Faces of Biased Selectivity: A Latent Profile Analysis to Classify News Audiences and Their Selection Biases in the U.S. and UK

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The overload of news in today's digital information environment can lead to biased media exposure on the individual level—for example, based on the confirmation of preexisting attitudes, attractiveness of negative news, and familiarity with sources. To better understand such news patterns and to whom these selection biases apply, this study identifies different classes of (biased) news audiences and explores several antecedents. A survey in the U.S. and UK presented respondents with multiple vignettes in the form of political news headlines that were altered to reflect (1) confirmation bias, (2) negativity bias, and (3) source bias. Respondents' likelihood of selecting these biased news items was used to classify individuals into audience profiles. The results of a latent profile analysis provide three distinct and theoretically meaningful classes of news audiences that vary in terms of selection biases: avoiders, confirmers, and informers. As an important contribution, we show how these profiles are driven by the political attitudes and news preferences of audiences.

Keywords: media bias, selective exposure, news repertoires, confirmation bias, negativity bias, source bias

In today's digital media environment, characterized by abundant choices and fragmentation on both the demand- and supply-side of news, audiences can choose news slanted toward their own political views and news preferences (Dilliplane, 2011). Because individuals can opt out of certain news consumption entirely, they may no longer receive a similar picture of the sociopolitical world around them (Prior, 2007). The absence of exposure to diverse or conflicting perspectives on current events and other issues can result in less informed and tolerant (political) opinions (Mutz, 2008), or even increase fragmentation of the audience (Stroud, 2011).

Distortion in audiences' worldview and lack of engagement with cross-cutting viewpoints are often considered a result of so-called biases in selective exposure to news (e.g., Dilliplane, 2011). We understand these biases as heuristic cues used by news consumers to navigate their information environment. Although

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such cues are especially helpful in the context of an overload of information, they may become harmful biases when they prevent people from critically processing information or approaching cross-cutting news (Goldman & Mutz, 2011). Previous selective-exposure studies have shown that when choosing news, people tend to disproportionately self-select information that is consistent with their preexisting political opinions (e.g., Knobloch-Westerwick, Mothes, & Polavin, 2020), choose news that is more attractive or arousing (e.g., Trussler & Soroka, 2014), or rely on sources that are part of their daily media diet (e.g., Diddi & LaRose, 2006). These preferences relate to three central selection biases: confirmation bias (need for attitudinal congruent information), negativity bias (tendency to select negative over positive news), and source bias (the habit of selecting a specific news source over others). This study aims to explore to what extent these three biases are integrated in audiences' news selection behavior in today's digital age of high media choice.

News repertoire studies have observed how audiences' news exposure across an array of media platforms and channels can distinguish different classes of audiences (e.g., Edgerly, 2015; Ksiazek, Malthouse, & Webster, 2010; Lee & Yang, 2014). Building on this literature, the current study relies on a survey design, conducted in the U.S. and UK. Respondents are exposed to various vignettes in the form of news items on refugees manipulated on confirmation bias, negativity bias, and source bias, and asked how likely they would read them. These outcomes provide the input for a latent profile analysis, with the aim to classify individuals into mutually exclusive and exhaustive classes of "biased" audience profiles. Next, we identify which antecedents, salient in selective-exposure literature, coincide with distinct audience profiles.

The unique approach of the current study is two-fold. First, we employ manipulated news items and sources about a single issue to represent three different types of news exposure biases—that is, confirmation bias, negativity bias, and source bias. The benefit of this approach is that the news items and sources were created to represent the theoretical concepts of interest, so we can more readily interpret the psychological meaning of respondents' preferences compared with news-repertoire studies relying on measures of self-reported media exposure to genres of media or specific media sources and channels. Second, this study employs a unique statistical-classification analysis that uses respondents' news story and source preferences to classify individuals into audience profiles corresponding with the different types of selection biases. Previous research has encouraged the application of such latent class analysis (LCA) to study complex and multidimensional concepts—such as biases in news selection—to explore multiple aspects of individuals processing more holistically (Lanza & Cooper, 2016). Categorizing audience profiles that are internally homogenous and externally heterogeneous will provide novel insights into the composition of subgroups that vary in the degree of biases. A mixture of (the absence of) several selection biases might be reserved for different audience profiles. Moreover, this classification analysis allows for examining the predictors of (biased) audience profiles. In sum, in this article, we aim to understand which biased audience groups can be found in the general population, how prevalent these profiles are, and what can cause their emergence. Identifying such subgroups is an essential step toward a targeted approach (Greenberg & Abenavoli, 2017) to stimulate healthy and cross-cutting news diets.

Selection Biases in Today's Digital Media Environment

Selective exposure refers to the process by which individuals' preferences and prior beliefs guide their selection of new information (e.g., Knobloch-Westerwick et al., 2020; Stroud, 2008). Such conscious

and unconscious filtering processes, which mainly happen in digital news environments, generate different media diets guided by selection biases on the individual level. In this study, we formally understand such biases as heuristics or guiding cues used by news consumers to navigate their information environment. Although all news consumption may be driven by preexisting perceptions and preferences to some extent, it may be harmful when biases prevent people from critically processing arguments, or selecting into cross-cutting news exposure (Goldman & Mutz, 2011). Hence, such biases may create dissimilar (media) realities among citizens that hinder informed political decision making and increases fragmentation (e.g., Stroud, 2011). This study builds on previous research that has identified three central biases responsible for distorted and fragmented worldviews.

Confirmation Bias

First, selective-exposure scholars have primarily shown how the tendency to avoid cognitive dissonance, one of the main drivers of selective exposure, results in a confirmation bias (e.g., Knobloch-Westerwick et al., 2020). This bias relates to people's active selection patterns into information that aligns with preexisting political opinions and beliefs to maintain a positive and consistent self-identity (Stroud, 2008). These processes fulfill the need to maintain a consistent image of one's self and the world. The need for this consistency can be explained by the psychological processes of cognitive dissonance (Bennett & Iyengar, 2008) and motivated reasoning (e.g., Taber & Lodge, 2006).

Yet conclusions on the pervasiveness of confirmation-biased selective exposure need to be weighed with conflicting or mixed evidence (e.g., Dilliplane, 2011; Nelson & Webster, 2017; Stroud, 2008). Not all citizens select information that reassures existing views, and most people additionally select information that is neutral (e.g., Dilliplane, 2011) or even counterattitudinal (Nelson & Webster, 2017). Yet politicized topics may be more prone to confirmation-biased selective exposure (Stroud, 2008). Although people may not selectively avoid all disconfirming content (e.g., Garrett, 2009; Garrett et al., 2011), they at least show a tendency to shape their media diets in such a way that congruent information is more prominent than conflicting content.

Negativity Bias

Second, in a media landscape where different under-resourced media outlets compete for audiences' attention, negative news is often instrumentally used to attract attention. This negativity bias assumes that audiences prefer negative political news over positive news as negative news is more entertaining, catchy, and understandable (Lengauer, Esser, & Berganza, 2011; Trussler & Soroka, 2014). Extant literature provides various views on the ramifications of a negativity bias. On the one hand, in proposing the "burglar alarm news standard," Zaller (2003) questions whether negativity is intrinsically harmful for democracy. A key function of the news is to draw people's attention to issues that require urgent attention, and negativity may be used to signal a threat that should be dealt with. Accordingly, negativity may be beneficial as it conveys important information, stimulates mobilization, and fosters healthy skepticism (e.g., de Vreese & Tobiasen, 2007). On the other hand, selective exposure to negative political news can also have negative democratic implications, especially when the "alarms" keep ringing or are not sounded for the right events (Bennett, 2003). Among other things, it potentially results in less tolerant

political opinions (Thesen, 2018), lower political engagement (Bennett, 2009), and a spiral of cynicism (Cappella & Jamieson, 1997). In this article, we do not claim that selecting negative news is intrinsically harmful. Rather, we argue that when news diets are biased toward disproportionally more negative news, it can potentially be harmful, as it fosters pessimism or distrust in political institutions.

Source Bias

One of the most influential cues pertaining to habitual selection patterns is the source bias. A source bias means that people tend to select news from sources they are familiar with, whereas they are less likely to select and attend to information from unfamiliar sources. Hence, based on previously sought and satisfied gratifications, news consumers develop expectations about whether certain sources can satisfy their desired news services (e.g., Diddi & LaRose, 2006). Unfamiliar sources related to a contradicting political ideology, in contrast, may potentially contain information that attacks or challenges their self-image (Goldman & Mutz, 2011). Thus, the overload of available information online might motivate audiences to use source cues as heuristic shortcuts to find information that is most likely to satisfy their desired information needs, or the ideological perceptions they tend to agree with (Diddi & LaRose, 2006). As exposure to more diverse views is a starting point for a well-functioning deliberative democracy, disproportional reliance on only a few sources or only those that are expected to confirm existing views can be harmful for a rational exchange of differing viewpoints among citizens.

Here, it needs to be stressed that although both confirmation-biased and source-biased selective exposure may be motivated by ideological congruence, the process underlying biased selection is different. News consumers that select news based on source cues may not process the content of information based on the fit with their existing political views. Rather, they use sources as a heuristic cue—expecting that these sources deliver the content they desire. Accordingly, source bias could be considered a less demanding selection mechanism based on easy-to-process cues or a customary pattern that helps audiences navigate a high-choice news environment with less effort.

News Audience Profiles

This study aims to identify profiles of biased or unbiased news consumers based on the presence or absence of the various biases in news consumption patterns. An emerging research avenue has grounded itself in past work on media repertoires to better understand audiences' news patterns. Survey studies have explored a subset of news medium or channels that different audiences regularly consume in a news media environment with a growing number of options (Edgerly, 2015; Ksiazek et al., 2010; Lee & Yang, 2014). These studies have clustered news audiences to find various distinctive news repertoires. Besides more medium-specific news repertoires (e.g., TV + print, online only), the most consistent finding among these studies is the identification of news-avoider repertoires and news-omnivore repertoires (i.e., low or high overall news use). Moreover, in line with selective exposure research, Edgerly (2015) also showed how news repertoires can be ideologically driven and relate to the blurring of news and entertainment.

Inspired by news-repertoire literature, we aim to classify news consumers based on their selection behavior into (1) news that confirms versus challenges their prior attitudes; (2) news that is negatively

versus positively framed; and (3) news coming from familiar of unfamiliar sources. Formally, our approach to understand selective-exposure patterns departs from the repertoire approach, as we only offer a limited selection of news choices in our survey design. Therefore, in this study we rather explore audience profiles related on selection biases instead of actual news repertoires. Relying on news items and sources that represent the theoretical concepts of interest (news selection biases) allows for a more readily understanding of the psychological meaning of selection preferences compared with self-reported exposure to media sources and channels. Against this backdrop, the first central research question reads as follows:

RQ1:   *To what extent can we distinguish different classes of news audiences based on their confirmation bias, negativity bias, and source bias when selecting news?*

Antecedents of Biased News Profiles

How can we distinguish different profiles of (biased) news consumption based on news audiences' characteristics? We expect that individual-level differences that correspond to the approach or avoidance of (in)congruent content can make membership to different news profiles more or less likely. Specifically, we consider three news media and three key political related factors that are considered key determinants of (biased) selection and avoidance of (un)congenial content in different ways.

Confirmation biases may be less likely when people are motivated to arrive at accurate judgements. Therefore, we first look at how people perceive their own news processing style by testing whether they are more defense or accuracy motivated. When people are more defense motivated in their information processing, compared with accuracy motivated, they might opt out of political news altogether or avoid counterattitudinal information. More specifically, people who have a stronger tendency to defend their prior attitudes may perceive political news as a potential attack to their existing attitudes (Taber & Lodge, 2006). Among this news audience, selection decisions are most likely driven by the content's and source's fit with prior attitudes (e.g., Garrett et al., 2011). Accuracy-motivated news consumers, in contrast, should be less likely to base their selection behavior on confirmation biases (Bennett & Iyengar, 2008). Hence, for these people, the veracity of information is a more important factor than the resonance of political information with preexisting attitudes.

Second, when audiences hold a hostile media perception (i.e., the perception that news outlets or contents are ideologically biased against one's own views; Vallone, Ross, & Lepper, 1985), the tendency to self-select attitude congruent content and sources may increase. Hence, membership to confirmation-biased audiences may be more likely for people who think that the media support the other side. The more news consumers view their information environment as demonstrating such a bias, the more likely they perceive content that does not share their perceptual screens as biased and unfair (Choi, Yang, & Chang, 2009). Yet congruent content is less likely to be judged as hostile, and therefore has a higher likelihood of selection among news consumers that perceive their digital information setting as demonstrating a bias against their views (Goldman & Mutz, 2011).

Third, in a digital news environment where diversity is reflected by the blurring of news and entertainment (Edgerly, 2015), need for entertainment in political news might play a role. News profiles might

be based on their preferences for entertainment media formats over hard news or political news. Hence, selective exposure research has identified that entertainment options should be considered as an alternative for selective exposure or avoidance of political news (e.g., Prior, 2007). More specifically, people that avoid political news may not only do so because the viewpoints expressed in the news do not align with prior attitudes, they may generally avoid the news altogether as they have more interest in entertainment formats than hard news content. Also, as negative news is considered more attractive and arousing compared with positive news (Lengauer et al., 2011), this might be more interesting for those with a need for entertainment in news.

Fourth, in a similar vein, news consumers' overall levels of political interest may explain the overall selection and avoidance of political news. The less interest people have in politics and current affairs, the more likely they avoid political content in their digital news diets (Bode, Vraga, & Troller-Renfree, 2017). Visa versa, when audiences are genuinely interested in political affairs, news selection might be characterized by overall more consumption of political news and perhaps even more cross-cutting exposure.

Fifth, political attitudes related to trust and specific issue positions may explain news consumers' belonging to different classes of selective exposure behavior. Citizens with higher levels of political cynicism are likely to distrust political institutions and are skeptical toward political actors and developments in general (Bos, Van Der Brug, & De Vreese, 2013). As more cynical news consumers believe that exposure to the news will not teach them anything they do not know already (i.e., politicians are only self-interested, anyway), they may be more likely to avoid news than would audiences that are generally interested in what politicians have to say on the news.

Finally, audiences' general attitudes toward the political issue covered in the news might determine their news engagement. Especially when they have a feeling that the attitude they hold is less accepted in society (i.e., being opposed to immigration or denying human interference in climate change), they might avoid news in general or are more drawn toward attitudinal congruent news. Audiences' attitudes on the issue level may thus explain selection behavior of political news.

Together, these factors might explain differences among audience profiles, and the extent to which these are biased on the level of news content and sources. Our second research question reads as follows:

RQ2:   *To what extent can media (i.e., news processing style, hostile media perception, and need for political news entertainment) and political (i.e., political cynicism, political interest, and attitude toward the political issue) factors predict people's belonging to different classes of news audiences based on their confirmation bias, negativity bias, and source bias when selecting news?*

Method

To disentangle how different (biased) audience profiles can be distinguished, this study uses a vignette approach. This survey design presents respondents with short news items, based on actual news headlines, to expose the social and individual structures of human judgments. The news items used in this study were all related to news on immigration and refugees. This issue was selected as a polarized issue

strongly related to political preferences, which allowed us to see if news was in line with people's prior attitudes. The selection of this single issue, however, does hinder the generalizability of the audience profiles to the selection of nonpolitical news topics or other (less) polarizing issues.

The vignette news items, which are individually judged by the respondents, represent different combinations of various dimensions that are simultaneously manipulated. The news items were systematically varied by three factors presenting the biases under investigation—that is, confirmation bias (pro- versus anti-immigration news item), negativity bias (negatively versus positively formulated news items), and source bias (liberal versus conservative news outlets). In total, respondents were exposed to eight news items to ensure that they would evaluate all combinations of manipulated headlines.

To test whether similar audience profiles can be identified in multiple contexts, and therewith test the robustness of the clusters, this study was conducted both in the U.S. and the UK. Although the political and media systems of these countries have both been characterized as part of the North Atlantic or Liberal model (Hallin & Mancini, 2004), there are noteworthy differences in the partisan biases of the news media and the political realm. Hence, the U.S. setting is characterized by a bipartisan political system, and the news media and citizens are regarded as having a pronounced Liberal or Conservative bias in interpreting reality. In the UK, partisanship is more pronounced than in other European countries. However, a 2013 YouGov (Dahlgreen, 2013) survey confirmed that partisan reasoning is high in the UK, but still considerably lower than in the U.S.

Sample

Respondents (U.S.: $N = 428$, UK: $N = 430$) were recruited via Survey Sampling International/Dynata. This company recruited respondents via mixed databases (i.e., developed by partner companies) and invited respondents via e-mail (voluntary opt-in lists). They are rewarded with a credit system. Quota were set to ensure an equal distribution of pro- and anti-immigration attitudes. An attention check was included to ensure only those who read the questions carefully were included. In the UK, 49.8% held anti-immigration attitudes. This was 50.2% in the U.S. A single-item measure of support for immigration had to be used in the survey flow to ensure a balanced distribution of people who opposed/supported immigration in general. For the U.S. sample, the average age was 38.89 years, and 67% were female. The distribution of education included 40% lower educated, 26% higher educated, and 34% moderately educated. Regarding the UK sample, the average age was 37.69 years, 55.74% were female, 28% were lower educated, 20% higher educated, and 52% moderately educated. Comparing our sample composition with census data showed only an overrepresentation of women in the U.S. sample (see Appendix 1).

Procedure and Stimuli

Respondents were presented with eight short online news items (i.e., vignettes) about immigration and refugees on separate pages. Respondents were asked to rate the likelihood (100-point scale) that they would select each item to read. The news items were presented individually in a social media or online newsfeed style. The vignettes comprised eight headline news items on immigration that were altered for the three biases. For manipulating the confirmation bias, four pro-immigration and four anti-immigration headlines were developed. These headlines were either positively or negatively formulated for the manipulation of negativity

bias (e.g., negatively formulated anti-immigration headline: "Refugees are taking the jobs of native U.S./UK citizens"; positively formulated pro-immigration headline: "Residents raising funds to sponsor refugee family"). For each combination of pro-/anti-immigration and positive/negative headline, two headlines were included as they were matched with the logo of either a more conservative (U.S.: Fox News; UK: *The Sun*) or more liberal source (U.S.: *The New York Times*; UK: *The Guardian*) to manipulate source bias. The order of presented news items, as well as the within-issue pairings of the different sources and headline exemplars, was randomized. Appendix 2 provides an overview of how news items presented the combination of different biases and shows all stimuli. Twenty headlines were extensively pilot tested to ensure that the eight selected headlines clearly conveyed the respective biases and did not differ on other factors like arousal, personal interest, similarity to actual headlines, or complexity (see Appendix 3).

Measures

Overall News Selection

The overall likelihood that people would select political news items about immigration was measured by taking the mean response to all eight news items. For each of the eight news items, respondents were asked, "Thinking about your everyday life, how likely would you select the above news item to read when you came across it?" (0 = *very unlikely*, 100 = *very likely*). The computed measure ranged from 0 to 100, where the score 0 indicates that respondents were very unlikely to read all eight news items and a score of 100 means that they were very likely to read all news items (U.S.: $M = 51.97$, $SD = 9.87$; UK: $M = 47.77$, $SD = 17.80$; overall: $M = 49.87$, $SD = 18.83$).

Confirmation Bias

To measure the selection of congruent news, we paired respondents' response to the attitude question about immigrants coming to the U.S./UK with the likelihood of selecting the pro-immigration and anti-immigration news items. The immigration attitude question was formulated as follows: "On a scale from 1 to 7, please indicate how strongly you support or oppose that immigrants are entering the UK/U.S.?" The answer scale was labeled 1 (*strongly oppose*) to 7 (*strongly support*). Those who answered 1–3 were labeled as opposing immigration, those who answered 5–7 were labeled as supporters. Those respondents with no opinion on the attitude question regarding immigration (4 = *neither oppose nor support*) were excluded from the study. Hence, to test for a confirmation bias, we needed to match the respondents with the news items to see whether the information was either congruent or incongruent with their prior attitudes. In the next step, the mean of the likelihood of selecting the four incongruent news items was subtracted from the mean of the four congruent items. This measure thus ranged from −100 to 100, where −100 means respondents were very likely to read only the attitude-incongruent news items, a score of 0 means respondents would equally likely select congruent and incongruent news items, and a score of 100 means respondents would likely read only attitude-congruent news items. Hence, a higher score indicates a stronger confirmation bias (U.S.: $M = 22.64$, $SD = 30.24$; UK: $M = 22.23$, $SD = 28.06$; overall: $M = 22.43$, $SD = 29.15$).

Negativity Bias

To measure the tendency of selecting negative over positive news, the mean of the likelihood of selecting the four positively formulated news items was subtracted from the mean of the four negative items (range scale: -100–100; U.S.: *M* = 3.97, *SD* = 15.60; UK: *M* = 5.13, *SD* = 14.93; Overall: *M* = 22.43, *SD* = 29.15).

Source Bias

At the start of the survey, we asked respondents how regular they used certain news sources for their news consumption. If they used *The New York Times*/*The Guardian* more frequently than Fox News/*The Sun*, this source was labeled as their habitual source and then matched with the news items with a corresponding source. All respondents showed clear preference for one over the other source and therefore could all be included in the final sample. Again, the mean of the likelihood of selecting the four news items originating from a nonhabitational news sources was subtracted from the mean of the four items coming from a habitational source. Thus, a higher score refers to higher source bias (scale range: −100–100; U.S.: *M* = 4.98, *SD* = 16.34; UK: *M* = 5.97, *SD* = 17.76; overall: *M* = 5.48, *SD* = 17.05).

News Processing Style

To measure respondents' news processing style (scale range: −7–7; U.S.: *M* = 1.19, *SD* = 1.58; UK: *M* = .80, *SD* = .40; overall: *M* = .99, *SD* = .99), we subtracted their score on being defensive motivated (U.S.: Cronbach's α = .86; UK: Cronbach's α = .87) from their score on being accuracy motivated (U.S.: Cronbach's α = .75; UK: Cronbach's α = .82; both measured on a 7-point Likert scale with four items; see Neuwirth, Frederick, & Mayo, 2002). Thus, higher scores indicate a stronger accuracy motivation relative to defensive motivation.

Hostile Media Perception

To measure respondents' hostile media perception, we calculated whether their response to the attitude question on immigration matched their perception of whether "news coverage on the whole has been favorable or unfavorable toward immigrants entering the U.S./UK." Respondents' perception of their media environment was coded as hostile when they indicated to oppose immigration (scores 5–7 on immigration item) and that news coverage on the whole has been favorable toward immigration (scores 1–3 on media coverage item), and vice versa (scale range: 0–1; U.S.: *M* = .18, *SD* = .88; UK: *M* = .27, *SD* = .82; overall: *M* = .23, *SD* = .85).

Political News Entertainment

To document respondents' preference for entertainment in political news, we relied on two items—that is, entertainment in political news . . . makes me aware that our political system is dysfunctional/can help me express my political opinions (scale range: 1–7; U.S.: Cronbach's α = .82, *M* = 4.97, *SD* = 1.49; UK: Cronbach's α = 86, *M* = 4.67, *SD* = 1.19; overall: *M* = 4.82, *SD* = 1.34).

Political Attitude Toward Immigration

To measure to what extent people did or did not hold an anti-immigration attitude, we asked respondents, "On a scale from 1 to 7, please indicate how strongly you support or oppose that immigrants are entering the UK/U.S." (scale range: 1–7; U.S.: *M* = 4.22, *SD* = 2.10; UK: *M* = 3.92, *SD* = 2.11; overall: *M* = 4.07, *SD* = 1.57).

Political Interest

Political interest (range scale: 1–7; U.S.: *M* = 5.26, *SD* = 1.54; UK: *M* = 4.89, *SD* = 1.60; overall: *M* = 5.08, *SD* = 1.34) was measured with one item asking respondents how interested they are in politics and public affairs.

Political Cynicism

Political cynicism (scale range: 1–7; U.S.: *M* = 5.44, *SD* = 1.19, Cronbach's α = .76; UK: *M* = 5.43, *SD* = 1.35, Cronbach's α = .88; overall: *M* = 5.44, *SD* = 1.27) was measured with four items (see Bos et al., 2013). Appendix 4 provides all survey questions.

Analysis

To distinguish among types of (biased) news audience profiles, a latent profile analysis (LPA) was used. LPA, a type of latent class analysis (LCA) used for continuous or mixed variables, is an exploratory statistical method to identify latent categories that explain response patterns in a set of variables (Hagenaars & McCutcheon, 2002). By iteratively looking for a classifying model with the best fit to the data, this technique can classify underlying categories or clusters of respondents based on their answers. Types of LCAs are considered person-centered approaches rather than a variable-centered approach (Hasking, Scheier, & Abdallah, 2011), which allows for a more complete understanding of the data and insights into the bigger picture, as opposed to looking at each outcome variable individually. This technique assumes that a latent, unobserved factor can explain class membership based on the individuals' responses to the observed indicators used as input for classification Hence, LCA methods attend to spurious relations that other variable-centered analytical techniques are unable to expose.

As an input for the LPA, we relied on respondents' news story and source preferences. Certain types of audiences might have different levels of attention to or interest in news content in general. The attention check included in the survey ensured us that respondents across all identified classes paid attention to the questions/stimuli to a similar level. To further account for people's general news interest, we include respondents' overall likelihood of selecting all news items in the analyses. Therefore, in modelling the LCA, the variables (1) overall news selection, (2) confirmation bias, (3) negativity bias, and (4) source bias were used to identify clusters of news audiences. Post hoc Wald chi-squared tests were conducted to compare the means among the identified profile classes. In a next step, we tested whether media and political-related attitudinal factors could predict audiences' class membership.

Results

The first step of the LPA is to determine how many profiles can be classified with all the variables selected. First, low Akaike information criterion (AIC) and Bayesian information criterion (BIC) scores indicate preferred class solutions. Table 1 shows how AIC scores consistently decrease from the one-class to three-class solutions and increase for the four-class solution. For higher class solutions, the AIC scores continue to drop. Second, the lowest BIC score for the three-class solution suggests that this classification is the best fitting solution. Third, the Lo–Mendell–Rubin likelihood ratio test (LMT) p value indicates whether the model fit of the current model with K classes is a significant improvement compared with the model with $K − 1$ classes. The LMT p values suggest that a three-class solution fits the best. As the table details, the same patterns regarding the class solution can be observed in both countries. Both the BIC scores and LMT p value suggest that a three-class solution best explained the relationship among the indicators. Yet because the AIC scores also suggested other possible solutions, we iteratively checked which class solution was theoretically most meaningful. Four-class till six-class solutions showed no clear distinctive classes due to minimal cross-profile variation on the indicators. On the contrary, the three-class solution provided more meaningful and mutually exclusive profiles that can be better related to previous literature on audience profiles. For the reasons outlined above, we rely on the three-class solution in our data analyses. In the following section, the scores on the indicators of selection bias per class are discussed, as are how these classes can be labeled and understood.

Table 1. Fit Indices of Different LPA Solutions.

	LL model		DF		AIC		BIC		LRT p value	
Classes	U.S.	UK	U.S.	UK	U.S.	UK	U.S.	UK	U.S.	UK
1	−5748.02	−7589.381	6	8	11,508.04	15,194.76	11,532.41	15,227.27	N/A	N/A
2	−5739.567	−7575.58	10	13	11,499.13	15,177.16	11,539.75	15,229.99	.0015	.0009
3	−5685.64	−7524.866	14	18	11,350.28	15,065.73	11,426.14	15,088.88	.0280	.0225
4	−5660.154	−7514.461	18	23	11,356.31	15,074.92	11,429.42	15,168.39	.5370	.4228
5	−5649.378	−7462.542	22	28	11,342.76	14,981.08	11,432.11	15,094.87	.2467	.2145
6	−5645.091	−7451.775	26	33	11,342.18	14,969.55	11,447.78	15,103.65	.6897	.6621

Note. LL = log likelihood; AIC = Akaike information criterion; BIC = Bayesian information criterion; LMT = Lo–Mendell–Rubin likelihood ratio test

Table 2[1] shows the results of the LPA, specifying the three types of biased audiences by presenting relative mean scores on all news selection variables. The three profiles are considered conceptually and theoretically meaningful and are labeled based on the scores on the indicators. Moreover, the same three-class classification is observed for U.S. and UK, indicating robust segmentation patterns across audience members of different national backgrounds.

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[1] Because the U.S. sample substantially overrepresents women we examined whether the results differ by gender (see Appendix 5). As the table in Appendix 5 shows, the patterns and identified clusters across gender are comparable to the findings presented for the overall sample.

Table 2. Results of the LPA Showing the Distributions of Indicators Variables
for Each Audience Profile.

	Avoiders		Confirmers		Informers	
	U.S.	UK	U.S.	UK	U.S.	UK
Overall news selection[i]	22.48[a] (2.56)	16.11[a] (2.71)	48.52[b] (1.35)	46.35[b] (1.42)	63.99[c] (1.26)	56.26[c] (1.17)
Negativity bias[ii]	.55[a] (2.06)	.63[a] (2.36)	1.88[a] (1.57)	2.69[a] (1.35)	7.82[b] (1.15)	7.93[b] (1.15)
Confirmation bias[ii]	5.26[a] (2.87)	4.17[a] (2.82)	55.53[b] (2.71)	51.02[b] (2.33)	6.15[a] (1.87)	6.04[a] (1.66)
Source bias[ii]	5.40[a] (3.41)	3.14[a] (3.89)	7.32[b] (1.88)	8.55[b] (2.04)	3.70[a] (1.60)	3.22[a] (1.78)
Latent class probability	.25	.22	.42	.41	.33	.37

Note. The values in this table report the marginal predicted means and standard errors of each outcome within all three latent classes. Means with differing subscripts within rows and for the same country differ significantly at the *p* < .05 level based on Wald chi-squared tests.
[i]Scale range: 0–100
[ii]Scale range: −100–100

Three Classes of Biased News Repertoires

RQ1 asked what types of (biased) audience profiles emerge when considering audiences' confirmation bias, negativity bias, and source bias when selecting news. Table 2 displays the three classes of news audiences that can be found if we consider these biases in audiences' news preferences. The three profiles that emerge where labeled as avoiders, confirmers, and informers.

The first cluster, labeled "avoiders," is characterized by a relatively low overall media exposure as compared with the other groups. Apparently, these people generally avoid political information altogether. Post hoc Wald chi-squared tests show that the mean scores on news selection in this class are, both in the U.S. (*M* = 22.48) and UK (*M* = 16.11), significantly lower than for the other two groups. As the score of overall news selection can range from 0 to 100, where a higher score relates to more overall news selection, these mean scores show that these respondents generally indicated to be rather unlikely to select any of the eight news items to read. If we look at the biases central in this cluster, we see no clear patterns of biases on the news content and source level. Compared with the other profiles, the mean scores on the biased news selection are either significantly lower or do not differ significant. When we look at the latent class probability, it can be observed that 25% of U.S. respondents and 22% of UK respondents belong to audience profiles that can be described as avoiding political news.

The second profile is called "confirmers." This class is clearly defined by the highest scores on the biased selection of attitude-congruent news items and sources. Post hoc Wald chi-squared tests show that the mean scores on the confirmation bias (U.S.: *M* = 55.53; UK: *M* = 51.02) and source bias (U.S.: *M* = 7.32; UK: *M* = 8.55) are significantly the highest in this group for both countries. Both scores of confirmation bias and source bias range from −100 to 100, where a higher score indicates a stronger selection bias. The high mean scores of the confirmation bias show a very strong tendency to select likeminded news. Next, because the mean scores of source bias are positive, these people are overall more likely to select those news items that come from habitual news sources. Moreover, this group has a significantly higher overall

political news selection (U.S.: *M* = 48.52; UK: *M* = 46.35) as compared with the avoiders. Evidently, when audiences with such profiles seek out political information, they limit themselves to information that is in line with their existing attitude and have a strong tendency to rely on familiar news sources that are in line with their political ideology. Of all the U.S. respondents, 42% falls in the class labeled as confirmers. This is 41% for the UK, making this class the largest of the three identified profiles.

The third profile is called "informers," which overall selects significantly the most news items to read (U.S.: *M* = 63.99; UK: *M* = 56.26, score range: 0–100) compared with the other two classes, without having noticeable political-attitudinal biases if it comes to selecting like-minded information and sources. These respondents seem to be generally interested in political news without clear preferences for specific types of ideological news, as the confirmation and source bias are significantly lower than for the confirmers and do not significantly differ compared with the avoiders cluster. However, based on the Post hoc Wald chi-squared tests, we observe that these audiences, in their overall interest in news, are significantly more likely to read news that is framed in a negative way as compared with a positive framing (negativity bias U.S.: *M* = 7.82; UK: *M* = 7.93). Because the scores of negativity bias range from −100 to 100, these mean scores above the midpoint of zero indicate that respondents are, on average, more likely to select news items about negative stories. With a latent class probability of 33% in the U.S. and 37% in the UK, this group is the second largest of the three.

In sum, findings suggest that there are audience profiles that are either high or low on overall news usage as well as profiles that are more clearly driven by biases. Appendix 6 details the sociodemographic characteristics related to each of the three classes.

Antecedents of Three Biased Audience Profiles

The second research question asked to which extent media and political related attitudinal factors can predict audiences' belonging to (biased) news profiles. Table 3 depicts the outcomes of separate multiple regression analyses to estimate membership likelihood for each profile.

Table 3. Antecedents of Three (Biased) Audience Profiles, Predicting Membership Likelihood for Each Profile.

	Avoiders		Confirmers		Informers	
	U.S.	UK	U.S.	UK	U.S.	UK
Media factors						
News processing style	−.03 (.01)**	.02 (.01)	−.06 (.05)	−.02 (.02)	.12 (.06)**	.02 (.02)
Hostile media perception	.07 (.03)*	.02 (.40)	.14 (.05)**	.16 (.05)**	−.05 (05)	−.14 (.05)**
Political news entertainment	−.04 (.01)***	−.03 (.01)**	−.01 (.01)	−.04 (.02)*	.04 (.02)**	.06 (.02)**
Political factors						
Anti-immigration attitude	−.01 (.01)	.01 (.01)	.05 (.01)***	.03 (.01)**	−.04 (.01)**	−.05 (.01)***
Political cynicism	.03 (.01)**	.01 (.01)	.03 (.02)	.03 (.02)*	−.05 (.02)**	−.04 (.02)**
Political interest	−.05 (.01)***	−.03 (.01)*	.01 (.02)	.02 (.01)	.04 (.02)**	.01 (.02)
Demographics						
Age	−.01 (.01)	−.01 (.06)	.01 (.01)*	.01 (.01)	.01 (.01)	.01 (.01)
Education	−.01 (.01)*	−.01 (.01)	.01 (.01)	−.01 (.01)	.01 (.01)	.01 (.01)
Gender	.01 (.04)	.01 (.03)	.01 (.01)	.10 (.05)**	.03 (.05)	−.09 (.05)*
Constant	.58 (.12)***	.26 (.13)*	−.15 (.16)	.20 (.20)	.59 (.17)***	.56 (.20)**

Note. Cells contain unstandardized regression coefficients with standard errors.
*p < .10. **p < .05. ***p < .001.

First, the avoider profile is mainly related to low political interest and low need for entertainment in political news (in both the U.S. and UK). For the U.S., we can also see that people who have a more defensive rather than accuracy-motivated news processing style are more likely to hold an avoider profile (indicated by the negative coefficient). Moreover, this profile is related to the perception of media being hostile toward their political attitude on immigration and being politically cynical. Moreover, in the U.S., it is shown that avoiders are more likely to be lower educated. Second, the confirmer profile is mainly predicted by the antecedents of having a hostile media perception and more pronounced anti-immigration attitudes (both in the U.S. and UK). For the UK, a lower need for political news entertainment and political cynicism are also related to the confirmer profile. Also, in the U.S., it is shown that confirmers are more likely to be older, whereas in the UK they are more likely to be male. Finally, those with an informer profile are most likely to be less politically cynical, have a pro-immigration attitude, and a need for political news entertainment (both U.S. and UK). In the case of the U.S., we can see how having an accuracy motivated news processing style and being highly politically interested is associated with this informer profile. For the UK, a lower hostile media perception also corresponds with the informer profile. In addition, in the UK, females are more likely to be classified as informers. The observed differences regarding the predicting power of several antecedents shows how these biased audience profiles are distinctive and related to different classes of audiences who are driven by other media and political-related factors when it comes to selecting news.

Conclusion and Discussion

This study shows how news audiences, with regard to biases in self-selection of news, can be classified along the lines of three different types of profiles: avoiders, confirmers, and informers. By developing this audience typology, we were able to test which antecedents predict biased news selection, showing which groups of digital news audiences can be characterized by different biases in selecting political news.

The avoider profile relates to overall low exposure to political news. These audiences clearly have the tendency to avoid political information, as they are the least politically interested and have the lowest need for being entertained by political news. The classification of the avoider profile is in line with consistent findings from previous studies that classified news avoiders' repertoires based on channel selection (Edgerly, 2015; Ksiazek et al., 2010; Lee & Yang, 2014). Moreover, our findings suggest that this avoider profile is driven by audiences trying to avoid being exposed to news that is not in line with their political attitude.

The confirmer profile indicates biases in the selection of attitude-congruent news content and sources. This confirmation bias is associated with a high hostile-media perception and more pronounced anti-immigration attitudes. Potentially, those audiences that hold an anti-immigration attitude are more likely to assume that the media are hostile toward their opinion and therefore are more actively engaging in selective exposure to congruent news and news sources. Previous research already observed comparable news repertoires when clustering exposure to different channels. Edgerly (2015) showed how respondents had repertoires containing a single type of ideologically flavored news; Democrats and Independents mainly exposed themselves to online and more liberal channels, and Republicans were clustered on exposure to conservative channels.

The informer profile is characterized by an overall high selection of political news without a noticeable confirmation or source bias. Likewise, previous research has observed news audiences defined by high levels of news exposure, often labeled as news omnivores (Ksiazek et al., 2010; Lee & Yang, 2014), and repertoires where audiences are exposed to different types of ideological news (Edgerly, 2015). Thus, these informers seem to take advantage of the digital news environment by diversifying their political news diets. Yet they are most likely to select negative news. In their overall high interest for political issues, they might be, potentially unconsciously, drawn to the more appealing, negatively formulated news items. While searching for more political news, these audiences might automatically be drawn to negative news to scan their environment for risks (Lengauer et al., 2011; Soroka & McAdams, 2015). These informers were found to be mainly driven by audiences' interest in politics and political news, where most are pro-immigration and low on hostile media perceptions and political cynicism.

Country differences may be explained by the relatively more pronounced role of bipartisan divides in the media, political, and social realms in the U.S. compared with the UK. This may also explain why defensive motivations lead to news avoidance in the U.S., whereas this plays a less central role in the UK. When partisan biases are more pronounced, it may be easier to distinguish favorable news from news that is against people's prior attitudes. Yet although we found some country differences, the results point in the same direction for both countries. It remains to be studied how well our findings travel to other settings, both in terms of national contexts and topics. It may be argued that confirmer and avoidance profiles are

less pronounced in settings with less intense partisan cleavages (i.e., in multiparty systems), and that less polarizing issues, such as the housing market or unemployment, stimulate more cross-cutting news exposure and informer clusters. Yet across issues and settings, all issues can become politicized and framed along partisan lines. We therefore believe that the existence of different subgroups exists across settings, although the relevant dominance may differ.

The classification shows some challenges for democracy in the contemporary media environment. The most common audience profile, confirmers, has a strong tendency to predominantly select like-minded information and sources, and the avoider profile generally opt out of political news coverage, potentially to avoid contradicting information. These findings indicate that the selection patterns of most members of the news audience cause them to isolate themselves by not engaging in multiple or diverse perspectives on political issues, which could potentially augment polarized divides (Stroud, 2008) and consolidate echo chambers (Sunstein, 2009). In a healthy, deliberative democracy, citizens would ideally select news from different sources and incorporate cross-cutting views they do not agree with in their media diet. Our findings indicate that the largest proportion of the news audience does not fit this standard, as they mostly select information that confirms their existing attitudes and ideologies. In other words, they are not likely to be exposed to disagreement—which could provide the input for debates with the other side, or learning from different perspectives to update views on pressing societal issues. On a more positive note, the second-largest group (informers) is more open to various perspectives and cross-cutting information from different sources. Yet this group might have the (unconscious) tendency to select negative over positive news. Hence, although this segment of the audience may be exposed to cross-cutting views, the negativity bias may have negative democratic implications, such as enhancing cynicism and distrust in (political) institutions (e.g., Bennett, 2009).

Several limitations need to be acknowledged in light of the findings presented in this study. First, some of the selection biases we studied may show considerable overlap, and we urge future research to design studies in which source biases and content-based conformation biases can be teased out more clearly. Second, the inclusion of multiple news sources that differ on the spectrum of conservative versus liberal would provide a more comprehensive understanding of the role of (habitual) source biases. Future research may rely on more comprehensive measures of news selection, and may also rely on more observation and less intrusive methods (e.g., tracking data). Third, although the headlines were pilot tested and rated similar on elements like arousal, personal interest, similarity to actual headlines, and complexity, it is important to note that the headlines differed in immigration issues or topics. Further research could strive to keep such subtopics consistent across headlines to ensure that such vignettes only differ on the intended manipulated factors. It would be worthwhile to test whether these profiles, with the related antecedents, hold across other political issues that tend to polarize publics (e.g., climate change, gun ownership, privatization of health care). Fourth and last, the typology should be tested in various "most different" media and political systems—can we extend our measure to multiparty system less prone to partisan divides?

These limitations notwithstanding, the findings of this study have important implications. For those who study media effects or the formation of public opinion, it provides insights into the profiles of different news audiences while showing how prominent different selection biases are in today's media environment.

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