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**Between Individuals and News Organizations: Developing the ‘News Niche’ as a
Conceptual Tool for Examining Audience Fragmentation**

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Data Availability Statement

The dataset and manipulation files associated with this article can be found at: Barnidge, Matthew (2022), “2020 Audience Fragmentation Dataset”, Mendeley Data, V1, doi: 10.17632/nc7nb7rgsz.1 [Note: DOI is reserved and will be activated upon publication].

Authors’ Notes

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Abstract

To what extent are news audiences fragmented across ideological lines? Traditional scholarship has primarily answered this question at two levels of analysis: The selection valence of individuals (e.g., selective exposure research) or the overall patterns of shared attention at the system level (referred to as duplication studies). Surprisingly, scholarship has not examined the influence of audience-level characteristics on ideological news exposure. This omission represents a major oversight, as the mechanisms of news filtration are increasingly determined not only by individual preferences, but also by the preferences of other people in the network. We argue that information flows across social media platforms, news aggregators, apps, and email are shaped by algorithmic systems which are actuarial, in that they sort people according to shared information repertoires. To capture this phenomenon, we explicate a theoretical rationale for the importance of the *news niche*. We then apply this framework to a novel empirical approach for identifying niches within an audience projection network using survey data (N = 1,965). Results reveal three discrete but overlapping niches: right-leaning elite cable and television, left-leaning prestige press, and local-aggregators. We then examine the nature of ideological heterogeneity at the individual, audience, and organizational levels both within and between niches. We do not find support for fragmentation along party lines. Instead, the news consumption within a niche is more akin to a competition and symbiosis, where people consume news across the ideological spectrum. Implications for theorizing audience fragmentation are discussed.

Keywords: News media, partisan media, audience fragmentation, audience overlap, selective exposure, political communication

Between Individuals and News Organizations: Developing the ‘News Niche’ as a Conceptual Tool for Examining Audience Fragmentation

The rise of politically slanted media content raises concerns about a news audience that is fragmented along ideological lines, and not without good reason: Partisan or ideological news has been connected to political sectarianism (Finkel et al., 2020) and a communication environment in which facts are contested (Waisbord, 2019). While much of the literature on this subject has focused on the psychology of media selection (e.g., Garrett, 2009; Knobloch-Westerwick & Meng, 2009; Stroud, 2011), a parallel line of work has examined macro-level patterns in audience dispersion (Fletcher & Nielsen, 2017; Majó-Vázquez et al., 2019; Mukerjee et al., 2018; Webster & Ksiazek, 2012; Weeks et al., 2016). Generally, these latter studies do not find considerable evidence of audience fragmentation at the macro-level, seemingly alleviating fears related to ‘echo chambers’ or ‘filter bubbles’ (Flaxman et al., 2016).

Despite these recent advances in the study of audience fragmentation, the literature has largely overlooked the role of audience-level attributes in shaping news exposure at the individual-level (Barnidge et al., 2021; DeVito, 2017). This omission represents a significant oversight, as the algorithms that filter content in online spaces increasingly rely on the activity of others with similar habits and preferences. That is, news exposure is shaped not only by one’s own choices, but also by the behaviors of others in the network. Yet, we know very little about the extent to which audience-level factors matter for news preferences. The present study addresses this need by revisiting and elaborating upon an older concept—the *news niche*.

Certainly, the concept of a news niche isn’t novel—to find a similar use of the label, one need only look at Stroud’s now classic *Niche News* (2011), a study of selective exposure in the United States in the mid-2000s. But our approach not only incorporates elements from selective

exposure research, particularly its focus on individual news selections, it also borrows from the audience-centric approach (Fletcher & Nielsen, 2017; Ksiazek, 2011), which looks at the shared audience for a given set of news organizations. This paper bridges these separate-but-related literatures by conceptualizing the news niche as an audience-level characteristic that shapes an individual's place within an information ecology. We propose a framework for identifying news niches within audience networks, and, drawing on open-ended survey data ($N = 1,965$; 17 Waves), we employ that framework to parse the influences of individual, organizational, and audience ideology on the valence of individual's news choices.

Audience Overlap

Audience overlap or *duplication* is concerned with the tendency for the audience of one program to be 'duplicated' in another. Drawing inspiration from the structural functionalist tradition, which treats society as a complex system whose parts work together to promote stability (Procter, 1980), this approach views news audiences as the interaction between system-level structures and individual preferences (Fletcher & Nielsen, 2017). Hence, scholarship in this area analyzes social and political division in the form of information silos created by the high-choice media environment (Prior, 2007). In contrast to selective exposure theory, which looks at personal motivations for media consumption (e.g., Knobloch-Westerwick & Meng, 2009), audience overlap studies are primarily concerned with macro-level patterns of attention and typically employ concepts from network science. In this framework, news organizations serve as nodes, and people's attention and/or selection habits represent the edges between outlets (Ksiazek, 2011). The 'audience-centric' paradigm captures the interplay between the supply of news and citizen demand (Webster & Ksiazek, 2012, p. 45). The advantage of this method is that it enables researchers to observe the extent to which audiences are concentrated or dispersed.

The overlap approach has uncovered several important conclusions. First, and perhaps most importantly, overlap studies find that audiences are not quite as fragmented as feared (Fletcher & Nielsen, 2017; Webster & Ksiazek, 2012). Network analysis of the macro-level patterns in shared attention to news do not find evidence of ideological silos. Citing both large-scale datasets of online linking behaviors (e.g., Mukerjee et al., 2018) and survey responses (e.g., Weeks et al., 2016) there is considerable evidence of heterogeneous news consumption, resulting in a substantial degree of audience overlap across media channels. A second major development clarifies these findings; scholars have devised various techniques for filtering the otherwise noisy data associated with larger sample sizes, revealing a core, ‘backbone’ structure of news audience attention (Majó-Vázquez et al., 2019; Mukerjee et al., 2018). The defining feature of the core network is a power law distribution, where a relatively small set of legacy media organizations hold a majority share of the market, and the rest (i.e., the majority of organizations) compete for relatively small shares of audience attention along the ‘long tail’ of the distribution. Logically, it follows that the number and scope of dominant organizations will vary from system to system, which implies that structural features of a given media system—and not the ideologies of individuals alone—affect the degree of audience fragmentation (Fletcher & Nielsen, 2017).

Third, recent studies have developed methods for observing individuals’ position within the attention network. *Positionality* is one factor that explains the overall ideological valence of one’s news habits (Barnidge et al., 2021). This methodological innovation centers on characterizing individuals according to their roles within a broad network, bridging the gap between audience-level and individual-level studies. While media scholars tend to think of partisan news as ‘peripheral’ as compared to an imagined ‘center’ of politically neutral media, findings from positionality studies show that media outlets at the center of the attention network

also carry ideologically slanted content, which means that even people with a more central positionality are exposed to a healthy dose of partisan news. For example, Fox News often amplifies radical right-wing talking points (Benkler et al., 2018) and their position as a dominant force in the market means that people are exposed to ideological content without traveling to the extreme edges of their information environment (Barnidge et al., 2021; Flaxman et al., 2016).

The News Niche

Findings from multiple national contexts find that across different media systems, only a small percentage of citizens can be said to be in an ideological filter bubbles (Arguedes et al., 2022; Fletcher & Nielsen, 2017). However, it would be premature to conclude that these results provide evidence against fragmentation in news audiences; rather, it is possible that fragmentation occurs in other ways that align more closely with the networked relations among individuals and media organizations. Audiences are now displaced from traditional programming as media consumption is now facilitated by networked connections and increasingly, algorithmic curation of content (Thorson & Wells, 2016). These systems have an ‘actuarial’ dimension in that one individual’s choices may affect the future selection of content for some similar individual (DeVito, 2017). This audience dynamic has important implications for audience fragmentation, as selective and curatorial processes may produce distinct audience segments, even if those segments do not manifest along strictly political lines.

To account for these developments, and to address theoretical shortcomings with current approaches to audience fragmentation, we introduce an expanded application of the concept of the news niche. The idea of a news niche is not new. For example, Stroud (2011) conceptualized it as the product of individual-level tendencies toward partisan selective exposure and their interactions with the increasing competition and segmentation of media channels. Borrowing

from this approach, we assume that a news niche is the outcome of market forces and people's positionality within a media system. We also build on past uses of the concept by incorporating a sociotechnical dimension: News niches are constituted by social and algorithmic processes of content curation in online spaces. Thus, news niches arise not only from the relations between organizations and individuals, but also from the technological infrastructure of major news platforms, including search engines, aggregators, news apps, and social media sites.

This conceptualization of the news niche allows for an audience that is unified by a broadly shared experience on one hand but that is also fragmented by patterns of attention to unique sets of news organizations on the other hand. Niches can be characterized by a high degree of audience overlap (or shared attention) within and between each niche. That is, while audiences may not be entirely fragmented along ideological lines (Fletcher & Nielsen, 2017; Webster & Ksiazek, 2012), we should be able to identify segments within the overall attention network in which individuals and organizations are tied together via shared attention. Those ties create media experiences primarily shared by those within the same audience niche, and by default these experiences will be more similar relative to those outside of the niche. Thus, the current study takes as its starting point the question of whether audience niches of this nature exist, and, if they do, seeks to understand their role in creating slanted information environments.

The News Niche and Individuals

Two factors affect whether individuals occupy a particular news niche: motivations for attending to news, particularly their ideological motivations; and the routinized patterns of media use on various devices and channels. In terms of the former, politically motivated selective exposure is a well-documented phenomenon (e.g., Stroud, 2011). Work on politically motivated selective exposure, which focuses specifically on the ways in which news selections are

motivated by prior political beliefs, attitudes, or identities, has coalesced around two broad conclusions. First, people tend to select news and information they believe will align with their ‘priors,’ a tendency that arises from a psychological bias known as the confirmation bias (Knobloch-Westerwick & Meng, 2009). Second, despite this preference for attitude consistency, people do not necessarily avoid politically incongruent media (Garrett 2009; Garrett & Stroud, 2014), a phenomenon known as non-avoidance, which is partially explained by factors related to the information environment. That is, while people prefer content that reaffirms their preexisting beliefs, they also tend to develop regular habits of exposure based on availability, and those routines are reinforced for reasons of access and convenience (Sears & Freedman, 1967; Stroud, 2010). For most people, these habits result in at least some exposure to incongruent media while also producing a fair amount of ‘de facto’ selective exposure, as well. Taken together, selection and non-avoidance suggest that any niche should contain a dose ideological heterogeneity.

In addition, scholars have developed the concept of *media repertoires* (Edgerly et al., 2018; Taneja et al, 2012) to understand these environmental factors and how individual media users navigate them. When faced with information abundance, people tend to develop routines that feature a personalized mix of devices and programs. Empirical evidence from factor analyses usually derive a limited number of repertoire types. For example, people may tailor experiences for work, entertainment, and socializing (Taneja et al, 2012) or gravitate towards specific platforms, like television over newspapers (Kim, 2014). In general, most people avoid news and public affairs information, while those with higher levels of political interest and education tend to be categorized as news seeking ‘junkies’ (Ksiazek et al., 2010), a trend that scholars worry may be accelerating information inequality. Given more choices in media, preferences tend to reflect personal needs and gratifications (Edgerly et al., 2018). Thus, people

do have a good deal of agency when it comes to determining their own positionality within the media landscape. Still, systemic factors do shape the ‘menu’ of available options, leading to clear patterns in aggregate-level media use. Based on this work, we expect that when two or more people develop similar repertoires, they will have relatively similar experiences with news and can thus be said to belong to the same news niche.

One assumption guiding theory in both selective exposure and media repertoires is the notion that people make active decisions to select and pay attention to news. However, technological developments have raised questions about the limits of individual agency over the news content they see. Many digital platforms, particularly social media sites such as Facebook and news aggregators such as Google News, but also popular mobile news apps such as Apple News, use algorithms to filter and curate news content to their users (DeVito, 2017; Joris et al., 2021; Thorson et al., 2019). While early public scholarship on the subject paid particular attention to how these selection algorithms personalize content for people (Pariser, 2011; Sunstein, 2007), less attention has been paid to the role of *other people’s behavior* in informing selection criteria. More recently research has shown that a person’s social connections are one of, if not the top criteria for Facebook’s selection algorithm (DeVito, 2017; Thorson et al., 2019).

Accordingly, we argue that selection algorithms—particularly on aggregators and news apps, but also on social media—also have an ‘actuarial’ dimension in that they share something in common with insurance adjustment: The outcome (i.e., the selection of content) likely depends in part on the actions of other people who are similarly classified in terms of news preferences. For example, if a person selects a story from Fox News, then subsequently selects a second story from Breitbart News, online platforms record this link and consider it not only for that user, but also for other users who subsequently select Fox News. The more people who co-

select stories from these organizations, the stronger the link becomes over time, and the more likely a given user will be to receive a recommendation for Breitbart after having selected Fox. The selections of other individuals may shape the ideological valence of potential selections for others with similar news interests. If this conjecture is true, it is logical to presume that the experience of any given individual will be more strongly influenced by other individuals who fit a similar behavioral profile. Therefore, people's selections should not only be affected by their own choices, but also by the choices of *others in the same news niche*.

Niche and Organizations: Markets and Symbiosis

As we have shown, work on both selective exposure (Garrett, 2009; Garrett & Stroud, 2014) and audience overlap (Fletcher & Nielsen, 2017; Webster & Ksiazek, 2012) reveals that audiences are not as ideologically fragmented as initially believed (Arguedes et al., 2022), which suggests that shared ideology will not be the only feature of a news niche. We argue that the within niche patterns of news selection likely reflect a relationship of *competition and symbiosis* among organizations, where segments are not bifurcated according to left and right leanings, but rather a working balance is achieved within each news niche based on platform preferences and regular habits of program switching across the political spectrum. A shared medium creates a space for audiences to form, and organizations 'compete' with each other in the same niche as they cater to individuals with similar tastes and characteristics.

For example, on cable television, Fox and MSNBC share the cable television space, and people often watch both programs when they channel surf the news (Shafer, 2022). Accordingly, those that prefer elite coastal newspapers, like the *New York Times*, usually also read the *Washington Post*. In another example, Breitbart does not take viewers away from the larger right-leaning players like Fox News, but rather they piggyback on that audience and even add to

it by directing individuals from the radical fringes of the media system to more central outlets (Berry & Sobieraj, 2013; Benkler et al., 2018). Thus, a sort of symbiosis or equilibrium is achieved within a news niche, where organizations cater to audiences based on a range of factors, including their platform preferences, socio-economic status, and geographic location.

Utility of Concept

The concept of a news niche has great utility for the study of audience fragmentation. We have identified at least three advantages of the approach that cannot be gained without examining and comparing portions of the news audience. First, the revised niche concept allows for a more fine-grained look at the news audience, allowing researchers to identify characteristics of organizations and individuals who comprise a given niche and describe the differences between niches. These affordances gives rise to a host of empirical questions about the relationships among organizations and individuals within and between audience niches.

For example, one might speculate that the organizations that occupy the same audience space share a common ideology, or what we refer to as *editorial valence*. On the other hand, an equally plausible conjecture is that two organizations occupy the same niche not because they are similar, but because they form symbiotic relationships to serve different needs of that audience segment. Thus, it is an open question whether organizations within niches are similar or different in terms of editorial valence. Likewise, it is not clear whether individuals within a niche differ in terms of the ideological slant of their news selections, which we refer to as *selection valence*. While individuals within a niche share a common experience with a subset of media organizations, this shared experience may not be defined by ideological homogeneity in news selection. Based on this logic, we have developed a set of three interrelated research questions.

RQ1: What news niches can be observed in the American attention network?

RQ2: Is variation in the editorial valence of news organizations greater within niches or between niches?

RQ3: Is variation in selection valence greater within niches or between niches?

Another distinct advantage of the niche approach is that it affords researchers the ability to parse out different levels of influence on an individual's news selections. We have previously reviewed literature on the role of individual motivations and routines/habits, as well as the ways in which these individual-level factors interact with organizational-level market forces and the sociotechnical structures of news curation in online spaces. With these ideas in mind, we can identify and analyze three distinct influences on an individual's selection valence: (1) their own political ideology (i.e., *individual ideology*); (2) the average editorial valence of news organizations within an individual's niche, which we refer to as *organizational ideology*; and (3) the average ideology of others in the niche, which we refer to as *audience ideology*. The niche concept helps researchers to parse these effects by structuring relevant comparisons. That is, an individual's news selections should be most affected by the organizations and audience members within their niche in addition to their own political ideology.

H1: Individual ideology will be positively related to selection valence.

H2: Organizational ideology will be positively related to selection valence.

H3: Audience ideology will be positively related to selection valence.

Finally, given the multilevel nature of the relationships under study (H1-H3), we propose an exploratory research question. If organizational and audience characteristics shape the range of choice—that is, they narrow the 'menu' options down from many to a more manageable subset—then it is plausible that individual predispositions interact with these contextual factors.

RQ4: Does (a) organizational ideology or (b) audience ideology moderate the relationship between individual ideology and selection valence?

Methods

Design and Data

The study is based on a 17-wave, rolling cross-sectional survey administered in the United States ($N = 1,965$). Respondents were recruited by Qualtrics and completed the survey online between September 3 and November 1, 2020 (Incidence Rate = 100%; Cooperation Rate (CR3) = 70%; AAPOR, 2016). Each survey wave (i.e., sampling frame) was balanced according to quotas for age, race, gender, and census region according to the 2018 American Community Survey (Table A1 in the online appendices). Data were weighted by education and income (see Table A2 online). Missing values were imputed using a chained equations technique (Fully Conditional Specification; see van Buuren & Groothuis-Oudshoorn, 2011).

Measures

Open-Ended News Use Questions

Survey respondents were asked three times to “write the name of a news outlet (e.g., *The New York Times* or nytimes.com, Fox News or foxnews.com, WBRC Birmingham) that you used in the past week.” These open-ended news use measures require respondents to engage in free recall, which is more cognitively demanding than close-ended measures relying on cued recall (Kruikemeier et al., 2018). Because of this additional demand, open-ended measures likely reduce random error arising from patterned response or poor recall (Prior, 2009). The responses were cleaned and categorized to indicate discrete news outlets (e.g., “*The New York Times*” or “Fox News”), with broader categories created for responses where data reduction reduced noise and enhanced clarity (e.g., television call letters, channel numbers, or network affiliations were

combined into a “local television” category). After filtering the data (see below), respondents named 37 distinct outlets/categories (see Table B1 online for a list).

Editorial Valence and Organizational Ideology

The news outlets named in the open-ended measures were coded for their editorial valence ($-3 = \textit{Very Liberal}$, $0 = \textit{Neutral}$, $3 = \textit{Very Conservative}$) by three trained coders (Krippendorff's $\alpha > .90$ for 10% of the list). Based on prior literature (Authors; Stroud, 2010), coding adhered to a hierarchical coding guideline: (1) the editorial valence as identified by existing scholarship (e.g., Budak et al., 2016; Niculae et al., 2015; Otero, 2018); (2) if not identified in prior literature, the outlet's stated ideology; (3) if not stated, the balance of candidate endorsements dating back to 2012; (4) if no endorsements, ideological stances in editorials. If coders could find no information based on these criteria, the outlet was assumed to be neutral. The variable ranges from -2.0 to 2.2 , with a mean of -0.1 ($SD = 0.8$). Finally, organizational ideology was computed by taking the average editorial valence of the organizations within each niche (i.e., the group mean for each niche).

Selection Valence

Selection valence characterizes the slant of an individual's exposure or attention based on the outlets they named in the survey. We assigned each respondent the coded editorial valence scores for the organizations they named. These scores were then averaged for each respondent, creating an index of selection valence ($M = -0.1$, $SD = 0.8$).

Individual and Audience Ideology

Individual ideology was measured with three survey items asking respondents to place themselves on an 11-point, L-R scale ($-5 = \textit{Liberal}$, $0 = \textit{Neutral}$, $5 = \textit{Conservative}$). This item has

a mean of 0.2 ($SD = 3.0$). Audience ideology was computed by taking the average ideology of respondents within a given niche (i.e., the group mean for each niche).

Control Variables

Regression analyses control for demographics, including age ($M = 3.0$, $SD = 1.6$ where 1 = 18-24 and 8 = 85 or older), gender (51% female; 1 non-binary respondent was grouped in this category for analytic purposes), race (40% persons of color, not including white-identifying Hispanics), education ($M = 4.5$, $SD = 1.8$ on a 7-point scale where 1 = No high school diploma and 7 = Post-graduate degree) and income ($M = 4.7$, $SD = 2.3$ on an 8-point scale where 1 = Less than \$15,000 and 7 = More than \$150,000). Finally, analyses control for political interest, which was measured with three items asking how interested respondents are (1 = Not at all and 5 = Very) in politics, news, and community ($M = 3.5$, $SD = 1.0$).

Analysis and Results

Analytical Strategy

Following previous work on audience overlap studies (e.g., Ksiazek, 2011; Mukerjee et al., 2018), we constructed a network projection of audience overlap from the open-ended news use measures. The projection comprises individuals who are connected via shared attention to news organizations, which occurs when two or more respondents name the same organization. Thus, news organizations act as nodes, and the co-mentions are treated as edges. Based on recommendations from prior literature, the projected network was filtered to reduce systematic measurement error by removing connections with an edge weight < 2 (Barnidge et al., 2021). While studies of audience attention networks employing close-ended survey measures use other filtration methods designed to reduce non-systematic measurement error (Mangold & Scharkow, 2020), open-ended data present a different problem, that of systematic measurement error, which

arises from systematic tendencies to over- or underestimate phenomena of interest (King et al., 1994). Therefore, we rely on filtration methods specifically tailored to this measurement issue.

Identifying the News Niches

After filtering the network, and to answer RQ1, we ran a series of clustering algorithms on the projection that: a) best fit the theoretical assumptions for audience fragmentation; and b) produced the most consistent results. Louvain clustering met these criteria, producing three stable niches (Appendix, Figure C1 online), which we have labeled according to the organizations they comprise (Table C1 online): (1) *right-leaning cable and television*, which is characterized by high levels of attention to television news (both national broadcast and cable news on the left and right), as well as prominent right-wing or right-leaning digital news organizations (e.g., Breitbart and the *New York Post*); (2) *left-leaning elite press*, comprising prominent coastal prestige newspapers including the *New York Times* and the *Washington Post*, along with left-leaning digital news organizations such (e.g., Huffington Post and Politico); and (3) *local—aggregators*, which features heavy reliance on news aggregators, local media, and social media in addition to prominent centrist newspapers (e.g., *USA Today* and the *Chicago Tribune*). After obtaining categories, respondents were assigned a nominal code representing their news niche based on the extent to which their responses to the open-ended news attention measures aligned with one of the categories (cable: $n = 905$; elite: $n = 195$; local: $n = 344$). Respondents whose answers did not fall cleanly into one of the three categories were considered to have no niche ($n = 564$).

Having identified the three news niches (RQ1), one-way ANOVA was used to assess the between-group and within-group variance in editorial valence (RQ2) and selection valence (RQ3). A visual inspection of the projection network shows considerable overlap among news

niches, which raises the question of whether there are differences between the niches in terms of ideology. The answer to this question is unequivocally yes. At both the organizational (RQ2) and individual levels (RQ3), the between-group variance is substantially larger than the within-group variance (see Table C2 online for full results), resulting in significant F -statistics (at the organizational level, $F(2) = 5.19, p = 0.011$; at the individual level, $F(2) = 81.20, p < 0.001$), which can be interpreted as the ratios of between-group to within-group variance. These results indicate that the differences between the news niches are larger than differences among individuals within each niche. A closer inspection of the means show that at both levels, the mean of the *elite* group is different from the means of the other two groups (Figure 1), with a significantly more liberal editorial valence ($M = -0.79$ versus a grand mean of -0.10) and selection valence ($M = -0.73$ versus a grand mean of -0.10). Meanwhile, the other two groups have similar means, but different variances. The *local* group displays a relatively small variance estimate with cases tightly clustered around the mean ($Var. = 0.09$ for editorial valence and $Var. = 0.15$ for selection valence), whereas the *cable* group displays a relatively large variance estimate with cases widely dispersed around the mean ($Var. = 1.88$ for editorial valence and 0.79 for selection valence). Thus, the three niches are substantially different from one another: The elite niche is solidly liberal with both individuals and organizations ranging from left-leaning to solid left; the local niche is primarily centrist, with individuals and organizations tightly clustered around the neutral point; and the cable niche is the most ideologically diverse, with a centrist average but also a broad array of individuals and organizations on either side.

Hypothesis Testing

Next, we used multilevel modeling to assess the effects of individual ideology on selection valence, while also accounting for how those effects are shaped by the news niches

(H1). Because the time-ordered and grouped data structure could produce measurement invariance, it is important to test whether the outcome varies across sampling frames and niches. A null multilevel model shows that it does vary across these structures (17 frames x 3 niches = 51 groups) with a standard deviation of approximately .31, and a comparison with a null linear model (which does not account for time and group structures), shows that the multilevel model is a better fit to the data ($\chi^2 = 85.94, p < .001$). Therefore, it is necessary to include both sampling frame and news niche as grouping variables (3 niches x 17 frames = 51 groups). Level-one predictors are centered on the group mean to ease interpretation of the fixed effects. Results are shown in Table 1. The first model in the table shows the fixed and random effects of individual ideology. The fixed effect is positive and statistically significant ($b = 0.06, SE = 0.01, p < 0.001$). But while the intercept for selection valence varies between groups ($Var. = 0.09$), the random effect of individual ideology is close to zero ($Var. = 0.00$), resulting in a relatively low ICC of 0.17. These results indicate that while the mean for selection valence varies across groups, the effect of individual ideology on selection valence is relatively stable. Thus, H1 is confirmed.

The next two models in the table layer on contextual effects for organizational ideology (H2) and audience ideology (H3). These can be interpreted as characteristics of news niches: Audience ideology is calculated as the group mean of individual ideology within each niche, and organizational ideology is calculated as the group mean of editorial valence for all outlets within each niche. That is, the former captures the effects of *the ideology of other people within a niche*, and the latter captures the effects of *the editorial valence of organizations with a niche*. As shown in the table, both effects are statistically significant and also substantially larger than the effect of individual ideology. For audience ideology, the effect is $b = 0.43 (SE = 0.04, p < 0.001)$, and for organizational ideology, it is $b = 1.02 (SE = 0.09, p < 0.001)$. These effect sizes are

compared in a dot-and-whisker plot in Figure 2, which shows that the organizational effect is the largest (Cohen's $d = .30$) and the individual effect is the smallest ($d = .16$), with the audience effect close in magnitude to the organizational effect ($d = .28$). Therefore, these results show that while an individual's own political ideology matters when it comes to shaping the ideological valence of their news exposure, the editorial valence of organizations and audience members within the niche have a comparatively stronger relationships. H2 and H3 are confirmed.

To further explore the relationships among the various levels of analysis, and to answer RQ4, the final two models in Table 1 test whether individual ideology interacts with audience ideology and/or organizational ideology. Results show a marginal but non-significant interaction with audience ideology ($b = 0.02$, $SE = 0.01$, $p < .10$), and a statistically significant interaction with organizational ideology ($b = 0.08$, $SE = 0.03$, $p < .01$). These conditional effects are plotted in Figure 3, which shows that the positive effect of individual ideology is stronger where it aligns with audience and organizational ideology (with a caveat about one marginal interaction term)

Discussion

This study proposed extending the concept of niche news beyond the original framework of market segments based on partisan motivations (e.g., Stroud 2011) to incorporate audience-level characteristics that influence one's exposure to ideological news. Drawing on audience overlap studies (Barnidge et al., 2021; Fletcher & Nielsen, 2017; Majó-Vázquez et al. 2019, Murkerjee et al., 2018; Weeks et al., 2016), we develop an approach for situating people within discrete but overlapping clusters, arranged by shared preferences for news and public affairs information. Using this approach, we find three niches within the broad attention network, which we have labeled *right-leaning cable and television*, *left-leaning elite press*, and *local—aggregators*. These niches are empirically distinct from one another in terms of both the editorial

valence of organizations and the selection valence of individuals. Additionally, we find that the average ideology of the audience within each niche is a strong predictor of individuals' selection valence. Moreover, we find that audience ideology interacts with individual ideology, although the statistical significance is marginal ($p < .10$). These findings point to three broad conclusions: (1) identifiable niches can be detected and distinguished from one another; (2) the ideology of the audience within each niche is related to the news selections of individuals within that niche; and (3) individuals' news selections are related to predictors at multiple levels of analysis, and these may interact with one another. We will now elaborate about each of these conclusions.

First, it is clear from our analysis that news niches are identifiable features of the audience attention network, although it is also true that we observe considerable overlap among them. Furthermore, and in contrast to studies on audience overlap (Fletcher & Nielsen, 2017; Majó-Vázquez et al. 2019), we find some support for ideological fragmentation, as some, but not all, of the niches we observed were substantially different from others in terms of their ideological character, both at the organizational and individual levels. That said, our observations do not necessarily fit with the idea that segmentation occurs purely on ideological grounds. For example, while both organizations and individuals in the *elite press* niche were decidedly more left leaning than their counterparts in other niches, the other two niches did not cleanly align with a particular ideological slant. The *local—aggregator* niche is essentially centrist or perhaps even non-ideological, while the *cable* niche displayed a wide range of variation in terms of ideology. In particular, the *cable* niche is at once the most extreme—particularly on the right—but it also comprises both news organizations and individuals from across the political spectrum, indicating that audience members in this niche pay attention to both left- and right-leaning cable outlets (e.g., CNN and Fox News). At the individual level, we could speculate about the reasons why

people watch both despite strong theoretical predictions that they would watch one or the other. For example, it could be that these individuals shape their repertoires not around ideological preferences but around a preference for television news. Combined with non-avoidance, this might lead to at least some exposure to ‘the other side.’ Alternatively, we could hypothesize that some individuals enjoy watching ‘both sides,’ perhaps as a form of inoculation against oppositional arguments, or perhaps merely as a form of entertainment. At the organizational level, it is clear that cable television news channels operate in the same audience space, and this may be one reason why prominent shows on major cable channels frequently (and critically) reference one another on air (Benkler et al., 2018). Regardless of these post-hoc speculations, which could be formalized and tested in future research, our findings show that it is possible to detect distinct niches that are defined not only by the ideologies of organizations and individuals, but also by audience repertoires and organizational competition/symbiosis.

Second, our approach yields some novel insights about the role of other audience members in shaping individuals’ news selections. This kind of audience-level influence has been largely overlooked by the literatures on audience fragmentation and selective exposure. To forward theory in this area, we emphasize two key ideas: (1) news exposure in online environments may take on an ‘actuarial’ quality in that curation algorithms on major platforms use selection criteria that depend on the past behavior of others; and (2) if this kind of actuarial influence exists, it follows that an individual’s exposure would be *most* influenced by other individuals whose past news selections were similar to their own. The niche provides leverage over this prediction by classifying individual audience members according to their news tendencies and grouping them with other individuals who have similar tendencies. Tests of the hypothesis support our theory: We find a statistically significant influence of the average

ideology of audience members within a niche on the valence of news selections for individuals within that niche. While it is not possible to formally compare effect sizes observed at different levels of a multilevel model, it is worth noting that the effect size for audience ideology is more than 10 times the standard error, yielding a Cohen's d of .28, which is widely viewed as a small-but-substantial effect size, particularly in light of the relatively small effect sizes commonly observed in the field of communication. Moreover, this effect was estimated *while also accounting for the role of individual political ideology*, which has a smaller Cohen's d of .16 (remembering the caveat about comparing multilevel effect sizes), which makes it a relatively stringent test of the influence of audience ideology. These insights about the relative influence of audience ideology on individuals' news selections advances literature on selective exposure in an important way. While the literature has offered explanations based on individual motivations and/or psychology (Garrett, 2009; Knobloch-Westerwick & Meng, 2009; Stroud, 2011), the literature has not accounted for environmental factors related to sociotechnical changes, particularly the ways in which news curation algorithms shape individuals' exposure. Thus, our study adds a new layer to this ongoing conversation by showing how news selection is at least partially explained by these kinds of sociotechnical factors.

Third, our study advances theory by examining the interactions among influences at the individual, organizational, and audience levels. Prior literature has conceptualized the audience as an 'interaction' between news organizations and individuals (Livingstone, 2005; Webster, 2011). For example, Fletcher and Nielsen (2017) describe the audience as the interaction between system-level structures and audience preferences. Similarly, Stroud (2011) conceptualizes the news niche as the intersection of market competition and individual motivation. These ideas imply that news exposure is shaped by multiple levels of influence,

which can perhaps be traced to independent origins (market forces, psychology, sociotechnical features of platforms), but which necessarily interact with one another. Our study tests these interactions and finds that the relationship between individual ideology and the valence of news selection—that is, the core relationship at the heart of selective exposure theory—is stronger when an individual ‘belongs’ to a news niche in which the average organizational ideology aligns with their own. This study therefore advances theory by offering a framework for contextualizing the role of individual motivations in shaping news selection.

The conclusions of the study are limited in several important ways. First, while the research design does incorporate a ‘rolling’ time element, this over-time component does not include multiple responses from each participant in the study. Thus, the design reduces to a cross-section of the target population, and therefore the data cannot be used to make causal inferences. Future research is necessary to understand the causal effects of audience structures on individuals’ news selections. Second, the study relies on self-reported measures of news use. Prior research shows that survey respondents tend to underestimate the volume of news to which they are exposed, particularly in online settings (González-Bailón & Xenos, 2020). Potentially, this tendency is caused by poor recall, a cognitive shortcoming that could also affect our open-ended measures. That said, because these measures tend to require more cognitive effort than close-ended measures, we can be relatively certain that respondents were, in fact, exposed to the media they named in the survey. Another measurement limitation is related to systematic error inherent in open-ended media use measures. Whereas close-ended measures are more susceptible to non-systematic or random error (Mangold & Scharkow, 2021), open-ended measures may capture one-time or serendipitous encounters with media that do not reflect individuals’ habitual patterns of news use (Barnidge et al., 2021). To address this issue, the study employs a data

filtration method specifically tailored to the problem of systemic measurement error. Finally, the analyses presented in the paper are also limited. While the Louvain clustering algorithm is one of the fastest and most widely-used algorithms for detecting ‘communities’ within social networks, prior research shows that it may detect communities that are only loosely connected (Traag et al., 2019). Future research should embark on a systematic comparison of clustering algorithm performance for detecting news niches. Additionally, while the multilevel analysis has shown significant relationships at different levels of observation, these effects are not strictly comparable, and comparative interpretations of effect sizes should be made with caution.

This study offers a novel approach for detecting and analyzing niches within news audience networks. Doing so offers new insights in the study of audience fragmentation, taking advantage of a finer-grained approach to understanding the tendencies of specific segments of news audiences, and affording researchers the ability to examine multiple levels of influence on individuals’ news selections. Through these insights, we gain additional leverage over questions related to news selection and audience fragmentation. While prior research has dispelled claims about coherent ‘filter bubbles’ in the U.S. news audience, our analysis suggests that, nonetheless, there are identifiable audience segments characterized by ideological difference at multiple levels of observation, and this segmentation influences individuals’ news selections. Thus, even while segmentation may not unfold along strictly ideological lines, it could still play a role in contributing to the erosion or deterioration of social cohesion in the United States.

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Figure Captions

Figure 1
Boxplot of Editorial Valence and Selection Valence

Figure 2
Dot-and-Whisker Plot Showing Effects on Selection Valence at the Individual, Audience, and Organizational Levels from Hierarchical Models

Figure 3
Conditional Effects of Individual Ideology on Selection Valence at Various Levels of Audience Ideology and Organizational Ideology

Tables

Table 1

The Predictors of Selection Valence at the Individual, Audience, and Organizational Levels

	Model 1		Model 2		Model 3		Model 4		Model 5	
Fixed Effects	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Intercept	-0.21***	0.05	-0.14***	0.03	0.00	0.03	-0.14***	0.03	0.00	0.03
Age	-0.04***	0.01	-0.04***	0.01	-0.04***	0.01	-0.04***	0.01	-0.04***	0.01
Gender (1 = Female)	0.01	0.04	0.00	0.04	0.00	0.04	0.00	0.04	0.00	0.04
Race (1 = Person of Color)	-0.15***	0.04	-0.15***	0.04	-0.16***	0.04	-0.15***	0.04	-0.15***	0.04
Education	-0.01	0.01	-0.01	0.01	-0.01	0.01	-0.01	0.01	-0.01	0.01
Income	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
Political Interest	-0.04*	0.02	-0.04*	0.02	-0.04*	0.02	-0.04*	0.02	-0.04*	0.02
Individual Ideology	0.06***	0.01	0.06***	0.01	0.06***	0.01	0.06***	0.01	0.07***	0.01
Contextual Effects of Niche	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Audience Ideology			0.43***	0.04			0.44***	0.04		
Organizational Ideology					1.02***	0.09			1.03***	0.09
Interactions	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Individual Ideology *							0.02 [#]	0.01		
Audience Ideology										
Individual Ideology *									0.08**	0.03
Organizational Ideology										
Random Effects	<i>Var.</i>		<i>Var.</i>		<i>Var.</i>		<i>Var.</i>		<i>Var.</i>	
Intercept Niche:Frame	0.09		0.01		0.01		0.01		0.01	
Individual Ideology	0.00		0.00		0.00		0.00		0.00	
Residual	0.45		0.44		0.44		0.44		0.44	
Fit Statistics										
LR	-1,720.00		-1,686.47		-1,685.37		-1,688.34		-1,684.30	
ICC	0.17		0.02		0.02		0.03		0.02	

Notes: Cell entries are parameter estimates from multilevel models (MLM) with random slopes and intercepts. Outcome variable is individual selection valence (+ = right). $N = 1,444$. Groups = 51 (3 niches by 17 frames). [#] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$. Data weighted by education and income. Variables are group-mean centered. Contextual effects are at different levels of analysis and not directly comparable.

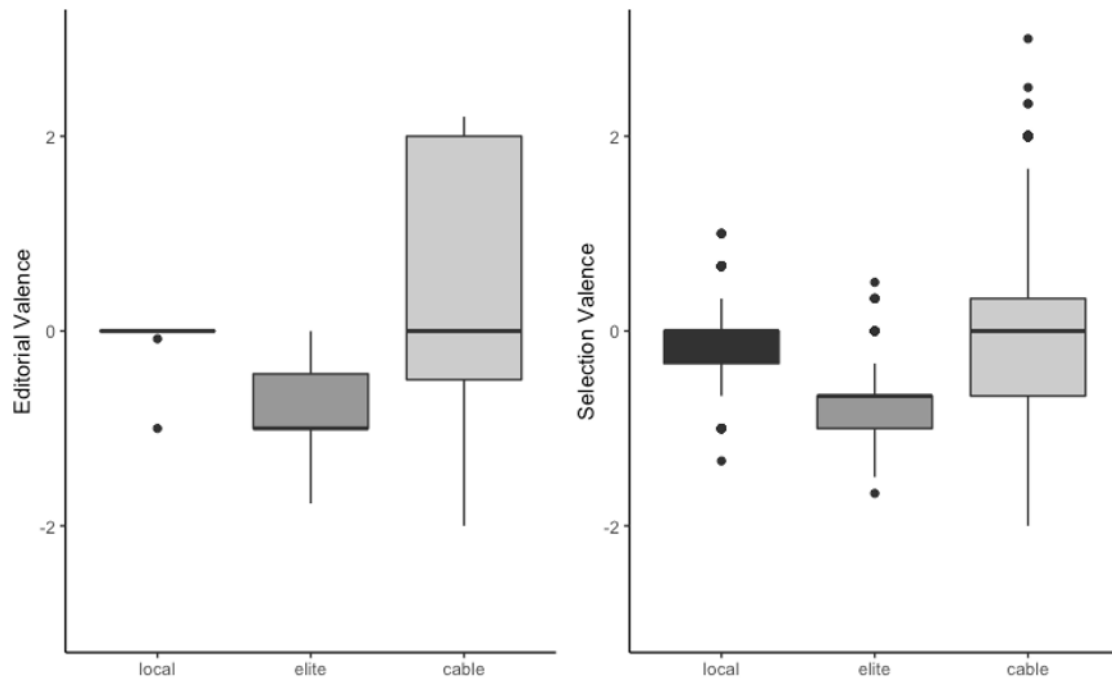
Figures

Figure 1. Dot and whisker plot of niches and news ideology at organizational; and individual levels

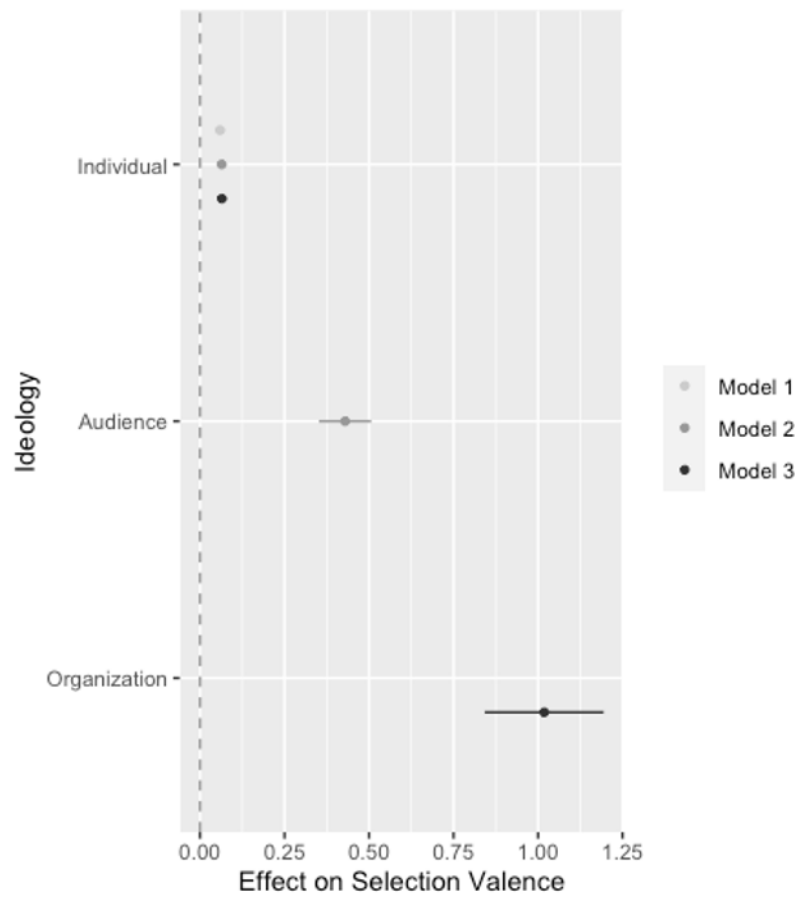


Figure 2. Effect size of level of analysis on news ideology

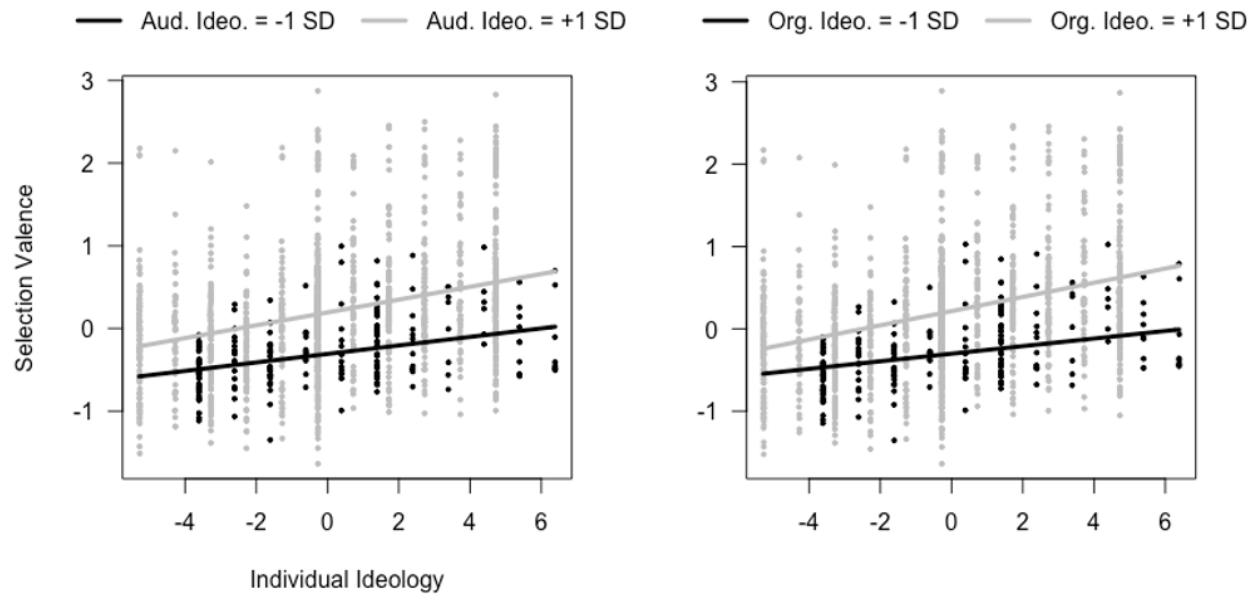


Figure 3. Interaction plots.

Appendix A:
Sample Demographics and Weighting Scheme

Table A1

<i>Demographic Profile of Survey Sample and Target Population</i>		
	Current Survey	U.S. Census Bureau: 2016 American Community Survey
	(%)	(%)
Gender		
Male	49.0	49.2
Female	51.0	50.8
Age (median)	35-44	37.7
Ethnicity/race		
White	59.6	62.0
Black or African American Native	15.9	12.3
American Indian and Alaska	1.5	0.7
Native		
Asian	12.9	5.2
Native Hawaiian and other Pacific	0.2	0.2
Islander		
Hispanic	7.6	17.3
Household income (median)	US \$60,000–75,000	US \$57,617
Education		
Less than high school graduate	2.1	13.0
High school diploma or equivalent	15.7	27.5
Some college or associate degree	26.2	29.2
Bachelor's degree or higher	56.1	30.3

Note: The US Census Bureau 2016 American Community Survey is available online at

<http://factfinder.census.gov/>

Table A2

Survey Weights

Income	
Category	Weight
Less than \$15k	1.02
\$15k to 30k	1.00
\$30k to \$45k	1.00
\$45k to 60k	1.00
\$60k to \$75k	1.00
\$75k to \$100k	0.86
\$100k to \$150k	0.95
More than \$150k	0.95
Education	
Category	Weight
None, or grades 1-8	5.75
High school incomplete (grades 9-11)	1.77
High school graduate (grade 12 or GED certificate)	1.33
Some college, no 4-year degree (includes Associate's Degree)	0.89
Technical, trade, or vocational school after high school	0.65
College graduate (Bachelor's Degree)	0.42
Post-graduate training/professional school after college	0.42

Note. Income measured as annual household income. Education measured in terms of highest level completed. Final survey weights created by multiplying weights for income and education.

Appendix B:
Lists of News Organizations Included in Study

Table B1

List of News Organizations Named in Survey

<i>Rank</i>	<i>Organization</i>	<i>Mentions</i>
1	Fox News	650
2	CNN	642
3	New York Times	318
4	ABC News	306
5	Local TV News	292
6	NBC News	246
7	CBS News	206
8	MSNBC	186
9	Local News	179
10	Aggregators	162
11	Social Media Sites	159
12	Yahoo News	130
13	BBC News	110
14	Washington Post	106
15	Neutral Sphere	66
16	International Media	56
17	Wall Street Journal	49
18	Right-Leaning Sphere	46
19	NPR	43
20	USA Today	42
21	News Magazines	41
22	Huffington Post	40
23	Buzzfeed	39
24	MSN	34
25	PBS	32
26	CNBC	31
27	One America News	21
27	Los Angeles Times	21
29	Local News Websites	19
29	New York Post	19
29	Left-Leaning Sphere	19
32	Politico	16
32	Newsmax	16
34	Local Radio	14
34	Breitbart	14
36	Chicago Tribune	12
37	Univision	11

Note. Open-ended responses coded by three-step filter a) prominence b) if less prominent collapsed into outlet/platform, c) receiving < 10 mentions coded as valanced spheres.

Appendix C: Full Results for News Niches

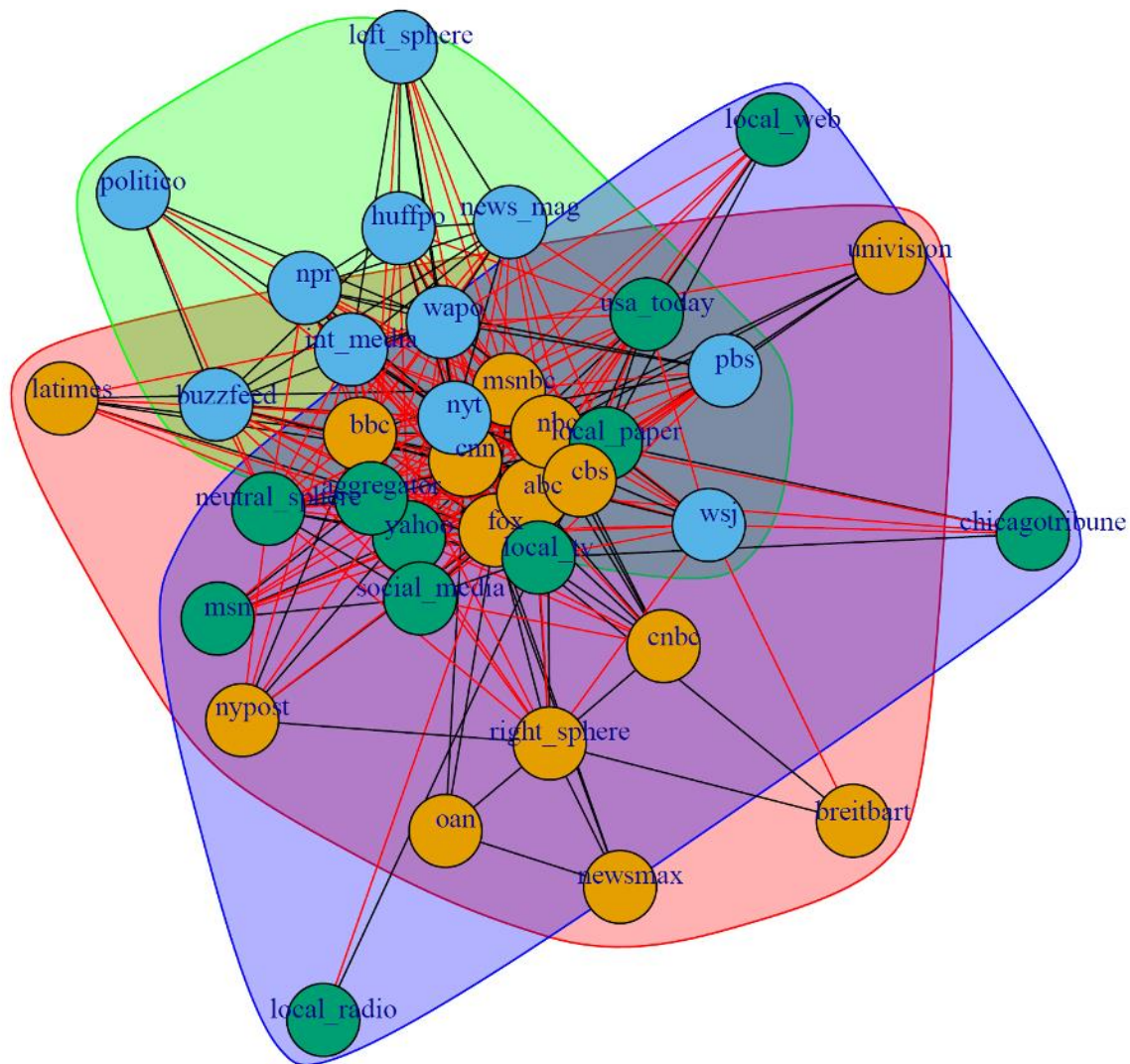


Figure C1

Network Projection Based on Louvain Cluster Analysis

Note: Orange = right-leaning cable & television; blue = left-leaning elite press; green = local—aggregator

Table C1

Organizational Niche Membership

Niche 1		Niche 2	Niche 3	
<i>Right-Leaning Cable & TV</i>		<i>Left-Leaning Elite Press</i>	<i>Local/Aggregators</i>	
ABC*	LA Times*	Huffington Post	Aggregators	USA Today
BBC*	MSNBC*	NY Times	Chicago Trib.	Yahoo
Breitbart	NBC*	Washington Post	Local Paper	
CBS*	Newsmax	Politico	Local Radio	
CNBC*	NY Post	NPR*	Local TV	
CNN*	OAN	Buzzfeed	Local Web	
Fox News	Right Sphere	International Media*	MSN	
	Univision*	Wall Street Journal*	Neutral Sphere	
		New Magazines*	Social Agg.	
		PBS*		
		Left Sphere		

Note. * Denotes organization that does not conform to theoretical expectations based on selective exposure theory.

Table C2

Means and Variances for Editorial Valence and Selection Valence

Statistic	Local/Aggregators	Elite	Cable	Full Sample
Editorial Valence				
Mean	-0.10	-0.79	0.41	-0.10
Variance	0.09	0.27	1.88	1.08
<i>N</i>	11	11	15	37
Between-Group Variance		4.57		
Within-Group Variance		0.88		
Test Statistic		<i>F</i> (2) = 5.19, <i>p</i> = 0.011		
Selection Valence				
Mean	-0.07	-0.73	0.03	-0.10
Variance	0.15	0.15	0.79	0.62
<i>N</i>	344	195	905	1,444
Between-Group Variance		41.29		
Within-Group Variance		0.51		
Test Statistic		<i>F</i> (2) = 81.20, <i>p</i> < .001		

Note: Outcome variable has an observed range of 5.0 (Min. = -2.0, Max. = 3.0). Data weighted by education and income.