries—particularly those in the liberal model—are often considered hybrid cases, more accurately positioned in-between different models, or marked by significant ongoing changes. The United Kingdom is considered a hybrid case because of its printed press, which is generally seen as more partisan than in other liberal countries (Hallin and Mancini 2004). In addition, some have argued that the U.S. media system is moving toward an increasingly partisan media landscape, marked by a stronger divide between "red" and "blue" media, and a more divided political culture due to greater ideological divergence among voters (Levendusky 2013; Pew Research Center for the People and the Press

2014). The extent of this shift has prompted scholars to rethink the place of the United States within traditional typologies. Nechushtai (2018), for example, observes increased competition and increased politicization of news content, funding, and consumption, and suggests that the American media system is drifting away from the liberal model into a new category of "polarized liberal." As a result, we do not have clear expectations about news audience polarization in liberal media systems, so we explore this using a research question.

> **Research Question 1 (RQ1):** What is the extent of cross-platform news audience polarization in countries with liberal media systems?

Our second aim is to explore within-country differences between online and offline news audience polarization. As we noted earlier, scholars writing about the United States in the first decade of the twenty-first century found that the move to an increasingly digital and increasingly high-choice news media environment increased partisan selective exposure, and thus news audience polarization (e.g., Iyengar and Hahn 2009). However, it is also important to note that the effects in Europe were typically weaker, and that some have downplayed the prevalence of partisan selective exposure.

This provides an indication of what changes to expect on what we might call the "demand" side, but we also have to consider changes to the "supply" of news. Here, it is generally accepted that in many countries, reduced barriers-to-entry have allowed more partisan "digital-born" brands (without a print or broadcast legacy) to enter media systems. Research on these new digital-born outlets is still emerging, but based on what we know about selective exposure, we should expect their audiences to be highly partisan, but small (Newman et al. 2018). Although studies of partisan media more broadly have shown how they can indirectly polarize political attitudes by influencing elite discourse (Levendusky 2013), their small audience size means that we do not expect them to have a large influence on the difference between online and offline news audience polarization at the national level.

Furthermore, although some digital-born brands are undoubtedly partisan, we should not underestimate the impact of other digital-born brands that either have a broadly centrist slant, or attract large and diverse audiences because they aggregate content from a range of other outlets. Often overlooked by scholars are those outlets that emerged in the late 1990s and early 2000s as web portals, placing aggregated news alongside other essential web services like search and e-mail. Research from countries where web portals remain popular—such as Japan—has shown that they can incidentally expose people to news, as they are shown information they did not seek out (Kobayashi and Inamasu 2015). Because current evidence is mixed, we have no clear expectations about differences between levels of online and offline news audience polarization. We therefore ask the following research question:

> **Research Question 2 (RQ2):** Is online news audience polarization higher than offline news audience polarization?

Measures

Data

We address these hypotheses with data from the 2017 Reuters Institute Digital News Report survey (Newman et al. 2017). The survey was conducted by YouGov in partnership with the Reuters Institute for the Study of Journalism at the University of Oxford during late January and early February 2017. An online questionnaire was used to survey more than 70,000 respondents across a total of thirty-six markets. Samples were drawn from YouGov's panels (and those of their partners) within each market, and respondents were invited to complete the survey to meet interlocking quotas for age, gender, and region. Respondents who said they use news less than once a month were filtered out at an early stage of the survey.

Most previous studies in this area are based on survey data because it is difficult to collect data about political preferences in any other way. Surveys are also well suited for the collection of single-source data on cross-platform media use. Specific strengths associated with this data set include, first, the fact that the survey captured data using the same questions at the same point in time across a range of different markets, thus affording a truly comparative analysis. Second, respondents within each market were asked about their use of particular news outlets both online and offline, allowing us to compare across platforms and to combine online and offline measures to understand cross-platform use. Last, in contrast to much tracking data, the survey aimed to measure—and specifically asked about—news use via mobile browsers, apps, and social media, rather than just desktop web site access.

Country Selection

We analyze data from a strategic sample of twelve countries picked from the available thirty-six markets. They are the United States, the United Kingdom, Australia, Ireland, France, Italy, Spain, Germany, Netherlands, Finland, Poland, and Czech Republic ($N = 24,485$). Our selection was primarily informed by Hallin and Mancini's (2004) three media system models: (1) polarized pluralist, (2) democratic corporatist, and (3) liberal. Hallin and Mancini originally analyzed eighteen countries and placed each of them into one of the three models. We picked three from each model, and then an additional three that Hallin and Mancini did not classify.

Country selection was primarily based on population size, geographic region within each model, whether they are home to multiple media systems based on language, and whether they are likely to be an interesting or extreme case. Hallin and Mancini placed four countries into their liberal model: the United Kingdom, the United States, Ireland, and Canada. It was not possible for us to analyze Canada using our approach because it is essentially home to two media systems, one based on French-language media and one based on English-language media. This left only three countries: the United Kingdom, the United States, and Ireland. The polarized pluralist model has five members: France, Greece, Italy, Portugal, and Spain. We selected France, Italy, and Spain

because of their much larger populations. The democratic corporatist model was the largest of the three models, with nine members: Austria, Belgium, Denmark, Finland, Germany, Netherlands, Norway, Sweden, and Switzerland. Belgium and Switzerland were excluded because, like Canada, they are home to multiple language-based media systems. Germany and the Netherlands were chosen because of their larger populations. Following Brüggemann et al.'s (2014) identification of a northern media system, we thought it sensible for the other country to be from the Nordic region, so we chose Finland.

We also recognized the opportunity to include three countries that have not been extensively studied in comparative media research. We chose three that we thought we could reasonably interpret alongside the other nine. We picked Australia because we felt it was comparable with countries in the liberal model, as they share elements of language and culture. We chose Poland and the Czech Republic because of their relatively large populations (especially Poland) and because it would be possible to compare them with the polarized pluralist/southern countries to some extent (Hallin and Mancini 2013). The countries included are listed in Table 2, along with descriptive statistics of the sample in each, such as average age, proportion of male respondents, and so on.

Questions

All data used in the analysis that follows came from three survey questions. The first two are concerned with media use. Respondents were asked to specify which news outlets they used *offline* during the previous week. Then, they were asked which news outlets they used *online* (see Section 2 of the supplementary materials for the precise wording of the questions). Respondents selected from a list of around thirty of the most popular offline and online news outlets in each country, with a separate list for each. The main limitation was that it was not practical to ask about more than around thirty outlets in each country. This meant that most local and/or regional news outlets were not included in the survey. Furthermore, outlets with a weekly reach of 2 percent or less in the survey were excluded. As such, we are unable to consider outlets in the so-called "long tail" of news media use. The long tail, and local news in particular, are undoubtedly important parts of the media environment, but, as we explain in more detail in the next section, because we effectively weight outlets by the size of their audience when producing the national-level news audience polarization scores, we believe that this omission ultimately has little impact upon our understanding of news audience polarization at the national level. The list of outlets included in the final analysis can be found in Tables 3 to 14 in the supplementary materials.

The third question captured data on individual political ideology. Respondents were asked to place themselves on a seven-point scale ranging from "very left-wing," through "center," to "very right-wing," with a "don't know" option also available. Because we were aware that the left–right spectrum resonates more in some countries

Table 2. Descriptive Statistics.

Country	Age (M, SD)	Male (%)	Internet Penetration (%)	Sample Size
Australia	46.51 (17.19)	49.75	88.2	2004
Czech Republic	46.98 (15.60)	49.08	88.3	2003
Germany	48.75 (15.54)	50.05	89.6	2062
Spain	46.43 (14.21)	49.05	87.1	2006
Finland	47.83 (16.47)	48.88	92.5	2007
France	46.91 (15.84)	47.35	86.8	2000
Ireland	45.15 (15.48)	49.50	93.8	2002
Italy	47.93 (14.83)	48.53	86.7	2011
Netherlands	48.80 (17.58)	48.51	94.8	2006
Poland	45.71 (15.26)	48.29	73.3	2013
United Kingdom	48.30 (15.84)	44.41	94.8	2112
United States	48.61 (17.09)	44.60	89.9	2259

Source. Internet penetration figures are from Internet World Stats (http://internetworldstats.com). All other data from the 2017 Digital News Report (Newman et al. 2017).

than in others, it was explained to respondents that "generally socialist parties would be considered 'left wing' while conservative parties would be considered 'right wing.'" All right-leaning responses were coded 0.5, left-leaning −0.5, and center responses coded 0. Don't knows were removed from the analysis. We did not distinguish between different levels of left/right preference because we wanted to make the results more easily interpretable. Furthermore, because respondents in different countries tend to have different survey response styles, we did not want cultural preferences for more extreme responses to influence the results (Johnson et al. 2005). Recoding the measure in this way meant that respondents effectively made a three-way choice between left, right, and center.

Computations

To eventually arrive at a single measure of news audience polarization in each country, we first computed the average (mean) political leaning of the entire sample in each country. Then, for every news outlet, we computed the average political leaning of their offline, online, and cross-platform audiences, and recorded the difference between these figures and the figure for the entire sample. For each outlet, this ultimately produced an audience political leaning score, with scores greater than zero denoting an audience that is more right-leaning than the population (and scores less than zero denoting a left-leaning audience). We have reason to believe that our scores are closely aligned with those from other studies, as a Pearson test shows a very strong correlation ($r = .96$, $p < .001$) between our online news audience political leaning scores in the

United States and those produced by Bakshy et al. (2015) using a similar procedure based on Facebook data (see Section 1 of the supplementary materials). Although we do not do so here, these scores (which are listed in full in Tables 3–14 in the supplementary materials) could potentially be used as proxies for the political slant of the outlet itself, as opposed to just the audience (e.g., Flaxman et al. 2016).

These measures can then be visualized (see Figure 1, top) for every outlet in a country to show the political leaning of their audience (the distance of each bubble from the mid-point, which represents the average political leaning of the sample) and the outlet's weekly reach (bubble size).[2] As well as providing an intuitive picture of the level of news audience polarization in particular countries, these visualizations can help us explain how we measure polarization at the national level. The most polarized scenario we can imagine is one where the range of outlet scores is 1. See Figure 1 (middle) for an example. Here, for illustrative purposes, half the population is left-leaning and half is right-leaning. The audience for Outlet A is made up entirely of all the left-leaning people. Hence, the mean political leaning of its audience is −0.5. Conversely, the audience for Outlet B is made up entirely of right-leaning people, producing a score 0.5.[3] A simple measure of the level of polarization in this hypothetical media system is the (population) standard deviation. The most polarized system would have a score of 0.5 using this measure. The least polarized situation we can imagine is shown in Figure 1 (bottom), because Outlets A and B are used by the same proportion of left-leaning and right-leaning people, placing them both in the center with a polarization score of 0. This comparison also neatly highlights the difference between news audience polarization and audience fragmentation, because in both examples, the audiences are completely fragmented (because they are non-overlapping), but the level of polarization is different.

There is, however, a dimension we have not yet captured. It seems sensible to say that if we imagine two media systems with bubbles in exactly the same positions (i.e., the same audience political leaning scores), but one has larger outlets further from the center, and the other has larger outlets closer to the center, the former should be thought of as more polarized. Therefore, we account for this by computing the standard deviation of a list of values where the large outlets are effectively over-represented. More specifically, we take the standard deviation of a list of values where each outlet's audience political leaning score occurs as many times as it was used by respondents in the data. For example, an outlet that was used by 100 out of 2,000 survey respondents will see its score included 100 times in the list, whereas an outlet used by fifty respondents will occur fifty times in the list. This ultimately means that the news audience polarization score will be more influenced by larger outlets.

As we have already seen, the maximum outlet range is 1, so the maximum standard deviation is 0.5.[4] Because we know what the maximum value is, we can also compute the extent to which the observed polarization reaches maximum polarization and express it as a percentage. These figures can then be compared across countries and platforms, and when new data are available, over time.
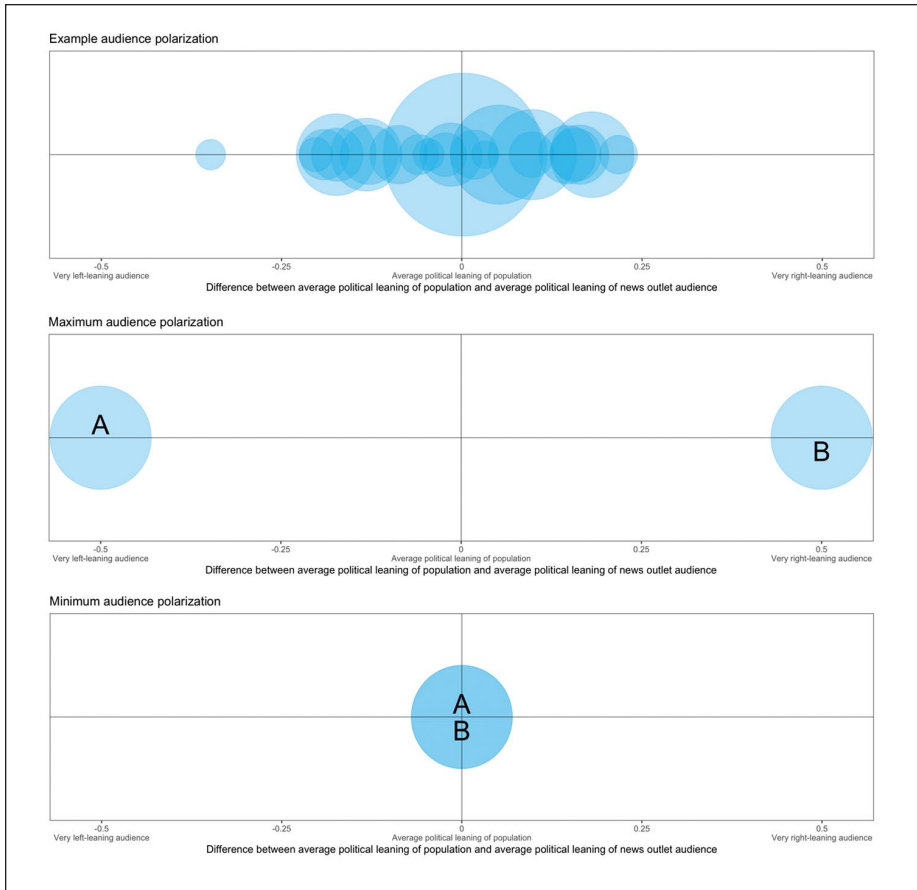
Figure 1. Example polarization maps.

Results

Before addressing our hypotheses, we offer some descriptions based on the visualizations. Let us first consider the cross-platform data for each country. The visualizations are presented in Figure 2. We can see straight away that each country shows a different pattern.

The United States clearly looks to be the most polarized system, as the bubbles cover a noticeably wider range than those in any other country, as well as there being relatively few outlets close to the center. The outlet closest to the center is Yahoo! News (*audience political leaning score* = .00, *weekly reach* = 24.68 percent), which aggregates content from multiple sources (see Tables 3–14 in the supplementary materials for each outlet's audience political leaning score and weekly reach). One reason for this gap may be the absence of local news outlets, which would likely occupy the

center given they are focused on serving a geographically similar audience rather than an ideological group. Compared with some of the other countries—particularly those with democratic corporatist media systems—the outlets with the largest reach are actually quite small. Overall, the United States does not exhibit many commonalities with any of the other countries.

In the United Kingdom, outlets are also relatively spread out, with popular newspapers such as the _Guardian_ (–.17, 19.65 percent) and the _Daily Mail_ (.18, 21.64 percent) exhibiting quite prominent left- and right-leaning audiences, respectively. The Canary (–.35, 2.65 percent), a pro-Corbyn[5] digital-born news site, has a small but particularly left-wing audience. But the most striking difference between the United Kingdom and the United States is the presence of public broadcaster the BBC (.00, 77.88 percent) and its very large, central bubble, indicating a sizable, politically diverse audience. It is noticeable, however, that aside from the BBC, the center of the map is less crowded than in many other countries, indicating that most outlets in the United Kingdom have skewed audiences, thus raising the overall degree of polarization. The same is true in Australia but to a lesser extent. Here, public broadcaster ABC (–.04, 45.76 percent) is one of the three most popular outlets, and is relatively close to the center of the map. However, other outlets—whether on the left or the right—have audiences that are less skewed than those in the United Kingdom or the United States. This is even more true in Ireland, where there is a large, concentrated block of outlets in the center, including the largest of them all, public broadcaster RTÉ (.01, 67.18 percent).

A similar pattern is evident in Finland, Germany, and the Netherlands, all of which also have widely used public service media. All three are considered part of the democratic corporatist model, characterized by declining levels of political parallelism and low levels of media–party parallelism. Our data on news audience polarization are somewhat aligned with this, as the bubbles—whether they represent newspapers, broadcasters, or digital-born sites—are typically clustered around the center.

If we compare these with the polarized pluralist/southern countries—namely, Italy, France, and Spain—we see outlets with more skewed audiences. In contrast to most other countries, where audiences are in a sense distributed normally—with larger outlets closer to the center of the map—the larger outlets here are just as likely to clearly have a left or a right skew. Indeed, all three countries have at least one outlet with a large left-leaning, a large right-leaning, and a large centrist audience.

Poland and the Czech Republic display quite different patterns of news audience polarization. The Czech Republic appears most similar to the democratic corporatist countries because it has large, central outlets, and the most popular of them all is public broadcaster ČT (.02, 68.30 percent). Poland has more skewed news audiences, giving the map a similar shape to the polarized pluralist countries. What both countries have in common is that they are home to very large web portals that also carry news: Seznam (–.01, 54.12 percent) in the Czech Republic, and Onet.pl (.00, 51.86 percent), WP.pl (.02, 45.90 percent), and Interia (.00, 29.16 percent) in Poland. These sites still attract large audiences and often aggregate news from a range of other sources,
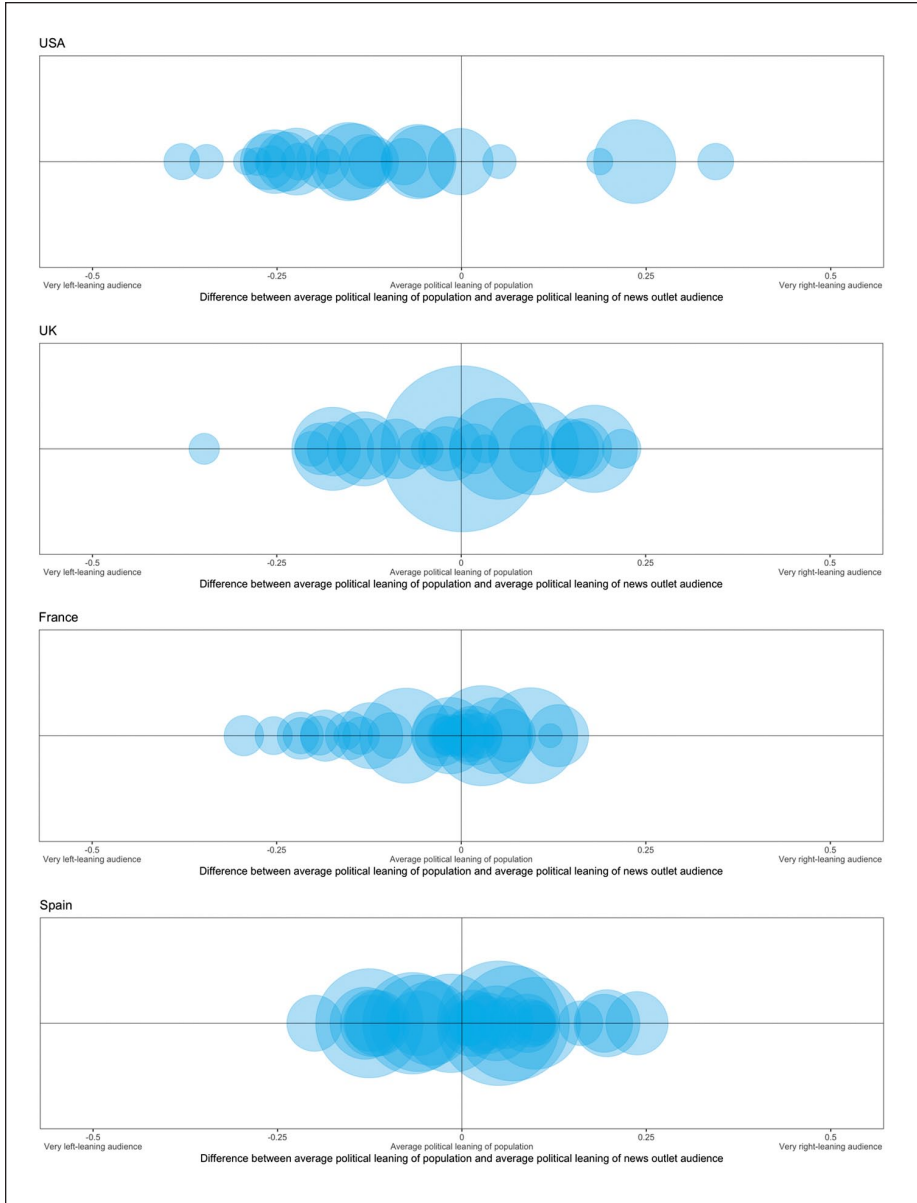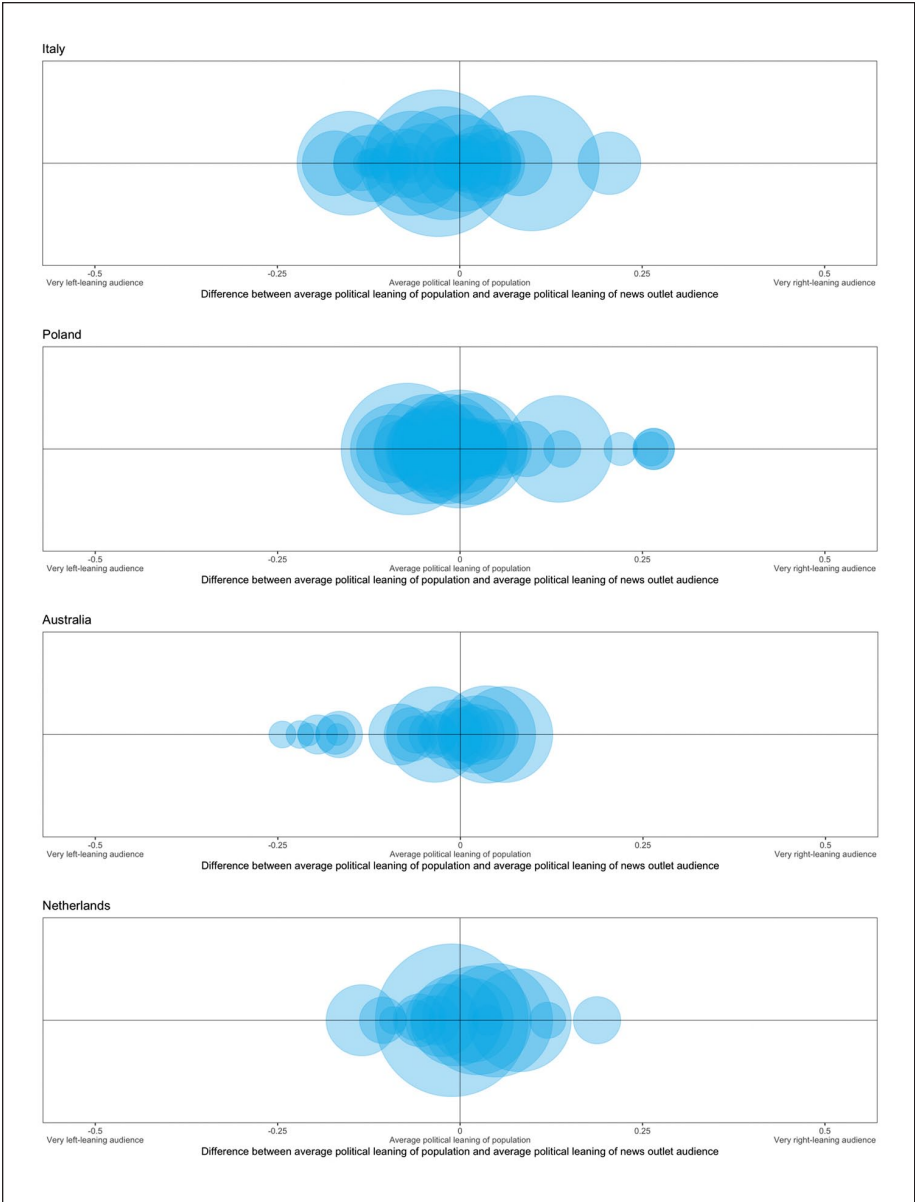
Figure 2. *(continued)*
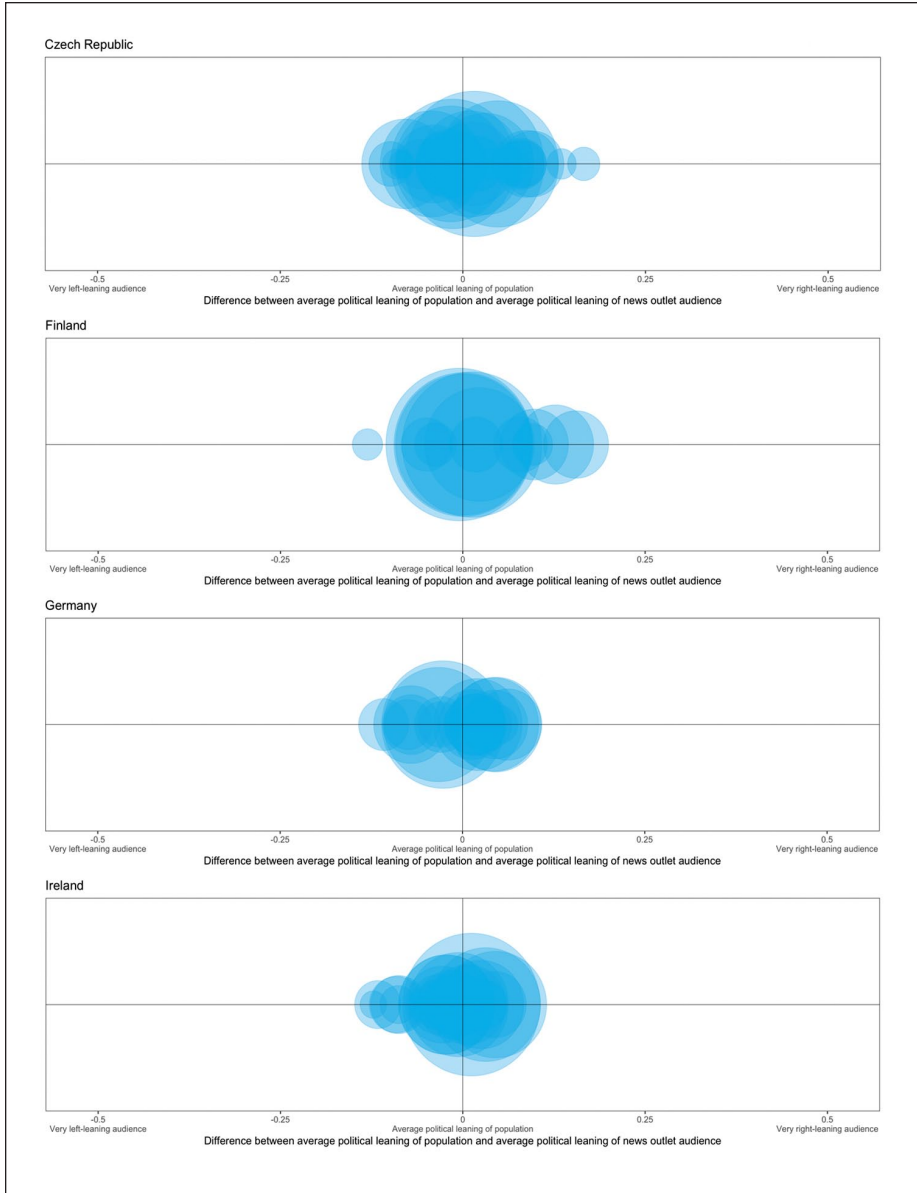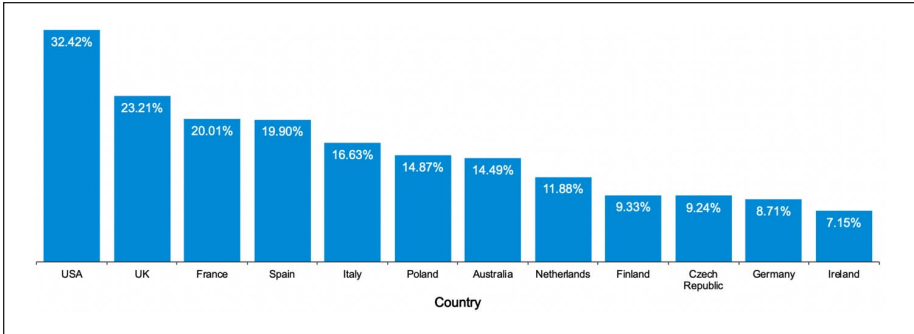
Figure 2. *(continued)*

Figure 2. Cross-platform news audience polarization maps.

Figure 3. Percentage of theoretical maximum cross-platform news audience polarization.

meaning that they are positioned near the center of the charts, reducing cross-platform news audience polarization.

The differences we see in Figure 2 are reflected in the cross-platform news audience polarization scores in Figure 3. The cross-platform figures are also broadly in line with the expectations stated in H1. Countries with democratic corporatist media systems—like Finland (9.33 percent), Germany (8.71 percent), and the Netherlands (11.88 percent)—have roughly half the level of news audience polarization than the polarized pluralist/southern countries—France (20.01 percent), Spain (19.90 percent), and Italy (16.63 percent). We thus find support for H1, as the level of polarization is always higher in countries with polarized pluralist/southern media systems than in countries with democratic corporatist media systems.

The United States (32.42 percent) has by far the highest cross-platform news audience polarization, with the observed polarization around one-third of the theoretical maximum. The United States is followed by the United Kingdom (23.21 percent), which has news audience polarization at about one-quarter of the maximum. Ireland differs strikingly from the other members of the liberal model in that it has the lowest polarization score of all (7.15 percent), but this is in line with previous studies which have also found it to have particularly low levels of media–party parallelism (van Kempen 2007). Therefore, our answer to RQ1 is that countries with liberal media systems exhibit highly inconsistent levels of cross-platform news audience polarization. Poland (14.97 percent), Australia (14.49 percent), and the Czech Republic (9.24 percent) show relatively moderate levels of news audience polarization.

We now turn to RQ2 and within-country differences between offline and online news audiences. The visualizations for offline and online polarization in each country are included in Section 3 of the supplementary materials. In terms of how spread out the bubbles are, the online and offline maps in most countries appear quite similar. But there are also subtle differences. In the United Kingdom, for example, on the offline map, the outlets with right-leaning audiences are larger, but online, the outlets with left-leaning audiences are larger. This reflects the fact that the printed press is primarily made up of outlets with a right-leaning editorial line, such as the *Times* (.16, 5.87
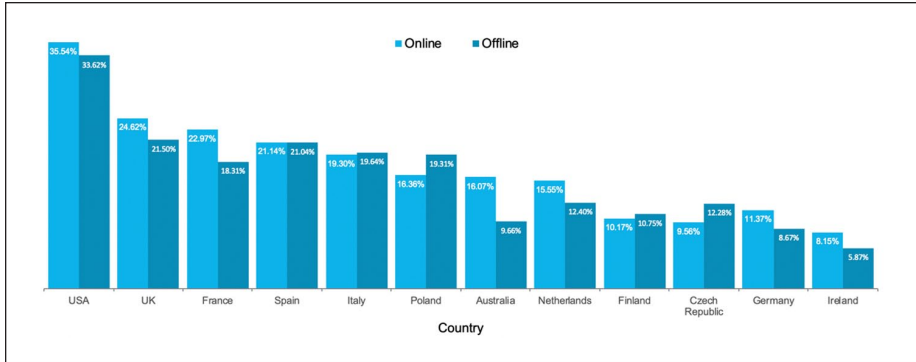
Figure 4. Percentage of theoretical maximum offline and online news audience polarization.

percent) and the *Telegraph* (.15, 4.36 percent). But online, these outlets operate paywalls, whereas the larger left-leaning outlets like the *Guardian* (–.17, 17.90 percent) and the *Mirror* (–.12, 4.78 percent) are free. In Germany and France, the online and offline maps look very different from one another. This is chiefly due to differences in news audience size. In most countries, it is clear that the offline reach of the most popular outlets is larger than the online reach. In Germany, where only around 65 percent of the population regularly consume news online (Newman et al. 2018), the difference is particularly noticeable.

Figure 4 contains the polarization scores for offline and online news audiences in each country. In eight of the twelve countries, online news audience polarization is higher than offline news audience polarization. Offline polarization is higher in Poland, Czech Republic, Finland, and Italy. The biggest gap is in Australia, but in Spain, Italy, and Finland, the difference is negligible. As such, our answer to RQ2 is that online news audiences do appear to be slightly more polarized in most cases, but in general, the differences are small. Perhaps the most noticeable feature of Figure 4 is that it has the same basic shape as the cross-platform chart in Figure 2. In other words, the themes identified by the comparative tradition can explain many of the patterns we see, regardless of the platform.

Limitations

Before moving to a discussion of the results, we first outline some limitations that should be kept in mind. The first relates to the use of a survey to measure media use. The reliance on recall ultimately means that the data may not always provide a completely accurate picture of people's news consumption (Prior 2009). There is also evidence to suggest that people are better at correctly remembering news stories when they access them directly as opposed to arriving at them via search engines or social media (Kalogeropoulos et al. 2019). Given that the level of reliance on these forms of "distributed" news use varies across countries (Newman et al. 2018), we might also

expect recall error to vary. There are also some limitations associated with the use of this particular data set. As the data come from an online panel, respondents were not selected entirely at random. The results will also under-represent the media habits of those who are not online. Those under-represented are typically older, less affluent, and have lower levels of formal education. In countries where Internet penetration is very high, this may not present a problem, but it is particularly important to keep in mind for countries where Internet penetration is relatively low (see Table 2).

Turning to the measures used, there are limitations associated with simply asking respondents to select which news outlets they used in the last week from a list. Some research has shown that open-ended responses provide a more accurate measure of media exposure (Guess 2015), but these are impractical for large-scale multi-country surveys. Other studies have emphasized that media attention is a better predictor of media effects than media exposure. For example, the "list-frequency technique" has been found to produce measures that are better able to predict current affairs knowledge than the "list-technique" used in this study (Andersen et al. 2016). Although it would probably be possible to use media attention measures to arrive at more accurate measures of news audience polarization, we leave this for future research to investigate.

We also acknowledge that asking people to place themselves on a left–right scale is potentially problematic. Left–right labels are likely to mean different things in different countries, and people's self-placement is likely to reflect group identities as well as issue preferences. However, despite these shortcomings, recent research has shown that left–right attitudes are still more important than populist attitudes when it comes to news selection in Western Europe (Pew Research Center for the People and the Press 2018), and more generally "left–right self-placement is the best single-question indicator of mass ideology" (Caughey et al. 2019).

Discussion

News audience polarization is often seen as a problematic development, able to undermine the kind of shared public space that democracies need. How polarized news audiences in fact are, how this differs across countries, and whether news audiences are more polarized online or offline are therefore crucially important questions. In this paper, we have approached them by developing an audience-centric measure of news audience polarization, using it to compare, first, across twelve countries with different media systems and, second, across offline and online media. We therefore respond to calls for more focus on audiences in comparative media research (Blumler and Gurevitch 1995) and for more work acknowledging that audiences consume media across platforms, and that it is therefore potentially misleading to treat print, broadcast, or online in isolation (Fletcher and Nielsen 2017).

We found, first, that countries with polarized pluralist/southern media systems have higher levels of news audience polarization than democratic corporatist countries. This suggests that the systemic factors identified by the comparative tradition are potentially useful for our understanding of polarization. However, we also found that countries originally grouped within the liberal model now present less consistent

patterns than traditionally thought. The United States is far more polarized than any other country covered here, with the United Kingdom in second, and Ireland last. However, it is also important to recognize that neither the United Kingdom (23.21 percent) nor the United States (32.42 percent) displayed particularly high levels of news audience polarization, at least when compared with a theoretical maximum (100 percent) where all left-leaning people use one set of news sources, and all right-leaning people use a different, non-overlapping set. Such a situation is unlikely to ever occur in practice, but it highlights that many people may be overestimating the extent of polarized news consumption patterns, perhaps similar to how many seem to have overestimated the extent of algorithmic filter bubbles and echo chambers.

For the most part, insights from comparative media research do seem to help explain some of the patterns we see when we look at news audience polarization. However, it is important to keep in mind that the categories developed by comparative media researchers are based on many other dimensions that have little to do with audience behavior, so we should not expect these categories to act as a perfect guide. But, our findings could suggest that some of the traditional concepts used in comparative media research need to be revised, as others have also argued (Brüggemann et al. 2014; Hallin and Mancini 2016; Nechushtai 2018). The idea that liberal countries exhibit low levels of political parallelism seems increasingly at odds with empirical data, something that is highlighted by our own results for news audience polarization. Similarly, grouping the United States and the United Kingdom together with Ireland, at least when it comes to news audience behavior, looks increasingly problematic.

We found, second, that although some countries do indeed have more polarized news audiences online, the picture is mixed, as other countries present the opposite trend, and the differences between online and offline are small in most cases. The results cannot tell us whether or not news audiences are becoming more polarized over time as more and more people get their news online. However, because current differences between online and offline polarization are small, we should be cautious about assuming that overall patterns of news use will be rapidly transformed by digital access.

News audience polarization as a process in playing out differently in different countries. This raises an important question, namely, what is causing these differences? We will leave this question for future research, but we believe that any answer should draw on what we already know about inherited historical and structural factors, as well as long-standing differences in political culture and market structure. One possibility is that strong public service broadcasters reduce cross-platform news audience polarization, because they are sometimes required to provide impartial coverage—and perhaps as a result—they often have very large broadcast news audiences. Comparative media research has repeatedly emphasized the importance of public service media, and has usually associated strong public broadcasting with democratic corporatism. This could be one of the reasons why democratic corporatist countries tend to have lower levels of news audience polarization. Using our measure, any outlet that is able to attract a large audience from across the political spectrum will lower the cross-platform news

audience polarization score. But many of the countries with the lowest scores, such as Germany, Finland, Ireland, the Czech Republic, and the Netherlands, are also those where the most popular news outlet is the public broadcaster. The clear exception is the United Kingdom, where the BBC is relatively well-funded, required to be impartial, and has very large cross-platform reach. Here, news audience polarization is high due to the partisan make-up of audiences for newspaper outlets. Again, this is consistent with comparative research that sees the United Kingdom as a hybrid case thanks to the combination of strong public service media and a highly partisan press. It is not clear what patterns we would see if the BBC did not exist, but it is entirely possible that people would instead self-select news outlets most closely aligned with their political views, thus raising the level of news audience polarization even further.

We would also like to suggest that cross-country differences in the use of distributed news (access via search engines, social media, and news aggregators) and web portals could be a factor. We do not have enough data points to formally test possible country-level explanations, but we offer one observation. If we plot the gap between online and offline polarization against the proportion of people within a country that used some form of distributed news during the same week (see Figure 5), we see that as the use of distributed news rises, the gap between online and offline polarization falls ($r = -.54$).[6]

Poland and the Czech Republic, which have the highest level of distributed news use, also have lower news audience polarization online. Distributed news might therefore have a moderating effect. We should, however, be very cautious in interpreting the results in this way, especially with so few data points. The relative popularity of distributed news could be important, but it will not be the only relevant factor. Because Poland and the Czech Republic are home to very popular web portals, such as Seznam, Onet.pl, and WP.pl, that aggregate news from mainstream outlets, we expect them to attract diverse audiences, thus lowering online news audience polarization. But elsewhere, high levels of social media use may expose people to less mainstream, more partisan news sites, creating the opposite effect.

Finally, we believe that this paper makes two additional contributions we hope future research will build on. First, the audience-centric approach to measuring news audience polarization developed here is useful beyond the study of left–right polarization. Although left–right preferences are certainly one important driver of audience behavior, they are not the only factor relevant for understanding the dynamics of public debate. Our approach permits the analysis of audience polarization in terms of other political attitudes, including populist beliefs, as well as other variables, for example, age, interest in news, or income and education. Particularly in Europe, these factors may be more important than politics in understanding the dynamics of audience attention (Castro-Herrero et al. 2018). Second, the empirical findings presented here challenge conventional wisdom (largely based on work from the United States) about how polarized audiences are and how online audiences differ from offline audiences. Our study shows that the United States is very much an outlier with respect to news audience polarization. This chimes with other studies that have found that the U.S. media system often exhibits unique characteristics, such as a long-term decline in press trust,
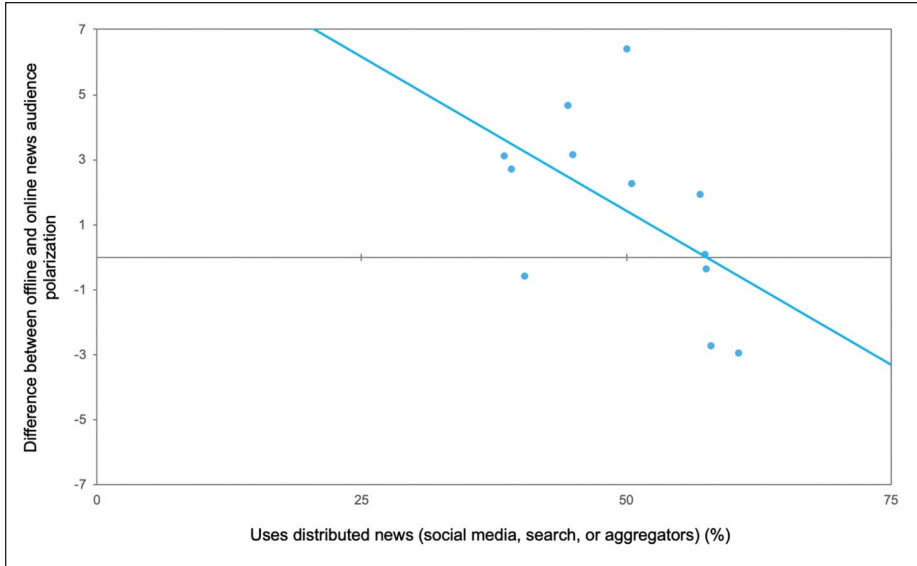
Figure 5. Difference in offline and online polarization plotted against the use of distributed news (social media, search, or aggregators).

that are largely absent elsewhere (Hanitzsch et al. 2017). This is a powerful reminder of the importance of comparative research and the dangers of naïve universalism based on single-country case studies. We should always keep this in mind when trying to generalize based on studies from the United States.

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Supplemental Material

Supplemental material for this article is available online.

Notes

1. For this paper, we do not consider studies that use content analysis of media outputs to measure political parallelism and similar concepts (e.g., Esser and Umbricht 2013).
2. The news audience polarization visualizations contained in this paper were created using the ggplot2 package for R.
3. In theory, the audience political leaning score can be higher than 0.5 or lower than −0.5, but the range cannot exceed 1.
4. If sample standard deviation is used instead, then the maximum can be greater than 0.5. However, the use of the weighting system, and the subsequent increase in the number of values, means that the theoretical maximum is negligibly different from 0.5, and it makes almost no difference whether the standard deviation is calculated using the population or sample formulas.
5. At the time of writing, Jeremy Corbyn is the leader of the United Kingdom's Labour Party.
6. Figures for distributed news were produced by asking respondents in each country whether they had done one or more of the following in the last week: (1) used a search engine (e.g., Google, Bing) and typed in a keyword about a particular news story, (2) used a newsreader site or app that aggregates news links (e.g., Flipboard, Apple News, SmartNews), and (3) used social media and came across news that way (e.g., Facebook, Twitter, LinkedIn). Descriptive statistics can be found in Table 2 in the Supplementary Materials.

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