Media Measurement Matters: Estimating the Persuasive Effects of Partisan Media with Survey and Behavioral Data

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Abstract

To what extent do partisan media influence political attitudes and behavior? Although recent methodological advancements have improved scholars' ability to identify the persuasiveness of partisan media, past studies typically rely on self-reported measures of media preferences, which may deviate from real-world news consumption. Integrating individual-level web-browsing data with a survey experiment, we contrast survey-based indicators of *stated* preferences with behavioral measures of *revealed* preferences, based on the relative volume and slant of news individuals consume. Overall, we find that these measurement strategies generate differing conclusions regarding heterogeneity in partisan media's persuasive impact. Whereas our stated preference measure raises the possibility of persuasion by cross-cutting sources, our revealed preference measures suggest that, among consumers with more polarized media diets, partisan media exposure results in limited attitude change, with any observed effects driven primarily by politically concordant sources. Together, these findings underscore the importance of careful measurement for research on media persuasion.

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Do partisan media contribute to, or merely reflect, partisan polarization in the United States? The prevailing view among scholars, dating back to the mid-twentieth century (Berelson, Lazarsfeld, and McPhee 1954), holds that individuals largely consume content that affirms their prior attitudes. Whether via active self-selection into partisan "echo chambers" (Sunstein 2001) or algorithmic sorting into "filter bubbles" (Pariser 2011), the assumed result is the same: individuals generally seek out and encounter news that is consistent with their preexisting political beliefs. This narrative has led some to conclude that the media no longer play an active role in informing the public (Benkler 2006) and instead make voters more extreme (Levendusky 2013). A growing body of research, however, casts doubt on the pervasiveness of this phenomenon. Numerous efforts to track individuals' real-world behavior find that partisan echo chambers are far less prevalent than previously assumed (e.g., Barberá et al. 2015; Cardenal et al. 2019; Guess 2021), and recent work suggests that partisan media can persuade consumers of a diverse range of media (de Benedictis-Kessner et al. 2019).

These conflicting accounts raise questions about the extent to which individuals' media preferences shape their consumption of and responses to partisan media. To this end, previous studies have sought to integrate elements of media choice into randomized experiments. Such research designs, often termed "patient preference trials," allow for more realistic and targeted assessments of partisan media's persuasive impact (e.g., Arceneaux and Johnson 2013; Knox et al. 2019; Levendusky 2013). However, they often require respondents to self-report their media preferences—an approach that may be prone to error and misreporting (Dvir-Gvirsman, Tsfati, and Menchen-Trevino 2016; Prior 2013). Consequently, past studies of partisan media may be limited in their ability to extrapolate experimental estimates to real-world behavior.

In this paper, we use innovative measurement strategies to examine the prevalence of selective exposure to partisan media and highlight the effects of such exposure on individuals' political attitudes and behavior. We delineate two dimensions of media preferences, based on the relative *volume* and *slant* of news people consume, and estimate both dimensions using individual-level web-tracking data. In an advancement over previous work, we then integrate these measures with

a survey experiment to identify points of heterogeneity in partisan media's persuasive impact. Overall, we find that both conservative and liberal sources can persuade individuals who generally prefer entertainment over news—regardless of whether this preference is registered via survey self-reports or behavioral indicators. However, when it comes to more avid consumers of partisan media, these two sets of measures point in different directions. Whereas our stated preference measure suggests that exposure to oppositional outlets can meaningfully shape public opinion among individuals who report a preference for partisan media, our revealed preference measures suggest limited attitude change among individuals with more polarized media diets. Moreover, when attitude change does occur within this latter group, it seems to mostly reflect persuasion by ideologically aligned sources; that is, MSNBC tends to persuade consumers with more liberal media diets, and Fox News tends to persuade consumers with more conservative media diets.

These findings contribute to ongoing debates about the prevalence and consequences of selective exposure to partisan media. Although our stated preference measure suggests that exposure to cross-cutting media sources can potentially moderate public opinion, our revealed preference measures offer a less sanguine assessment. At best, these measures indicate that partisan media have minimal effect on the policy attitudes of citizens with more extreme media diets. However, they also suggest that, under certain conditions, partisan media may contribute to polarization due to one-sided persuasion by ideologically aligned sources. Collectively, these results underscore the importance of careful measurement for research on partisan media and suggest that scholars may come to differing conclusions about the nature of media persuasion depending on how media preferences are measured.

Media Self-Selection versus Persuasion

Previous research on partisan media and polarization in the United States primarily falls into one of two camps (for a review, see de Benedictis-Kessner, Baum, and Berinsky 2020). The first, drawing on theories of *selective exposure* (Berelson, Lazarsfeld, and McPhee 1954; Sears and Freedman 1967), frames media consumption as a consequence of polarization. As the number and

diversity of news sources have proliferated, consumers can now exercise substantially more control over the information they consume. When faced with this choice, consumers may seek out news from sources with which they already agree (Campbell et al. 1960; Iyengar and Hahn 2009; Stroud 2011), including partisan media outlets that tend to produce programming that is more favorable to one party over the other (Baum and Groeling 2008; Jamieson and Cappella 2008). By this logic, media selectivity is a symptom of broader trends; as partisan animosities have intensified, people have increasingly chosen to tune out messaging from the other side. A second perspective, however, holds that partisan media exacerbate polarization by *persuading* consumers to adopt more extreme attitudes (Jerit and Barabas 2012; Levendusky 2013). According to this view, partisan media deepen existing divisions by presenting one-sided views that their audiences then adopt.

These two perspectives have largely inspired separate lines of research, with studies generally investigating either selective exposure or media persuasion, but not both. Consequently, the methods developed within the confines of these two strands of research are often ill-equipped to study the joint effects of both processes. Accounting for self-selection when estimating media's causal effects thus presents a methodological challenge. In response, scholars have sought to integrate measures of media preferences into the estimation of partisan media's persuasive impact (Feldman et al. 2013; Gaines and Kuklinski 2011). One method, employed by Arceneaux, Johnson, and Murphy (2012), contrasts the effects of partisan media among respondents assigned to a forced- versus free-choice group. Respondents in the former group are randomly assigned to view liberal, conservative, or entertainment content, whereas respondents in the latter group are allowed to select the content they would like to consume. Researchers then compare treatment effects across these two groups to determine the extent to which observed differences in attitudes across news audiences are a function of selective exposure versus persuasion. An alternative strategy, known as a "patient preference trial" (Arceneaux and Johnson 2013, 2015; Levendusky 2013), instead measures respondents' self-reported media preferences before randomizing exposure to media content. To assess the influence of media preferences on persuasion, researchers then stratify respondents by stated media preferences and calculate separate treatment effects for each subgroup.

Knox et al. (2019) unify these two approaches into a common framework, known as the Preference-Incorporating Choice and Assignment (PICA) design (see also de Benedictis-Kessner et al. 2019). The PICA design both randomly assigns participants to a free- versus forced-choice group *and* measures all participants' stated media preferences prior to the experimental procedure. This approach allows researchers to estimate the persuasiveness of partisan media, conditional on media preferences, while also accounting for any mismatch between individuals' preferences and their choice of media within the experiment. Despite these benefits, however, past applications of the PICA design share a limitation of prior methods: they generally rely on self-reported measures of media preferences when estimating effect heterogeneity across groups.

Measuring Media Preferences

Building on this work, we contrast *stated* preference measures, which draw on survey self-reports of media preferences and exposure, with *revealed* preference measures, which treat digital trace data as indicators of individuals' latent media preferences. To date, studies of media persuasion have predominantly relied on survey-based measures. Despite their convenience, however, these measures suffer from several well-known limitations (Parry et al. 2021). First, they generally ask respondents to select their preferred media outlet(s) from a *limited, pre-specified* list of options, thereby excluding a wide range of potentially relevant sources. Second, they often ask respondents which outlets they favor without measuring the *intensity* of such preferences. Finally, they require respondents to accurately *recall* and *report* their past behavior—a task that may be prone to error (Tourangeau 2000) and subject to social desirability biases (Clay, Barber, and Shook 2013; Konitzer et al. 2021). Reflecting these limitations, self-reported data often yield inflated estimates of media (Dvir-Gvirsman, Tsfati, and Menchen-Trevino 2016; Prior 2009) and news exposure (González-Bailón and Xenos 2022; Konitzer et al. 2021; Vraga and Tully 2018).

Digital trace data that unobtrusively record information about individuals' online news consumption can circumvent some of these challenges by directly measuring individuals' media consumption "in the wild," across a much more expansive set of online news sources. Nevertheless,

these data are not without limitations of their own. For one, the use of web-tracking data requires stringent assumptions about the relationship between online news consumption and media preferences (Stier et al. 2019). Additionally, digital trace data by definition exclusively capture online activities, without accounting for other sources of news (e.g., print, television, or radio, see Fletcher and Nielsen 2017; Muise et al. 2022). Finally, to translate web-browsing behavior into usable measures of revealed media preferences, scholars typically rely on external estimates of domain-level ideological slant, which may themselves be measured with error. As such, despite their enhanced granularity, digital trace data may produce relatively noisy estimates of individuals' revealed media preferences. Given the differing strengths and weaknesses of survey and behavioral measures, it is important to determine whether, and to what extent, these measurement strategies generate divergent conclusions about the nature and consequences of partisan media exposure.

Estimating Selective Exposure and Media Persuasion

Comparing survey and behavioral measures of media preferences can help shed light on two key research questions. First, evaluating discrepancies between these measures can advance scholars' knowledge of the pervasiveness of selective exposure. Although individuals tend to assert strong preferences for like-minded news in surveys (Stroud 2011) and experiments (Iyengar and Hahn 2009), there is growing evidence that partisan media selectivity may be less widespread than these works would suggest. In particular, a number of recent studies, drawing on digital trace data, document close correspondence in the media diets of Americans across the political spectrum (e.g., Eady et al. 2019; Guess 2021; Yang et al. 2020; though see Tyler, Grimmer, and Iyengar 2022). According to this work, members of the public often consume online news from politically aligned sources but also regularly frequent mainstream, centrist, and even ideologically opposed sites.

Moreover, these dynamics are not limited to the United States. Scholars have observed similar trends in other countries, including Israel (Dvir-Gvirsman, Tsfati, and Menchen-Trevino 2016), Germany (Scharkow et al. 2020), and Spain (Cardenal et al. 2019). Nevertheless, the United States appears to be anomalous in its levels of self-reported audience polarization in surveys (Fletcher,

Cornia, and Nielsen 2020; Fletcher, Robertson, and Nielsen 2021), with far more muted patterns of media selectivity evident in countries like Japan (Kobayashi and Ikeda 2009), the Netherlands (Bos, Kruikemeier, and de Vreese 2016), and the United Kingdom (Dubois and Blank 2018). In short, whereas survey data—particularly in the United States—suggest high levels of selective exposure, web-browsing data instead reveal less audience fragmentation across outlets. Altogether, these studies point to a possible disconnect between stated and revealed media preferences, with the former potentially exaggerating the degree of polarization in individuals' media diets.

Improved measurement of individuals' media preferences can also illuminate the degree to which selective exposure to partisan media moderates the persuasiveness of these media. Following previous work, both within (e.g., Druckman 2022) and outside the political domain (e.g., O'Keefe 2015; Petty, Briñol, and Priester 2008), we conceptualize media persuasion as opinion change in response to new information; specifically, we assess whether, and under what conditions, individuals revise their attitudes and beliefs to more closely align with the media to which they are exposed (for similar approaches, see, e.g., Broockman and Kalla 2022; Coppock, Hill, and Vavreck 2020; Gerber et al. 2011; Guess et al. 2021). These patterns of attitude change may, however, vary widely across groups. Although early research on media effects held that people's issue opinions were largely immune to media persuasion (Berelson, Lazarsfeld, and McPhee 1954; Campbell et al. 1960), subsequent studies have since suggested that the media can powerfully affect political attitudes and behavior—at least among certain sub-populations (Jerit and Barabas 2012; Levendusky 2013). In particular, when exposed to political messaging, citizens who are inattentive or indifferent to politics appear highly persuadable, given that their attitudes tend to be less well-formed. However, more engaged citizens tend to be harder to influence, as they both possess stronger prior beliefs and can more effectively resist counter-attitudinal messaging (Taber and Lodge 2006; Zaller 1992).

Building on this work, we argue that the persuasiveness of a given media source depends heavily on one's overarching media preferences. We distinguish—both empirically and conceptually—between two dimensions of media preferences. First, individuals may have preferences over the relative *volume* of news they consume, with some preferring to primarily consume entertainment

and others preferring a larger dose of news (Prior 2007, 2013). Second, individuals may have preferences over the *slant* of news they consume—namely, whether they are partial to content that is left-leaning, right-leaning, or moderate. These dimensions are undoubtedly related but nonetheless distinct. For instance, some people may gravitate toward entertainment but, when consuming news, favor coverage with a specific political bent, whereas others may instead seek out large amounts of centrist (and/or ideologically heterogeneous) content. Both dimensions also have clear relevance to the study of media persuasion; past work demonstrates that partisan media's influence reflects both the amount of news one regularly consumes, as well as whether this coverage affirms or challenges one's worldview (Arceneaux and Johnson 2013; de Benedictis-Kessner et al. 2019).

Identifying the factors that moderate partisan media's influence can thus help to clarify the broader impact of exposure to this messaging. If partisan media alter the opinions of people who would not normally consume political news, they may polarize broad swaths of the population who are incidentally exposed to this content when browsing social media or other sites (Fletcher and Nielsen 2018; Settle 2018). Likewise, if partisan media are most convincing to politically aligned consumers, then these sources may make already-extreme individuals even more extreme (Levendusky 2013). However, such exposure could also have a moderating influence if partisan media can reach across the aisle—for example, if Fox News is persuasive to liberals or MSNBC is persuasive to conservatives. Understanding the normative implications of a media ecosystem rife with partisan news therefore requires that we determine whether, and in what ways, individuals' media preferences affect the persuasive power of these outlets.

Which of these patterns emerges, however, may depend on how we estimate media preferences. Although most media persuasion studies operationalize preferences using survey-based measures, responses to these items might be more expressions of respondents' political identities than reflections of their behavior (Brenner and DeLamater 2016; Hart et al. 2020; Prior 2013); for example, individuals might report a preference for partisan media in surveys, even if they only sporadically visit these outlets in practice. The net effect of such discrepancies, however, is theoretically ambiguous. On one hand, reporting a preference for a given partisan media outlet does not mean

that people will entirely tune out messaging from the other side. Though individuals may specify a preference for Fox News in a survey, they might still be open to information from MSNBC (or vice versa). Hence, we might be more likely to observe persuasion by counter-attitudinal sources when using stated versus revealed preference measures. On the other hand, stated preferences, precisely because of their expressive nature, may provide inflated estimates of persuasion by pro-attitudinal sources. Even if individuals' media diets are not especially polarized, they may resist persuasion from opposing outlets—particularly those with well-established political reputations (Baum and Gussin 2007). These conflicting viewpoints guide the analyses that follow.

Research Design and Data

To adjudicate between these competing predictions, we integrated digital trace data with an online survey experiment. We contracted with comScore, a media analytics company, to recruit a diverse sample of 3513 American adults in February 2018. ComScore identifies panelists via ads and affiliate applications that offer incentives in exchange for their participation. Panelists explicitly agree to have their online web-browsing behavior tracked via a "software meter" program that they install upon enrolling in the panel.[1] Overall, of the 3513 respondents who participated in the survey experiment, 3383 opted into the web-tracking portion of the study, and 3354 visited at least one news domain prior to the study (M_{visits} = 264; 97.1% of respondents have $\geq$ 20 visits), thereby enabling us to estimate their revealed media preferences.[2]

[1] One concern when using web-tracking data is that individuals who consent to have their search history tracked may differ systematically from the population at large. Past research, however, finds that participants who opt into these types of panels look quite similar to other members of the public, for instance, in their attitudes about online privacy (Guess 2021).

[2] Appendix A reports sample demographics. Because our respondents are not a representative sample of U.S. adults, Appendix Q also reproduces all analyses using raked survey weights.

Experimental Design

To measure media persuasion, we implemented a two-arm survey experiment, following the recommendations of Knox et al. (2019). In the first stage of the study, we measured respondents' stated media preferences by asking them which of three sources they prefer: Fox News (the conservative option), MSNBC (the liberal option), or the Food Network (the entertainment option).[3] We selected Fox News and MSNBC as our partisan media exemplars, as existing studies of media persuasion commonly contrast these two networks (e.g., Arceneaux, Johnson, and Murphy 2012; Levendusky 2013; Searles et al. 2022), and they tend to be closely associated with the Republican and Democratic parties, respectively (Jamieson and Cappella 2008; Ladd 2012). After a "washout" phase, during which respondents completed a series of distractor tasks, we then randomly assigned respondents to either a free- or forced-choice group. Respondents in the forced-choice group were randomly assigned to view articles attributed to one of the three sources, whereas respondents in the free-choice group were able to choose which of these sources they wanted to read. When estimating media persuasion in our experiment, we focus on respondents assigned to the forced-choice group (n = 1757), as the use of random assignment allows for more robust causal inference within this group. However, we also use responses from the free-choice group (n = 1756) to help validate our measures of stated and revealed preferences and contextualize our results.

Each respondent viewed two articles, attributed to the same media outlet. We constructed these stories by adapting real news reports into articles of comparable length (see Appendix B). The entertainment articles provided tips for effective grocery shopping, whereas the partisan media articles discussed education policy, including charter schools and voucher programs. Following substantial pre-testing, we chose to focus on education, as this was both a prominent issue at the time of our study and one where polling indicated a lack of strong partisan polarization. However,

[3]Because of our focus on partisan media, and following past work (e.g., Arceneaux and Johnson 2013; Searles et al. 2022), we did not include a centrist outlet as a comparison case. However, future studies should seek to measure stated preferences across a more diverse set of sources.

in the conclusion, we discuss how our results might have differed had we focused on a more salient topic. The news articles followed a nearly identical structure but varied in their slant, such that Fox News supported more conservative reforms and MSNBC endorsed more liberal positions. Finally, we asked respondents twelve questions about their opinions on education policy, which we formed into an *attitudinal index*, and four questions about actions they might take in response to the articles (e.g., discuss with friends, post on social media), which we combined into a *sharing index*.[4]

Web-Browsing Data

We connected these experimental data to web-browsing records that tracked each respondent's online news consumption in the month prior to the study.[5] ComScore provided a list of visits to all URLs that were classified as "News/Information" in their Client Focus Dictionary (1,367,022 unique site visits).[6] We used these individual-level web traffic data to calculate two measures of revealed media preferences, in line with the two-dimensional model of preferences detailed above.

Relative Volume of News versus Non-News

First, we estimated respondents' *revealed preferences for news versus non-news*, based on the volume of news they consumed prior to the study, normalized by their overall web activity (`"relative volume"`). In addition to supplying a list of each respondent's news visits, comScore also reported the total number of URLs each respondent visited over the course of the pre-study

[4]These scales were both internally consistent, with Cronbach's $\alpha = 0.91$ for the attitudinal index and $\alpha = 0.84$ for the sharing index. The exact wording of each outcome is listed in Appendix C.

[5]ComScore logged activity across all browsers installed on users' devices, an approach that mostly captured desktop browsing but also covered mobile phones/tablets for a small subset of respondents.

[6]ComScore classified the content of URLs based on their parent domain (e.g., `usatoday.com`) but excluded several financial outlets and sub-domains related to weather. In Appendix S, we demonstrate that, even under extreme assumptions about the quantity and skew of visits to financial sites, the inclusion of these sources would not alter our main results.

period. To measure respondents' revealed preferences for news versus non-news, we divided the number of URLs each respondent visited that were classified by comScore as news by the total number of URLs they visited during the pre-study period.[7]

Relative Slant of News Consumption

Next, we estimated respondents' *revealed preferences for ideological content*, based on the slant of the domains they visited during the pre-study period (`"relative slant"`). To do so, we merged the web-tracking data with the "alignment scores" created by Bakshy, Messing, and Adamic (2015), hereinafter referred to as BMA. BMA constructed these domain-level scores by averaging the ideology of Facebook users who shared links from a given domain.[8] The resulting scores range from approximately -1 to 1, where lower scores are more liberal and higher scores are more conservative. Importantly, these scores are an indicator of *relative*, rather than *absolute* slant, making it difficult to definitively judge whether a given outlet (or respondent) should be classified as liberal, conservative, or moderate. Nevertheless, they allow us to distinguish which outlets have comparatively more liberal versus conservative audiences, and therefore which respondents exhibit comparatively more liberal versus conservative media diets. As a robustness check, we also merged

[7]This approach arguably yields an inflated measure of news consumption, as many news outlets also publish entertainment content. Nonetheless, as described below, when we subset our relative volume measure just to URLs predicted to correspond to "hard news," we obtain similar results.

[8]We chose to use the BMA scores for several reasons. First, these scores have been widely used in past studies of selective exposure (e.g., Guess 2021; Levy 2021; Peterson and Iyengar 2021), thereby allowing us to benchmark our results against prior work. Second, although BMA use domain audience as a proxy for website ideology—an approach that may not wholly capture these sources' political leaning—their scores align closely with estimates obtained via alternative methods (e.g., crowdsourced ratings, expert coding, and survey data). For instance, the BMA scores strongly correlate with those of both Budak, Goel, and Rao (2016) and Fletcher, Cornia, and Nielsen (2020, Pearson's correlations of 0.91 and 0.96, respectively).

our web-tracking data with the more recent scores calculated by Eady et al. (2019), based on link sharing on Twitter; results using this measure are available in Appendix P.

Overall, we were able to match alignment scores from 197 domains in the BMA data to our web-tracking data, covering 82% of respondents' visits to news domains (1,123,321 matched visits, see Appendix D). We then calculated an alignment score for each respondent by taking an average of the alignment scores associated with their site visits. Following previous work (Guess 2021; Yang et al. 2020), when calculating these scores, we excluded visits to two web portals: `msn.com` and `aol.com`. Web portals are distinct from traditional news sites, such as `foxnews.com` or `nytimes.com`, in that they primarily aggregate links to other sources, rather than distribute their own independent content. Though portal sites are some of the most popular news sources in our data (see Appendix E), people often frequent these sites for reasons other than consuming political information; as such, visiting these sites does not necessarily imply a preference for centrist content (for a discussion, see Tyler, Grimmer, and Iyengar 2022). Importantly, however, our decision to remove these sites from our relative slant measure does not substantially alter our experimental estimates.[9]

Of note, for our primary analyses we treat all URLs within a particular domain equivalently, regardless of their substantive content. This approach marks a departure from past work that focuses solely on stories that are likely to contain political news (e.g., Guess 2021; Tyler, Grimmer, and Iyengar 2022; Wojcieszak et al. 2021; though see Yang et al. 2020). Although we recognize that articles within a given domain likely vary substantially in their ideological leaning (see Green et al. 2021), we nonetheless assume that a visit to *any* URL within a given news domain provides valuable insight into a respondent's media preferences. This assumption is motivated by the observation that partisan media selectivity often manifests even in the context of "soft news" topics (Iyengar and Hahn 2009), suggesting that visits to news domains for non-political purposes still confer

[9]We present results with `msn.com` and `aol.com` in Appendix N and results excluding both these sites and `yahoo.com/news` in Appendix O. Replicating other work, we find that including portal sites in our analysis makes respondents appear marginally less polarized in their media consumption.

meaningful information about one's media preferences. However, as an alternative approach, we also classified URLs based on whether their content was likely to correspond to "hard news" (460,236 matched visits, excluding portals) and re-estimated our revealed preference measures using just these URLs (for more details, see Appendix L).

Measurement Validation

Before presenting our experimental results, we first assess the extent to which our two behavioral measures of revealed preferences align with our survey-based measure of stated preferences. Although we expect the heightened granularity of the digital trace data to enable more fine-tuned measurement of individuals' media preferences, revealed and stated preference measures could also point in the same direction and therefore give rise to similar experimental estimates. To evaluate these two measures, we compare the distributions of our revealed preference measures across stated preference groups. As summarized in Appendix F, for our first dimension of media preferences—the relative *volume* of news that individuals consume—we find that people who state a preference for entertainment indeed tend to visit a smaller proportion of news domains than those who state a preference for partisan media. However, these bivariate differences are quite small and disappear in multivariate regression models that control for self-reported news exposure and other background characteristics (e.g., gender, race, and political knowledge, see Figure F3). Moreover, we observe substantial heterogeneity in news consumption behavior among respondents with identical stated preferences (see Figures F1-F2). Collectively, these patterns suggest that survey-based measures may be an overly coarse approximation of relative preferences for news versus non-news.

To what extent, though, do stated preference measures accurately capture the *ideological* balance of individuals' media diets? To answer this question, we next examine the distributions of ideological alignment scores, based on the relative slant of the news domains respondents visited prior to the experiment. Replicating recent work (e.g., Eady et al. 2019; Guess 2021), we observe substantial overlap in the distributions of alignment scores across our three stated preference groups. Figure 1 plots visit-level alignment scores along the horizontal axis, segmented

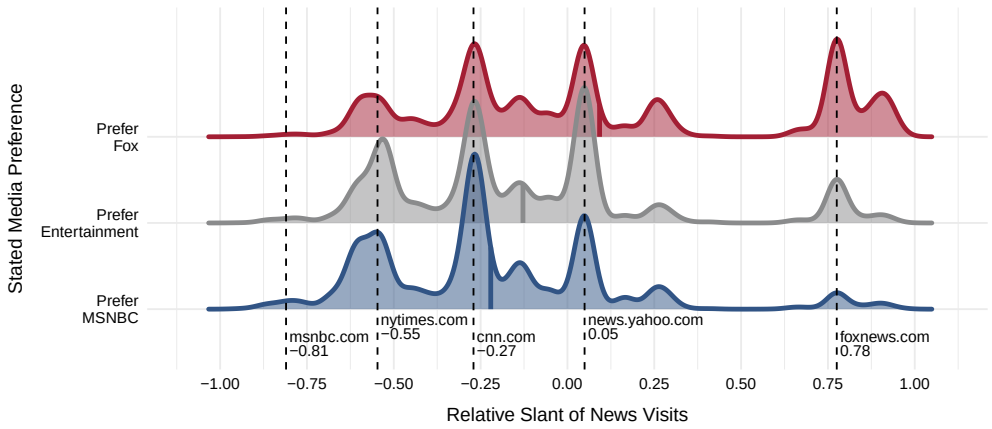


Figure 1: Distribution of ideological alignment scores for all news visits (excluding portal sites), disaggregated by stated media preferences. Exemplar sites are indicated with black, dashed lines, and the average alignment score in each stated preference group is represented by a solid vertical line. Lower scores indicate more liberal news visits, and higher scores indicate more conservative news visits.

by stated preferences, with the vertical axis representing the density of news visits with a given alignment score. To provide added context, we highlight the locations of several exemplar sites with well-established political reputations. As expected, respondents' stated media preferences confer some information about the types of sites they are likely to visit; for instance, respondents who state a preference for Fox News tend to visit pages associated with right-leaning media outlets much more frequently, on average, than other respondents—a result that likewise carries over to the respondent-level alignment scores (see Figure G1). Nevertheless, news sites with well-known political reputations (e.g., `nytimes.com`, `foxnews.com`) are at least occasionally visited by respondents with opposing media preferences, and websites that are popular among people who say they prefer MSNBC tend to also be popular among people who say they prefer Fox News.

As a more systematic test, we quantify the similarity of these distributions using overlapping coefficients (Inman and Bradley Jr. 1989). These coefficients provide a point estimate of the amount of shared area underneath two density curves; a value of 0 indicates that two distributions are completely disjoint, whereas a value of 1 indicates that these distributions are identical.[10] Using this measure, we find considerable overlap across stated preference groups. When comparing the *news*

[10]All overlapping coefficients are calculated using the `overlap` package in `R` (Meredith and Ridout 2021). Prior work interprets coefficients of 0.50 or above as evidence of meaningful overlap

visits of respondents who prefer MSNBC versus Fox News, we obtain an overlapping coefficient of approximately 0.64, indicating almost two-thirds overlap in the ideological lean of site visits of individuals from opposing preference groups. Similarly, when examining the distributions of *respondent-level* alignment scores for MSNBC and Fox News preferrers, we estimate an overlapping coefficient of approximately 0.59. Validating our approach, these values map closely to estimates of overlap in past studies of selective exposure (Eady et al. 2019; Guess 2021). Moreover, this degree of overlap implies that partisans' actual media diets tend to be more closely aligned than their reported policy positions in public opinion surveys (Lelkes 2016; Levendusky and Pope 2011). Thus, the aggregate differences in alignment scores between groups belie substantial shared ground.

Integrating Measures of Selective Exposure and Persuasion

The preceding results suggest that stated media preferences only partially reflect individuals' real-world news consumption habits, but previous attempts to estimate the discrepancy between people's stated media preferences and their actual media selectivity have relied exclusively on survey-based estimates of both quantities (de Benedictis-Kessner et al. 2019). Such studies have suggested and observed little divergence between people's self-reported preferences and their subsequent choice of media. The differences between real-world media consumption and stated media preferences may, in fact, be much larger.

Data from the free-choice arm of our experiment allow us to directly evaluate these differences.[11] We find that the discrepancies between individuals' revealed preferences (measured via web-tracking data) and stated preferences (measured in the survey) are much greater than the discrepancies between individuals' stated preferences and subsequent media choice (again measured in the survey). As shown in Figure 2, the vast majority of respondents who state a preference for a given source go on to choose that same option later in the survey, but there is more de-

between two distributions (Guess 2021).

[11] In Appendix R, we also report sensitivity analyses, following guidance from Knox et al. (2019).

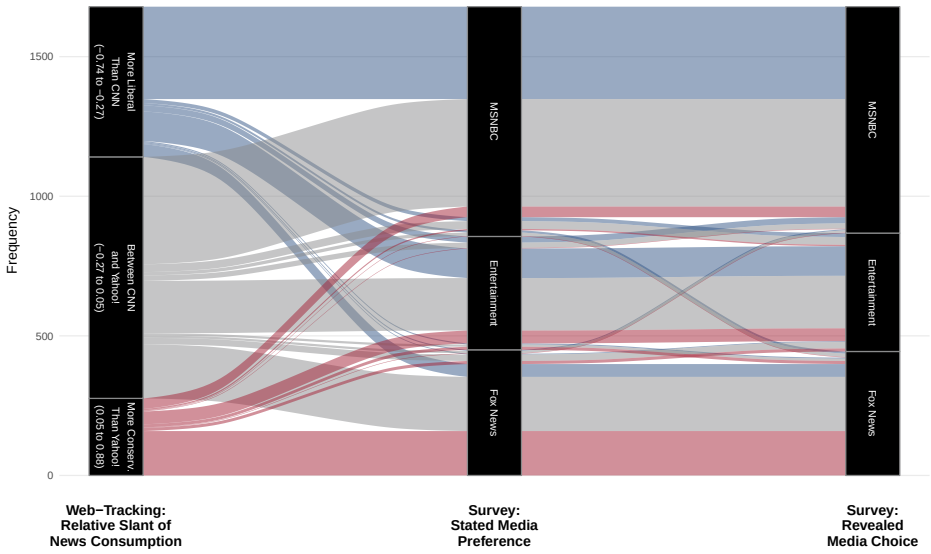


Figure 2: Correspondence between online news consumption, stated media preferences, and media choice among respondents in the free-choice group. Portal sites are excluded from the web-tracking measure.

viation between individuals' stated preferences and their observed behavior.[12] To facilitate this comparison, we categorize respondents into three groups based on their average alignment score (without portal sites). We anchor these groups to two popular media outlets, guided by natural cutpoints in the data. We classify respondents as having a liberal media diet when their average alignment score is more liberal than `cnn.com`, a moderate diet when their score falls between `cnn.com` and `yahoo.com/news`, and a conservative diet when their score is more conservative than `yahoo.com/news`. This coding strategy is motivated by the distributions of site visits across groups (see Figure G2): respondents coded as having the most liberal media diets have scores that are as or more liberal than the average site visited by self-identified Democrats/liberals, whereas respondents coded as having the most conservative media diets have scores that are as or more conservative than the average site visited by self-identified Republicans/conservatives. However, as we show in Appendix M, our conclusions are not overly sensitive to this coding rule.

Overall, we find that the media diets of individuals with stated preferences for MSNBC

[12]For example, only 64% of respondents with the most conservative media diets report preferring Fox News, while 66% of respondents with the most liberal media diets report preferring MSNBC.

or Fox News place them in all three revealed preference groups. For many respondents, survey self-reports thus predict media choice within a limited survey context but only partially reflect real-world patterns of online news consumption. This finding is not entirely surprising; it is hard to imagine a single, three-point survey item that could capture the full spectrum of media preferences. Nonetheless, these results suggest that a question format commonly used to measure media preferences imperfectly aligns with individuals' news consumption behavior. Furthermore, these results support the growing consensus that selective exposure to partisan media (at least online) may be less widespread than scholars have previously assumed.

Experimental Results

The above results suggest that concerns about selective exposure to online news may be overstated. Nevertheless, media preferences may remain consequential in a world with limited echo chambers—particularly if partisan media are differentially persuasive to different types of consumers. Measuring this heterogeneity, however, is not entirely straightforward; indeed, our earlier findings suggest a disconnect between stated and revealed measures that may result in misclassification of respondents' media preferences. We therefore turn to our experimental results, which probe the extent to which these two sets of measures generate different conclusions regarding partisan media's persuasive power. To do so, we estimate the average treatment effect of exposure to one media source over another, conditional on individuals' stated and revealed preferences.[13]

Relative Volume of News versus Non-News

We first present treatment effects by "relative volume"—that is, the relative frequency with which respondents visited news versus non-news domains in the month prior to the study. Alto-

[13]Knox et al. (2019) deem this estimand the average choice-specific treatment effect (ACTE), which we estimate using only respondents in the forced-choice group. Unconditional average treatment effects, as well as average ratings by condition, are also available in Appendix I.

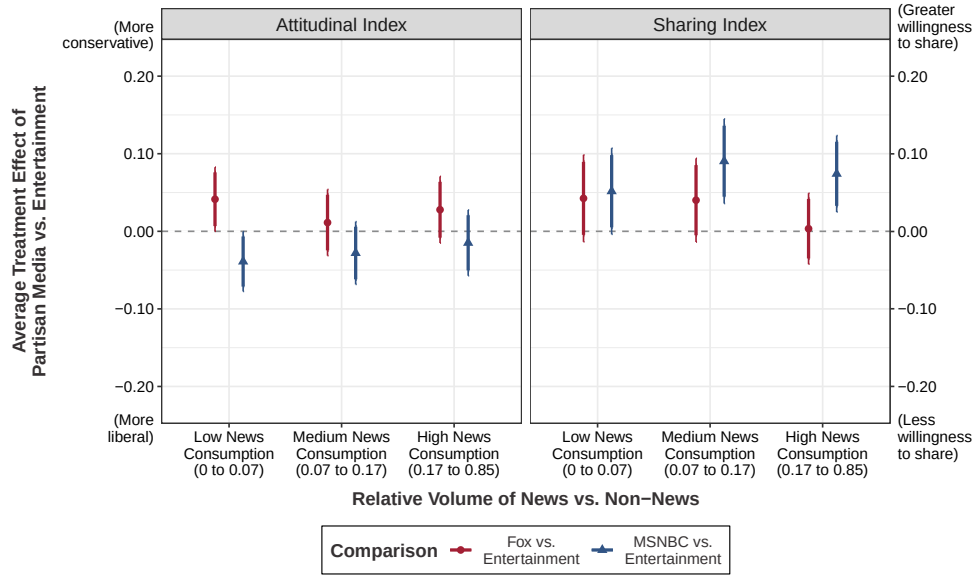


Figure 3: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by revealed preferences for news versus non-news ("relative volume"). Revealed preferences are calculated as the number of visits to news domains (as classified by comScore), divided by the total number of site visits in the pre-study period. The dependent variables range from 0-1. 90/95% confidence intervals are based on robust standard errors.

gether, partisan media appear persuasive, albeit in different ways across revealed preference groups. We plot in the left panel of Figure 3 the average treatment effect of exposure to partisan media versus entertainment on policy attitudes, broken down by news consumption terciles.[14] These estimates represent the difference in means between respondents assigned to a partisan media (Fox News or MSNBC) versus entertainment in the forced-choice arm of the experiment. Positive (negative) effects on this index indicate that respondents reported more conservative (liberal) attitudes after viewing partisan media versus entertainment. We find that exposure to partisan media has a polarizing effect on the attitudes of respondents who consume the least amount of news, relative to non-news. Within this group, respondents shown articles from Fox News report significantly more conservative attitudes, and respondents shown articles from MSNBC report significantly more liberal attitudes, relative to respondents in the entertainment condition. Less avid news consumers thus appear responsive to both conservative *and* liberal commentary. In contrast, when it comes

[14] As shown in Appendix M, our results are robust to alternative binning strategies. Full regression tables are available in Appendices K and M.

to more frequent news consumers—those in the middle or upper tercile of our revealed volume measure—the effect of assignment to either partisan media outlet is smaller and not statistically distinguishable from zero. These findings, informed by high-quality behavioral data, provide further evidence that individuals who are less attentive to politics may be more receptive to new information, compared to more engaged citizens (Taber and Lodge 2006; Zaller 1992).

Partisan media also seem to exert differential effects on the intended sharing behavior of respondents whose media diets include a larger versus smaller dose of news. The right panel of Figure 3 plots the estimated behavioral effects of exposure to partisan media disaggregated by preferences for news versus non-news, where positive effects indicate greater willingness to share or discuss articles from a particular source. Respondents who consume the least news (versus non-news) are somewhat more likely to say they would share and discuss partisan media versus entertainment, but there is no discernible difference in their stated propensity to share or discuss content from Fox News versus MSNBC (see also Figure J1). In other words, respondents who consume comparatively less news are slightly, though not significantly, more likely to say they would engage with partisan media versus entertainment, regardless of the source. In contrast, respondents who consume a larger amount of news versus non-news report a higher likelihood of sharing and discussing the MSNBC articles, relative to both Fox News and entertainment.[15] These results suggest that individuals who consume larger quantities of news, relative to entertainment, may be more discerning in the types of sources they choose to share and discuss with others.

Relative Slant of News Consumption

To examine our second dimension of media preferences—the *ideological slant* of individuals' media diets—we instead divide respondents into three groups based on the average alignment score of the domains they visited prior to the experiment. As above, we categorize respondents as having a liberal news diet when their average alignment score is more liberal than `cnn.com`, a moderate

[15]This apparent partiality to MSNBC over Fox News among more avid news consumers may partially reflect sample demographics (see Appendix A), given the liberal skew of our sample.

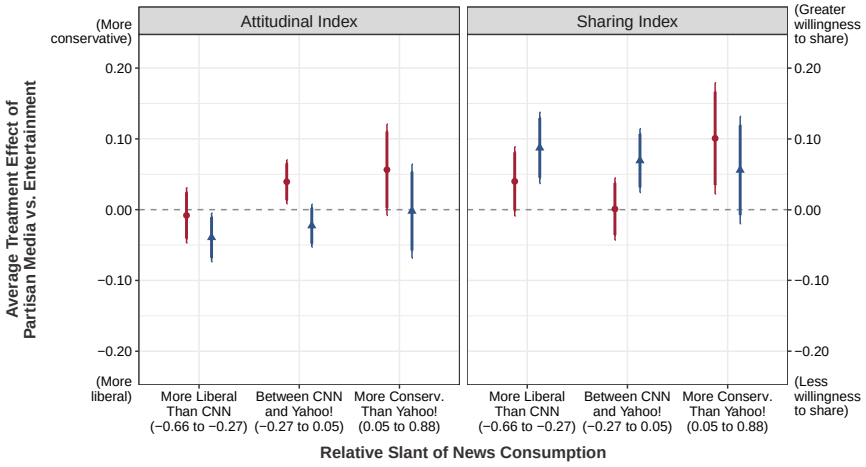
diet when their score is between cnn.com and yahoo.com/news, and a conservative diet when their score is more conservative than yahoo.com/news.[16] We present results using two versions of these scores: (i) one that includes *all* visits to news domains (excluding portals), and (ii) one that just includes visits that are likely to correspond to "*hard news*."

Using the first measure, we find that respondents with more polarized media diets tend to be primarily persuaded by like-minded sources, whereas respondents with more moderate diets are more open to information from both sides. As shown in the top-left panel of Figure 4, respondents with the most liberal media diets display no visible change in their policy attitudes when assigned to read Fox News versus entertainment but report significantly more liberal policy attitudes after reading MSNBC versus entertainment. This pattern reverses among respondents with the most conservative media diets, who report marginally more conservative attitudes after reading Fox News but do not noticeably update their attitudes after reading articles from MSNBC. In contrast, respondents with more moderate or heterogeneous media diets display modest attitude change in response to *both* sets of media, reporting significantly more conservative attitudes after reading Fox News and slightly, albeit not significantly, more liberal attitudes after reading MSNBC.

The results, however, are somewhat different when we operationalize media slant using only URLs that are likely to contain hard news. As shown in the bottom-left panel of Figure 4, among moderate respondents, we replicate our overall results: respondents who, on average, consume more centrist (or ideologically heterogeneous) content again tend to be swayed by exposure to both Fox News and MSNBC. Adding nuance to these results, however, we find that respondents with more extreme hard news diets are not reliably persuaded by either partisan media source—with particular attenuation in effects among respondents with more liberal media diets. Although respondents with

[16]We opt to bin respondents into these three groups, rather than use a continuous measure of relative slant, as we have theoretic reason to suspect these groups will have qualitatively different responses to media exposure that may not be captured by a linear functional form (see, e.g., Zaller 1992). However, in Appendix M we present results using both a continuous score and alternative binning strategies.

(a) All URLs



(b) Hard News URLs

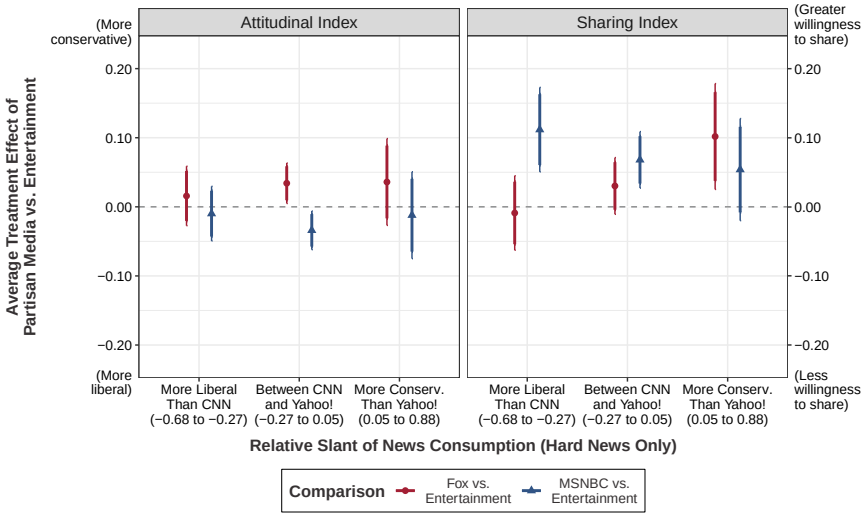


Figure 4: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by revealed preferences for ideological content ("relative slant"). Revealed preferences are calculated as the average alignment score of the domains associated with respondents' news visits, excluding portals. Panel (a) includes all URLs associated with news domains, whereas panel (b) just includes URLs that are predicted to correspond to hard news. The dependent variables range from 0-1. 90/95% confidence intervals are based on robust standard errors.

more conservative media diets still appear to be modestly persuaded by Fox News, this difference is not distinguishable from zero, given the smaller size of this subgroup.

Furthermore, when we partition respondents' alignment scores into a larger number of categories (Appendix M) or use alternative estimates of domain slant (Appendix P) we find a similar

(lack of) attitude change among respondents with the most liberal media diets. Taken together, these results suggest that individuals who regularly seek out political information from partisan outlets may be less prone to attitude change, even in response to concordant content, whereas consumers who visit partisan media outlets but consume relatively little hard news may be persuaded by the content they encounter on these sites. As an important caveat, however, these differences in treatment effects often do not reach conventional levels of statistical significance, given sample size constraints (see Appendices K and M). Nevertheless, they provide some suggestive evidence of heterogeneity in attitudinal persuasion on the basis of revealed preferences.

Turning from attitudes to behavioral intentions, we find that respondents tend to be more willing to share and discuss content from congenial sources. As shown in the top-right panel of Figure 4, respondents with more liberal media diets are more likely to say they would share and discuss either partisan media source, relative to entertainment, but are marginally more likely to do so when the articles are attributed to MSNBC versus Fox News (see also Figure J2). Likewise, respondents with more conservative media diets are significantly more likely to say they would share or discuss articles from Fox News and slightly, but not significantly, more likely to share or discuss articles from MSNBC, relative to entertainment. These same patterns are apparent when measuring preferences using just hard news URLs; as shown in the bottom-right panel of Figure 4, respondents with more polarized news diets say they would be significantly and substantially more willing to share or discuss articles from ideologically aligned outlets, relative to entertainment. In contrast, respondents with more liberal hard news diets are similarly likely to engage with Fox News and entertainment, and respondents with more conservative hard news diets are only moderately, though not significantly, more likely to engage with MSNBC versus entertainment.

Stated Media Preferences

The results presented thus far underscore the importance of media preferences in conditioning the attitudinal and behavioral effects of exposure to partisan media. As noted earlier, however, our conclusions about the persuasive impact of partisan media may depend heavily on our choice

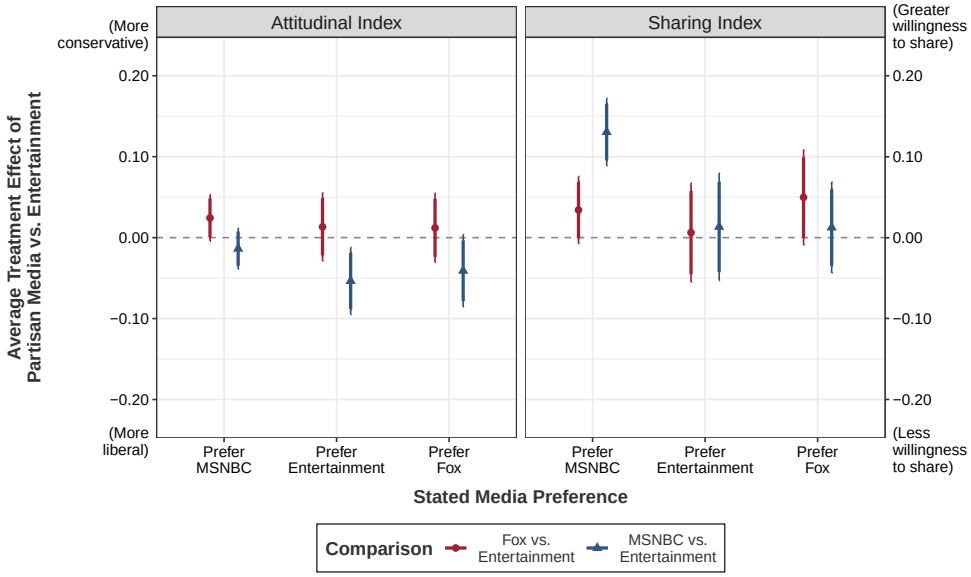


Figure 5: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by stated media preferences. The dependent variables range from 0-1. 90/95% confidence intervals are based on robust standard errors.

of measurement. Indeed, a somewhat different pattern of results emerges when we disaggregate the effects by stated media preferences. In the middle column of each panel of Figure 5, we display the estimated treatment effects for respondents who state a preference for entertainment over partisan media. Among these respondents, we find no discernible difference in the average policy attitudes of those assigned to read Fox News versus entertainment. However, respondents assigned to the MSNBC condition report significantly more liberal attitudes, relative to respondents assigned to either entertainment or Fox News. Conversely, we find no effect of exposure to partisan media on these respondents' intended sharing behaviors. Respondents who state a preference for entertainment are no more willing to share or discuss news versus entertainment articles—regardless of their source. In short, the use of stated preference measures suggests that partisan media may persuade entertainment consumers to change their attitudes but not their behavior.

For our first dimension of media preferences—the relative volume of news versus entertainment that individuals consume—stated and revealed preferences thus point in different directions. When using our web-based measure of news consumption, we find that respondents who visit fewer news domains, relative to non-news, tend to exhibit both attitudinal and behavioral persuasion in

response to partisan media. In contrast, among respondents who state a preference for entertainment, only exposure to MSNBC—but not Fox News—significantly affects policy attitudes, with no differences in intended sharing behavior across experimental conditions. If we solely rely on self-reported measures of media preferences, we may therefore underestimate the impact of incidental exposure to partisan media among citizens who would not ordinarily seek out this type of content.

The results by stated versus revealed media preferences also diverge for our second dimension of media preferences: individuals' preferences for ideological content. In a notable departure from our previous results, the use of stated preferences suggests modest persuasion by cross-cutting outlets. As shown in the left panel of Figure 5, respondents who state a preference for MSNBC report marginally more conservative policy attitudes when exposed to Fox News versus entertainment, and respondents who state a preference for Fox News report marginally more liberal policy attitudes when exposed to MSNBC versus entertainment. Meanwhile, exposure to ideologically aligned media has no detectable effect on policy attitudes in either case. Although these effects are substantively small, they might lead scholars to assume (contrary to our previous analyses) that individuals are more readily persuaded by discordant versus concordant sources.

However, the results for intended sharing behavior, shown in the right panel of Figure 5, better match our earlier analyses. As before, respondents who state a preference for partisan media are more inclined to share and discuss content from congenial sources. Respondents who state a preference for Fox News are marginally more likely to report that they would share and discuss Fox News articles, relative to entertainment, but are no more likely to engage with MSNBC versus entertainment. Similarly, respondents who state a preference for MSNBC are slightly more likely to say they would engage with Fox News versus entertainment but are significantly more likely to engage with articles from MSNBC, relative to both Fox News and entertainment.

Altogether, these findings indicate that scholars may come to different conclusions about the polarizing nature of partisan media when using stated versus revealed measures of media preferences. Results based on revealed media preferences suggest that the attitudes of more extreme citizens are either unaffected by additional exposure to partisan media or are primarily

responsive to information from ideologically aligned sources. Conversely, results based on stated media preferences indicate that individuals who consume partisan media may be amenable to persuasion by cross-cutting sources. Together, these results suggest that inferences about media polarization may depend heavily on how individuals' media preferences are measured.

Conclusion

Over the past several decades, sweeping changes in the contemporary media landscape have greatly expanded the menu of media options available to consumers, resulting in widespread access to a diverse array of both political and non-political content. In today's media environment, the average citizen can now exert more control than ever over the volume and substance of media they consume. This trend has led pundits and scholars alike to fret about the role of partisan media selectivity in deepening political divides. Recent research, however, suggests that this bleak prognosis may be overstated. Behavioral studies of individuals' everyday patterns of online news consumption have unearthed relatively low levels of selective exposure to partisan news, suggesting that the public's media preferences may not be as imbalanced as previously assumed.

In this study, we advance a two-dimensional model of media preferences that differentiates preferences for news versus non-news from preferences for ideologically slanted content. Guided by this model, we measure the degree of fragmentation in real-world media consumption and use this measure to better pinpoint which segments of the population are more or less susceptible to partisan media's influence. We show that respondents' self-reported media preferences are somewhat predictive of their actual news consumption, but much overlap remains. Many citizens seem to consume a wide variety of media online, and the most popular news sites are visited by individuals across partisan and ideological spectra. Thus, consistent with previous work, selective exposure may be less extreme than survey-based measures of media preferences would suggest.

Nevertheless, media preferences still appear to play an important role in shaping the public's responses to partisan media. Within our experiment, both theorized dimensions of media preferences—the relative *volume* and *slant* of news individuals consume—influence political at-

titudes and behavior. On one hand, partisan media seem to persuade respondents who consume relatively less news and who have less extreme media diets. On the other hand, respondents with more polarized media diets—whose real-world news consumption tends to be more one-sided—are generally unmoved by exposure to new information. Moreover, when attitude change *is* observed within this group, it is primarily contained to politically concordant sources. These effects also extend to behavioral intentions. When it comes to sharing and discussing online content, respondents with more extreme news diets are mobilized most strongly by ideologically aligned media; respondents who have more liberal media diets are more likely to engage with content from MSNBC, and respondents who have more conservative media diets are more likely to engage with content from Fox News.

These results add nuance to previous conclusions regarding heterogeneity in responses to partisan news. Though individuals who consume comparatively less news appear especially susceptible to persuasion from partisan media, our results also point to the potential for persuasion within the segments of the population who regularly visit these sources. In particular, our overall results, including both "hard" and "soft" news visits, suggest that individuals who consume partisan media online may be persuaded by the political coverage they encounter on these sites. Our behavioral results also raise concerns about possible snowball effects. If engaged citizens consume large amounts of congenial media and then disseminate this news to others, this can create distortions in the information to which friends and neighbors are exposed (Carlson 2019; Druckman, Levendusky, and McLain 2018). These imbalances have the potential to exacerbate partisan polarization and hinder democratic accountability.

However, the present study is not without limitations. First, though our revealed preference measures were inferred from real-world behavior, the experiment itself simulated a stylized environment wherein exposure to political information was highly controlled; it could be the case that partisan media have a less powerful influence on attitudes and behavior in real life (for recent examples, see Guess et al. 2021; Wojcieszak et al. 2021). In particular, following previous work, our stated preference measure—and subsequent media exposure task—contrasted two well-known

partisan media sources with a popular entertainment site. Although this approach has important benefits (e.g., consistent measurement of media preferences and selectivity within a unified experimental framework), it naturally sacrifices some degree of realism by truncating the choices available to respondents. Future studies should investigate whether similar patterns persist when respondents are faced with a more diverse mix of partisan and non-partisan media. Second, our sample size was relatively small, making it difficult to systematically test for effect heterogeneity in our experiment; efforts to replicate these results with a more diverse sample of news consumers may furnish additional insights. Finally, it is important to note that the present study focused exclusively on education—a relatively low-salience policy area with limited party branding. We might thus expect education coverage to elicit stronger media persuasion, including by oppositional sources. As such, it is especially notable that we observe little evidence of counter-attitudinal persuasion when using our revealed preference measures. Nevertheless, future work should assess whether similar patterns persist for other, more deeply entrenched topics.

Methodologically, our results also illustrate how the complexities of people's media preferences are difficult to assess using surveys alone. Although sensitivity analyses can help probe the degree to which experimental estimates hinge on the validity of self-reported measures, our findings suggest that the collection of real-world behavioral data can further elucidate important sources of heterogeneity in partisan media's persuasive effects. However, digital trace data are not a panacea; although these data can avoid some of the pitfalls of self-reported measures, they rest on the assumption that online web-browsing closely reflects individuals' latent media preferences. Additional research integrating digital trace data into an experimental framework may thus prove fruitful. Though the results discussed in this paper offer one potential model for this type of research, further improvements in the measurement of media preferences may enrich scholars' understanding of the causes and consequences of political polarization.

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Supplementary Information:

"Media Measurement Matters: Estimating the Persuasive Effects of Partisan Media with Survey and Behavioral Data"

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Experimental Design and Survey Sample

A Sample Demographics and Balance Tables

Table A1 reports sample demographics for all respondents ($n = 3513$), and Tables A2 and A3 show the demographic balance across experimental conditions. Table A2 compares the pre-treatment covariates of respondents assigned to the free- versus forced-choice arm of the study, whereas Table A3 compares the covariates of respondents assigned to different sources (Fox News, MSNBC, or entertainment) as part of the forced-choice procedure. In all cases, missing data and "Prefer Not to Say" responses are excluded. Of note, we observe some marginally significant but substantively small differences in sample composition in Table A3—most notably, by stated media preferences. However, these differences by stated preferences should not affect our main results, which largely focus on the effects of exposure to partisan media versus entertainment among individuals who state a preference for Fox News or MSNBC ($p > 0.30$ for all comparisons).

Variable	Category	Percent
Gender	Male	41.2%
	Female	58.8%
Age	18-24	4.1%
	25-34	17.2%
	35-44	21.3%
	45-54	20.9%
	55-64	20.2%
	65+	16.3%
Race/Ethnicity	White	82.8%
	Black	3.6%
	Hispanic/Latino	3.4%
	Other Race/Ethnicity	10.3%
Education	High School or Less	8.5%
	Some College	16.2%
	College Degree	48.6%
	Post-Graduate Degree	26.6%
Income	<$50K	25.3%
	$50-100K	42.4%
	>$100K	32.3%
Party ID	Democrat	56.5%
	Independent	10.5%
	Republican	33.0%
Ideology	Liberal	53.5%
	Moderate	11.4%
	Conservative	35.1%
Stated Preference	Entertainment	23.7%
	Fox News	26.2%
	MSNBC	50.1%

Table A1: Demographic composition of survey sample ($n = 3513$). Percents may not add up to 100 due to rounding.

Category	Free-Choice	Forced-Choice	*p*
Male	0.40	0.42	0.31
18-24	0.04	0.04	0.67
25-34	0.17	0.17	0.76
35-44	0.22	0.21	0.26
45-54	0.20	0.21	0.49
55-64	0.21	0.20	0.37
65+	0.15	0.17	0.17
White	0.83	0.83	0.83
Black	0.04	0.03	0.41
Hispanic/Latino	0.04	0.03	0.57
Other Race/Ethnicity	0.10	0.11	0.27
High School or Less	0.09	0.08	0.90
Some College	0.16	0.16	0.78
College Degree	0.49	0.48	0.39
Post-Graduate Degree	0.26	0.28	0.20
<$50K	0.26	0.25	0.40
$50-100K	0.43	0.42	0.36
>$100K	0.31	0.34	0.08
Democrat	0.56	0.57	0.40
Independent	0.11	0.10	0.15
Republican	0.33	0.33	0.96
Liberal	0.52	0.55	0.17
Moderate	0.11	0.12	0.77
Conservative	0.36	0.34	0.11
Entertainment	0.24	0.23	0.40
Fox News	0.27	0.26	0.44
MSNBC	0.49	0.51	0.16

Table A2: Demographic balance of the free- versus forced-choice conditions. Reported p values come from independent samples t-tests. For income, partisanship, and ideology, missing data are excluded.

Category	Ent.	Fox	MSNBC	p: Fox vs. Ent.	p: MSNBC vs. Ent.	p: Fox vs. MSNBC
Male	0.39	0.42	0.44	0.32	0.09	0.50
18-24	0.04	0.04	0.04	0.56	0.81	0.73
25-34	0.17	0.18	0.18	0.79	0.81	0.98
35-44	0.20	0.21	0.21	0.80	0.63	0.81
45-54	0.24	0.19	0.21	0.03	0.20	0.41
55-64	0.18	0.21	0.19	0.15	0.55	0.40
65+	0.17	0.17	0.17	0.97	0.95	0.98
White	0.85	0.81	0.82	0.04	0.10	0.68
Black	0.03	0.03	0.04	0.51	0.35	0.79
Hispanic/Latino	0.03	0.04	0.03	0.27	0.68	0.13
Other Race/Ethnicity	0.09	0.12	0.12	0.13	0.09	0.85
High School or Less	0.08	0.10	0.07	0.28	0.45	0.07
Some College	0.17	0.16	0.15	0.45	0.24	0.67
College Degree	0.49	0.43	0.52	0.04	0.28	0.00
Post-Graduate Degree	0.25	0.31	0.26	0.03	0.83	0.04
<$50K	0.24	0.22	0.28	0.37	0.19	0.03
$50-100K	0.40	0.43	0.42	0.35	0.57	0.72
>$100K	0.36	0.35	0.30	0.86	0.07	0.10
Democrat	0.55	0.59	0.58	0.16	0.32	0.68
Independent	0.11	0.09	0.09	0.35	0.47	0.83
Republican	0.34	0.32	0.33	0.37	0.56	0.76
Liberal	0.55	0.55	0.54	0.88	0.74	0.63
Moderate	0.11	0.11	0.13	0.99	0.31	0.31
Conservative	0.34	0.34	0.33	0.88	0.73	0.85
Entertainment	0.24	0.25	0.20	0.88	0.07	0.05
Fox News	0.24	0.27	0.26	0.34	0.53	0.74
MSNBC	0.51	0.48	0.54	0.33	0.34	0.06

Table A3: Demographic balance of media exposure within the forced-choice group. Reported p values come from independent samples t-tests. For income, partisanship, and ideology, missing data are excluded.

B Full Text of News Articles

This section contains the full text of the news articles included in our survey experiment. For each outlet, we created two articles by collating text from actual news stories that appeared online. The Fox News articles espoused more conservative issue positions (support for charter vs. public schools and support for vouchers), and the MSNBC articles endorsed more liberal issue positions (support for public vs. charter schools and opposition to vouchers). After being assigned to or choosing a given media outlet, respondents were asked to read both stories attributed to that source. All articles included two visual components that we omit here: a *banner* signaling the article's source, as well as a *stock photo* related to the article's topic. For the MSNBC and Fox News articles, these photos were held constant across articles that employed the same frame (e.g., funding or vouchers).

Fox News (Funding Frame)

Teachers Protest Discrimination Against Charter Schools
Published April 16, 2017
By Lucy Cheng

A group of about 50 charter school teachers gathered on the steps of the Colorado state capitol to protest what they view as the state's discrimination against charter schools. Many complain that the state's preferences towards public schools are a main reason for the lack of charter school funding. Public charter schools operate independently of the local school board and adopt their own standards and testing tools. Despite this, they still need some taxpayer funds.

There are real consequences of charter schools for all students. Students are being left behind as already scarce public education funds become even scarcer for charter school students. As Colorado Succeeds estimates, "A public charter school student receives about 20% less in funding than their public school counterpart."

Charter schools are often praised for their innovative and flexible approaches to learning. They market themselves as a superior alternative that enables students to outperform their public school peers, and the statistics seem to confirm this story: in Colorado in 2014, charter school students were more likely than public school students to score within the highest two achievement brackets on the reading, math, and writing state assessments. The fact that these higher-performing schools receive less funding angers advocates of the charter school model.

Under a more balanced system, a district would provide equal resources for each student in charter schools in the same way that students in traditional schools are funded. For now, these Colorado teachers have good reason to protest a system that restricts a valuable resource for students.

Fox News (Voucher Frame)

School Vouchers Empower Students to Succeed
Published May 9, 2017
By Rob Peters

New studies released this month show promising results for school voucher advocates. Voucher programs use public funds to help families who want to send their child to a school other than a traditional public school pay tuition fees. Students who received vouchers in Washington D.C. saw greater success in graduating after four or five years in the program. There's also compelling evidence to suggest that voucher students are happier at their new schools.

According to the most recent report from the Department of Education, students were 12 points more likely to graduate after spending time in the voucher program. This is an improvement on public schooling. The voucher program inspires students to stay in school, which will help lead to greater academic achievement in the future.

Juanita Alvarez is just one student that the voucher system has helped. She attended Chaffee County High School before a voucher allowed her to enroll at Watertown Preparatory Academy. "Watertown was so hard at first! I had to do a lot of catching up. But now I'm starting my college applications, and I can see a lot of opportunities opening up for me because of Watertown."

Juanita isn't the only student who is seeing more doors open for her. In the Washington D.C. study, voucher students were more likely to complete high school and go to college. The best way to help low-income, underachieving students isn't to force them to stay at their local public school. Vouchers provide students an alternative to the problematic public school system, empowering those who need it most.

MSNBC (Funding Frame)

Teachers Protest Diversion of Public School Funds to Charter Schools
7/18/17 4:30 PM
By Charles Wong

A group of about 50 public school teachers gathered on the steps of the Colorado state capitol to demand more funds for the state's struggling public school system. Many consider the opening of new public charter schools a main reason for the decline in traditional public school funding. Public charter schools operate independently of the local school board and adopt their own standards and testing tools. Despite this, they still receive some taxpayer funds.

There are real consequences of charter schools for all students. Students are being left behind as the state distributes already scarce public education funds to charter schools. As the District 3 Community Education Panel puts it, "Colorado favors the 3% of kids in charter schools. They're being protected, while Colorado leaves 97% of its students behind."

Charter schools are often criticized for their frequent inability to outperform traditional public schools. They market themselves as a superior alternative that can enable their students to outperform their public school peers, but the statistics don't seem to support these claims: one out of every ten charter schools in Colorado is in danger of being closed down. They have consistently failed to meet the state's performance standards over the last decade. The fact that these lower-performing schools receive more funding angers advocates of the public school model.

Under a better system, a district would provide greater resources for each student in public schools rather than focus on funding students in unsuccessful charter schools. For now, these Colorado teachers have good reason to protest a system that enables failure.

MSNBC (Voucher Frame)

School Vouchers Fail To Increase Student Achievement
7/7/17 3:50 PM
By Kai Summers

New studies released this month show worrisome results for school voucher advocates. Voucher programs use public funds to help families who want to send their child to a school other than a traditional public school pay tuition fees. Students who received vouchers in Louisiana did not improve in reading, and actually moved backward in math. There's also little evidence to suggest that voucher students are happier at their new schools.

According to a recent report from the Education Research Alliance for New Orleans, students in Louisiana fell from the 50th to the 26th percentile in math after one year in the voucher program. Students were still behind after two, even three years. This isn't an improvement on public schooling. Public school alternatives that receive vouchers aren't necessarily providing a better education.

Juanita Alvarez is just one student that the voucher system has failed. She attended Watertown Preparatory Academy for two years, then transferred back to Chaffee County High School. "It felt like I couldn't catch up to the Watertown kids, no matter how hard I tried. I wish I had just stayed at Chaffee. I think I would have been fine. Being at Watertown was like being in a completely different world, and I didn't fit in."

Juanita isn't the only student who chose to go back to their public school. In the Louisiana study, about 40% of voucher students returned to their public school. The best way to help low-income, underachieving students isn't to send them unprepared to a fancy charter school. Voucher funds would be best used fixing problems in the public school system, not padding the pockets of charter schools.

Food Network (Article 1)

5 Ways You're Being Set Up by Your Supermarket
These sneaky tactics help supermarkets have consumers do their bidding.
By: Teri Tsang Barrett

1. FIFO: Or, rather, the rule of First In, First Out. Retailers stock perishables so older items are pushed to the front, where consumers will reach them first. When shopping for items like ground beef or milk, check the back of the stack for later sell-by dates—and a fresher product.

2. Samples: The more time consumers spend with a product, the more likely they are to spend. Samples awaken the senses, triggering the impulse to consume.

3. Eye-level positioning: Take note of options above and below eye level, as the items consumers spot first on shelves are likely expensive brands that can afford the costly real-estate location afforded to premium pricing. Bulk items tend to be positioned along the lower shelves of an aisle, out of the line of sight.

4. Extra-large shopping carts: Buying more than we need has been made possible by our ability to easily contain it.

5. Store soundtracks: The music heard in a store is designed to trigger positive associations and encourage more time spent in the store—retailers know that more time in a store means more time to spend money.

Food Network (Article 2)

7 Habits of Smart Supermarket Shoppers
Practice these good habits to spend less time and money at the store.

1. Make a list. Organize your list into categories relevant to your household to save time spent scanning the list and aisles. Sticking to the list will curb impulse purchases, helping you make healthier decisions, remain on a budget and curb time spent browsing in aisles.

2. Stick to in-season produce. Fresh produce costs less in season, and it tastes better too. Buying it out of season means lower quality and higher prices.

3. Shop the perimeter. Stick to the outermost aisles of the store for the freshest options, which include produce, the meat and seafood departments, and the refrigerated dairy aisle. Fresh foods tend to be healthier than most ready-to-eat items typically found in the center aisles of a supermarket.

4. Read nutritional labels. Don't fall victim to marketing claims stamped on the front of a package. Buzzwords such as "Healthy" or "All-Natural" may sound good, but to understand what you're eating, scan nutritional labels, including the ingredients, to determine what you're buying. Health-minded shoppers should take note of the saturated fat, sodium and sugar content for each serving.

5. Skip the samples. Snacking while shopping sends a message to your brain that it's time to eat, which may trigger the urge to impulse shop.

6. Reach for the back. Supermarkets generally practice the stocking principle of arranging older items toward the front of the display. For the freshest options when it comes to foods like milk and ground meat, dig around at the back of the display case for items marked with later expiration or sell-by dates.

7. Be wary of deals. Strategic wording by supermarkets may fool shoppers into believing they've scored a deal — signs boasting "Two for $8," "Limit 8 per customer" or "Special" may imply a sale without offering a cut off the full retail price.

C Wording of Outcome Variables

The following section details the exact wording of all variables used to construct the attitudinal and sharing indices. Variable names are listed in bold. Starred items are reverse-coded, and "Not sure" responses are excluded from all analyses. We recode all items to range from 0 to 1 before combining them into their respective indices. For the attitudinal index, variables are coded such that higher ratings indicate more conservative policy positions. For the sharing index, variables are coded such that higher ratings indicate a greater willingness to share or discuss the content with others.

Attitudinal Index

1. In the grid below, you will see a series of statements. Please tell us whether you agree or disagree with each statement.
   Response options: Strongly agree (1); Agree (2); Somewhat agree (3); Neither agree nor disagree (4); Somewhat disagree (5); Disagree (6); Strongly disagree (7)

   - *`educ_costmore`: Government efforts to change the education system cost more than they are worth
   - *`vouchers_succ`: Giving parents education vouchers for charter or religious schools will lead to success for more students

2. In the grid below, you will see a series of statements. Please tell us whether you agree or disagree with each statement.
   Response options: Strongly agree (1); Agree (2); Somewhat agree (3); Neither agree nor disagree (4); Somewhat disagree (5); Disagree (6); Strongly disagree (7)

   - `vouchers_wrong`: Using public money to pay for vouchers for private or religious schools is wrong
   - `charter_takemoney`: More charter schools will just take money away from struggling public schools that need it most
   - *`charter_parents`: Parents should be able to send their children to charter schools if they want to

3. `charter_tradeoff`: Some people feel that while public schools sometimes have problems, they should be improved by providing additional training and funding to public school

systems. Suppose these people are on one end of the scale, at point 1. Others think that, when public schools have problems, funding should go to charter schools or giving parents vouchers to send their children to private or religious schools. Suppose these people are at the other end, at point 7. And of course, some other people have opinions somewhere in between. Where would you place YOURSELF on this scale?
Response options: More funding for public schools - 1 (1); 2; 3; 4; 5; 6; More funding for charter schools - 7 (7)

4. *`charter_system`: Allowing parents to choose to send their children to charter or private schools will make the education system overall:
Response options: Much better (1); Somewhat better (2); Slightly better (3); About the same (4); Slightly worse (5); Somewhat worse (6); Much worse (7)

5. *`charter_expensive`: Educating students in charter or private schools instead of traditional public schools is:
Response options: Much less expensive for society (1); Somewhat less expensive for society (2); Slightly less expensive for society (3); About the same (4); Slightly more expensive for society (5); Somewhat more expensive for society (6); Much more expensive for society (7)

6. `public_funding`: Do you think that government funding for public schools in the nation as a whole should increase, decrease, or stay about the same?
Response options: Greatly increase (1); Somewhat increase (2); Slightly increase (3); Stay about the same (4); Slightly decrease (5); Somewhat decrease (6); Greatly decrease (7)

7. *`charter_support`: As you may know, many states permit the formation of charter schools, which are publicly funded but are not managed by the local school board. These schools are expected to meet promised objectives but are exempt from many state regulations. Do you support or oppose the formation of charter schools?
Response options: Strongly support (1); Somewhat support (2); Slightly support (3); Neither support nor oppose (4); Slightly oppose (5); Somewhat oppose (6); Strongly oppose (7)

8. *`private_choice`: A proposal has been made that would give all families with children in public schools a wider choice by allowing them to enroll their children in private schools instead, with government helping to pay the tuition. Would you support or oppose this proposal?
Response options: Strongly support (1); Somewhat support (2); Slightly support (3); Neither support nor oppose (4); Slightly oppose (5); Somewhat oppose (6); Strongly oppose (7)

9. *teacher_salary: Do you support or oppose basing part of the salaries of teachers on how much their students learn?
   Response options: Strongly support (1); Somewhat support (2); Slightly support (3); Neither support nor oppose (4); Slightly oppose (5); Somewhat oppose (6); Strongly oppose (7)

Sharing Index

*actions: Thinking about the news articles you just read, how likely would you be to:
Response options: Very likely (1); Likely (2); Somewhat likely (3); Not likely (4); Not sure (7)

- Discuss the stories with a friend (actions_discuss)
- Forward the stories to a friend or colleague via email (actions_forward)
- Post a link to the stories on a social networking site, such as Facebook or Twitter (actions_post)
- Seek out additional information from another source on the topic featured in the stories (actions_seek)

Processing the Web-Tracking Data

D Details on Matching Procedure

The following section describes our process for matching the comScore web-tracking data to the scores calculated by Bakshy, Messing, and Adamic (2015), hereinafter referred to as BMA. We first removed sequential duplicates to avoid double-counting individual site visits and then used a series of automated and manual techniques to match domains between the BMA and comScore datasets.

Removal of Sequential Duplicates

As a first step, we de-duplicated URLs in the web-tracking data, following guidance from comScore. In the raw web-tracking data, many respondents appear to visit the same exact URL multiple times in a short timeframe. This pattern likely reflects a confluence of factors, including automatic site refreshes, redirects, and slideshows. In other words, adjacent visits to the same URL by the same respondent are likely to be duplicates of the same visit session. Based on recommendations from comScore, rather than count these as separate site visits—and thus overweight these visits in respondents' corresponding alignment scores—we flag site visits as duplicates if the URL and respondent ID exactly match the preceding site visit *and* if both site visits took place on the same day. Through this process, we remove 641,057 site visits, leaving 1,367,022 unique site visits. Of note, though this process flags a sizable number of duplicate URLs, previous research suggests that this cleaning step is unlikely to meaningfully alter our resulting estimates (Guess 2021).

Domain Matching

After this initial cleaning step, we then sought to identify matches between the comScore data and the BMA domain-level scores. First, we re-formatted several domains associated with Yahoo! News to address differences in naming conventions between the two data sources. Specifically, whereas BMA represented Yahoo! sites using their third-level domains

(e.g., news.yahoo.com, gma.yahoo.com), comScore grouped all visits to these pages under a common domain (yahoo.com), with content-specific indicators defined in the path of each URL (e.g., yahoo.com/news, yahoo.com/gma). To unify these two datasets, we extracted the string associated with the first path segment in the comScore data—namely, the text appearing after the first backlash (e.g., news, gma). This step yielded four unique values: gma, katiecouric, news, and newsroom—with the vast majority of site visits falling into either gma or news. We recoded the comScore domain to be news.yahoo.com if the URL path contained news, newsroom, or katiecouric (given that these sub-domains are all hosted by Yahoo! News) and recoded the domain to be gma.yahoo.com if the URL corresponded to gma.

Next, we resolved several cases of duplicate scores in the BMA data. We defined duplicates as cases in which a domain was stored both with and without the "www." prefix (e.g., cnsnews.com and www.cnsnews.com). Through this process, we identified five duplicates: cnsnews.com, hightimes.com, rightwingnews.com, washingtonexaminer.com, and youngcons.com. In order to preserve the closest match to the comScore data (which do not include "www." in their reported domain names), we retain the version of each duplicate domain without this prefix. Of note, duplicate domains tended to have very similar alignment scores (e.g., 0.898 for cnsnews.com and 0.899 for www.cnsnews.com) and very rarely appeared in our web-browsing data, so this decision should have little bearing on our estimation of respondent-level alignment scores.

In total, after updating the Yahoo! domains and removing duplicate BMA domains, there were 2907 unique domains in the comScore data and 495 unique domains in the BMA data. We then undertook a multi-stage cleaning process to match domains across these two datasets. In the first stage, we used exact matching to identify identical domains appearing in both the comScore and BMA datasets. This step captured 190 unique domains across both datasets, corresponding to over 80% of respondents' site visits to news domains. In the second stage, using the urltools package in R, we parsed the remaining 2717 unmatched domains in the comScore data to remove third-level domain information (e.g., truncating digitaledition.chicagotribune.com to chicagotribune.com). We took this step because many of the domains in the comScore data

referred to more specific pages than those in the BMA data. Through this process, we were able to match an additional 344 comScore domains to the BMA data, after removing international, non-English-language, or other irrelevant matches (e.g., local periodicals hosted on the site of a larger newspaper).

Finally, we manually checked each of the remaining 2373 domains against the BMA data. From this list, we were able to connect 28 additional comScore domains to the BMA data. In particular, we made the following changes:

- Name changes: In several cases, domain names had changed over time, given the distance between when the BMA scores were created and when we gathered our web-tracking data (e.g., `ijr.com` vs. `ijreview.com`, `ct.westernjournal.com` vs. `conservativetribune.com`). We thus updated the comScore domains to match the versions present in the BMA data.

- Mobile versions: In cases where comScore treated mobile and desktop domains as separate entities but BMA only included a score for the desktop version, we merged the mobile and desktop domains in the comScore data to match the BMA scores.

In contrast, we did not match domains under the following circumstances:

- International/non-English domains: Several of the domains in the comScore data referred to international or non-English versions of news sites in the BMA data (e.g., `cnnindonesia.com` or `cnnespanol.cnn.com` vs. `cnn.com`). Because these sites may host different content and attract different audiences than their U.S./English- language counterparts, we chose to exclude them to be conservative.

  - Note: the sole exception to this rule was cases where the BMA data already distinguished international domains (e.g., `bbc.co.uk` or `huffingtonpost.ca`) from their U.S. equivalents (e.g., `bbc.com` or `huffingtonpost.com`).

- Different sub-domains: if both the comScore and BMA data contained references to specific sub-pages that could not clearly be matched to one other or to a more general domain (e.g.,

`customwire.ap.org` in comScore and `bigstory.ap.org` in BMA but no BMA score for `ap.org`), we did not match these domains to one another.

In total, after taking these steps, we were able to connect scores from 197 BMA domains to 562 domains in the comScore data, corresponding to 1,123,321 site visits (82% of respondents' total site visits to domains comScore classified as "News/Information").

E Most Popular Websites

When browsing the web, what sites do people typically patronize? Among the set of domains that could be connected to the BMA alignment scores, the majority of respondents' matched site visits (79%) fall within the top 25 most-visited domains in our dataset. In other words, when respondents consume online news, they seem to predominantly visit a small set of popular domains. These sites tend to range widely in their ideological slant, with some fairly centrist (`usatoday.com`) and others either highly liberal (`nytimes.com`) or conservative (`foxnews.com`). In addition, two of the top 25 most-visited domains in our dataset were portal sites: `aol.com` and `msn.com`. However, as we discuss in the main manuscript, even though respondents' site visits are highly concentrated, we observe substantial variation in both the quality and quantity of online news consumption behavior based on individuals' political identities and stated media preferences.

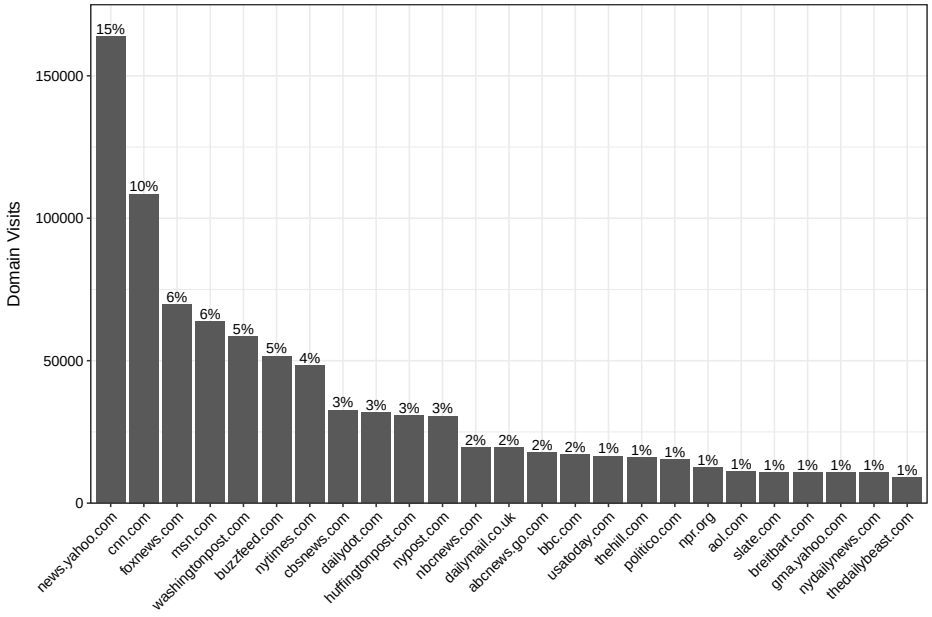


Figure E1: Number of unique visits to the 25 most popular domains in the comScore data, among sites that were able to be matched to the BMA alignment scores. We plot the absolute number of visits to each domain on the y-axis; the percentage of matched site visits that fell within each domain is also labeled.

Measures of Media Preferences

F Relative Volume of News versus Non-News

Figure F1 shows the distribution of respondents' revealed preferences for news versus non-news, segmented by partisanship, ideology, and stated media preferences. Note that, for all analyses, "leaners" are coded as partisans and ideologues, respectively. Overall, we find that partisanship and ideology seem to exert minimal influence over the average frequency with which individuals visit domains comScore classifies as "News/Information." Among Democrats and liberals, 17% of their site visits, on average, are to news domains, compared to 15% among Republicans and conservatives. Indeed, even Independents and moderates seem to consume online news at a similar rate as partisans and ideologues: 15% of Independents' site visits, on average, are to news domains, as are 17% of moderates'. Note, however, that these figures include *all* visits to domains comScore classifies as news, even those that may not correspond to hard news stories (see Appendix L).

However, individuals' stated media preferences tend to map more closely to their actual behavior. As shown in the bottom row of Figure F1, respondents who report a preference for entertainment do, on average, visit a smaller proportion of news versus non-news domains, though the differences remain relatively slight (13% vs. 16% among Fox News preferrers and 17% among MSNBC preferrers). Moreover, the left panel of Figure F2 suggests that respondents' stated levels of news consumption more closely map onto their real-world news consumption habits; for the 63% of respondents who say they consume news at least once a day, 18% of their site visits, on average, are to news domains, compared to 13% among respondents who report consuming news less frequently. Further validating this self-reported measure, as shown in the right panel of Figure F2, many respondents who report daily news consumption consume online news on a regular basis; 60% of these respondents visited at least one URL associated with news domain on over 90% of the days in the pre-study period, compared to only 40% of respondents who report less frequent news consumption.

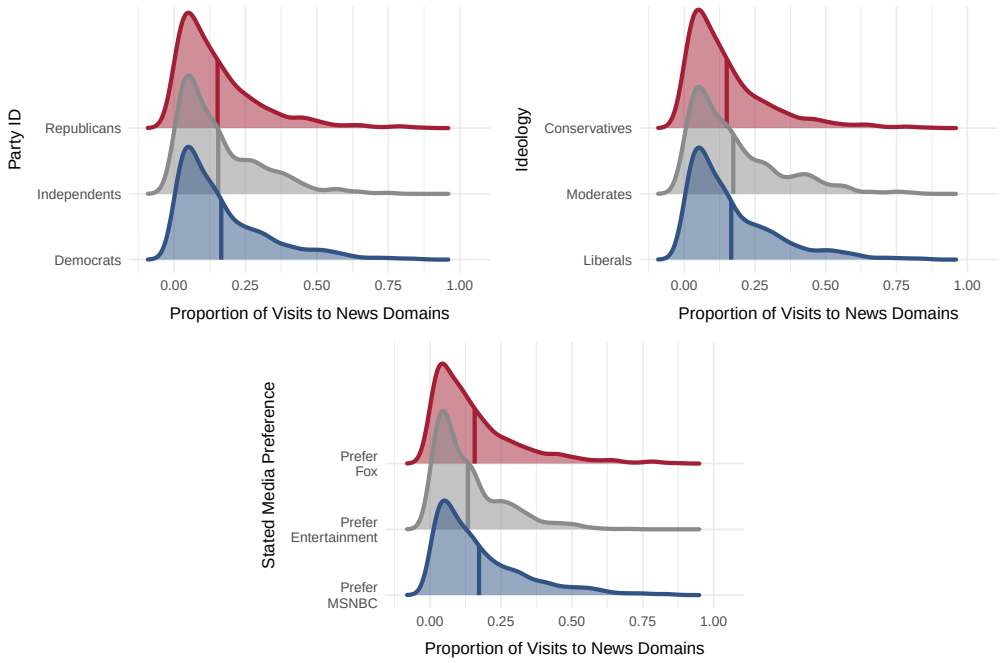


Figure F1: Distribution of preferences for news vs. non-news ("relative volume") by partisanship, ideology, and stated preferences. The average score in each group is indicated by a vertical line. Relative volume is calculated as the number of visits to news domains, as classified by comScore, divided by the total number of site visits in the pre-study period. Lower scores indicate relatively less consumption of news vs. non-news.

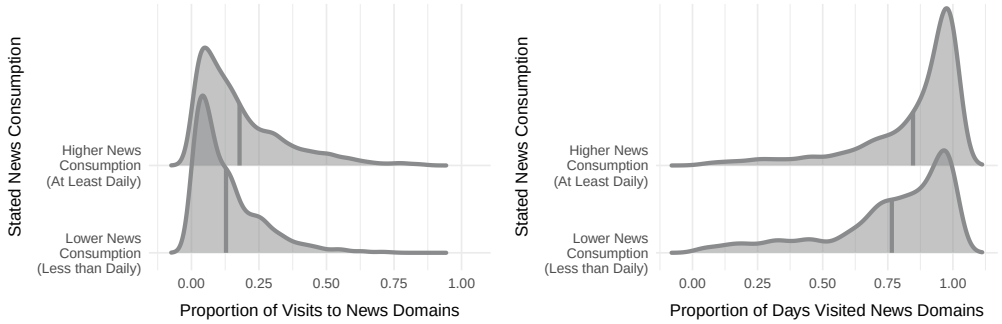


Figure F2: Distribution of "relative volume" by stated news consumption. The average score in each group is indicated by a vertical line. Relative volume is calculated in two ways. The left-hand plot shows our main measure: the number of *visits* to news domains, as classified by comScore, divided by the total number of site visits in the pre-study period. The right-hand plot shows the number of *days* respondents visited at least one news domain, as classified by comScore, divided by the length of the pre-study period. In both cases, lower scores indicate relatively less frequent consumption of news.

Finally, Figure F3 summarizes the results of three sets of OLS models regressing our "relative volume" measure on a series of demographic and political covariates, as well as party identification (left), ideological self-placement (middle), and stated media preferences (right). Across models, we find that stated news consumption, education, political knowledge, age, and political interest (as proxied by self-reported attention to national news) are all positive predictors of the relative frequency with which respondents visit news versus non-news domains. However, neither partisanship nor stated media preferences is consistently associated with relative volume scores after controlling for these other variables. Moreover, contrary to expectations, both conservatives and liberals are predicted to have marginally *lower* rates of news consumption, compared to moderates, after accounting for other variables.

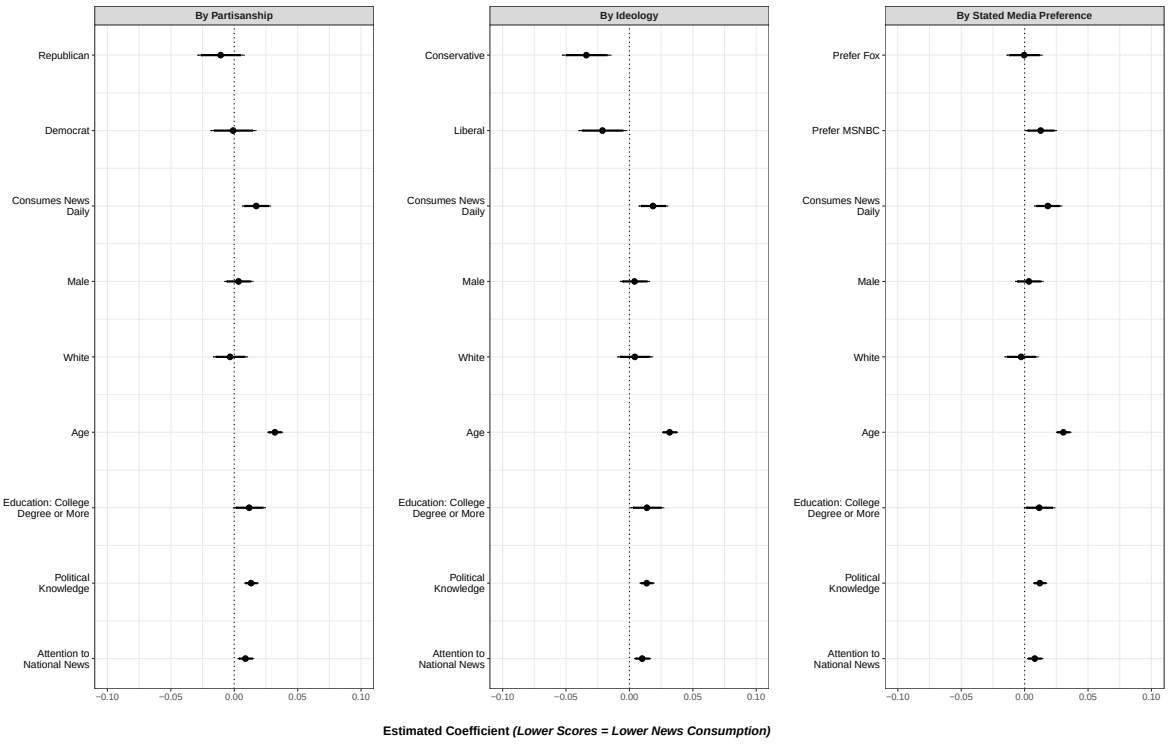


Figure F3: Predictors of "relative volume," based on OLS models regressing this measure on self-reported partisanship, ideological self-placement, stated media preferences, and other personal characteristics. 90/95% confidence intervals are based on robust standard errors. The reference categories are *Independent* (for partisanship), *Moderate* (for ideology), and *Prefer Entertainment* (for stated media preferences). Age, political knowledge, and attention to national news are standardized. Positive coefficients indicate higher rates of predicted consumption of news versus non-news.

G Relative Slant of News Consumption

Figures G1 and G2 plot the distributions of *respondent* and *visit-level* alignment scores, respectively, by self-reported partisanship, ideology, and stated media preferences (Figure G1 only). Portal sites, including `msn.com` and `aol.com`, are excluded in both cases. For both partisanship and ideology, we find some evidence of divergence across groups, in the expected direction. That is, Democrats and liberals tend to have more liberal-leaning media diets and tend to more frequently visit liberal-leaning outlets (such as `nytimes.com`). Conversely, Republicans and conservatives tend to have more conservative-leaning media diets and tend to more frequently visit conservative-leaning outlets (such as `foxnews.com`).

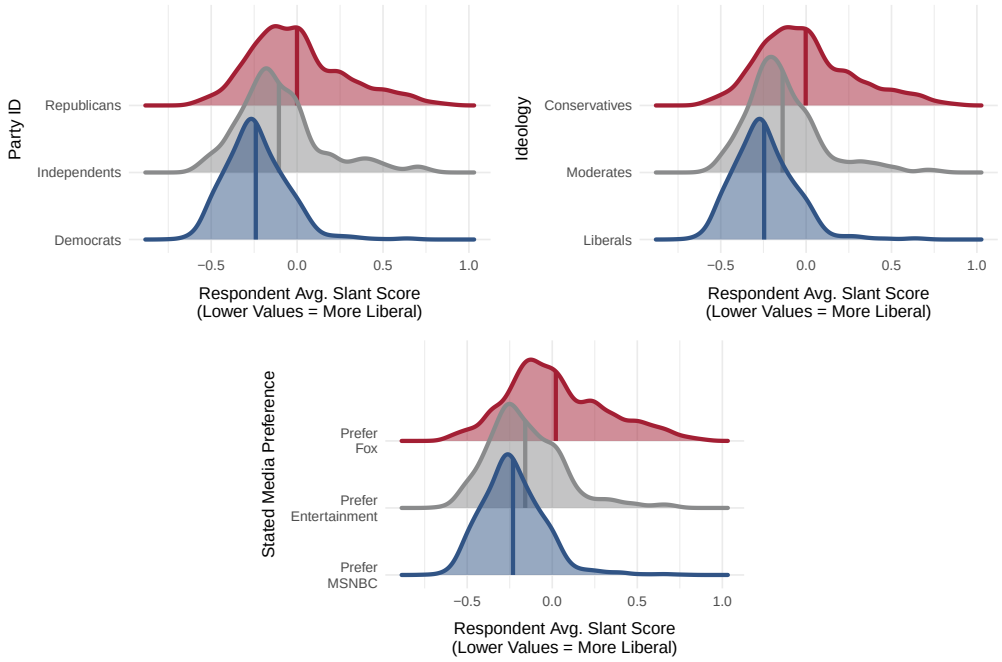


Figure G1: Distributions of respondent-level alignment scores by respondent partisanship, ideology, and stated preferences. The average alignment score in each group is indicated by a vertical line. Lower scores indicate more liberal media diets, and higher scores indicate more conservative media diets. Portal sites are excluded in all cases.

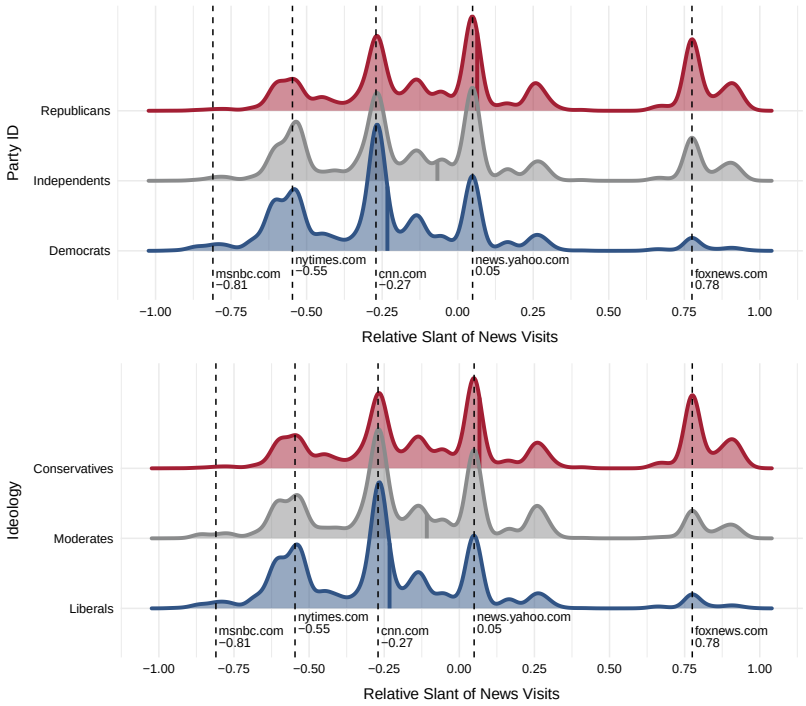


Figure G2: Distribution of ideological alignment scores for all news visits (excluding portals), disaggregated by respondent partisanship and ideology. The average alignment score in each group is indicated by a vertical line. Lower scores indicate more liberal news visits, and higher scores indicate more conservative news visits.

However, there is substantial overlap in the distributions of respondent- and visit-level alignment scores across these groups. To estimate this quantity, we again use the overlapping coefficient described in the main body of the paper. For the respondent-level scores, we obtain an overlapping coefficient of approximately 0.59 when comparing Democrats/Republicans and liberals/conservatives (0.593 and 0.587, respectively). Likewise, for the visit-level distributions, we estimate an overlapping coefficient of approximately 0.64 for these same groups (0.639 in both cases). The observed differences in average alignment scores between groups thus obscure substantial amounts of overlap.

In addition, Figure G3 plots the estimated coefficients from OLS models predicting respondent-level average alignment scores, or "relative slant," using a series of demographic and political covariates, including partisanship (left), ideology (middle) and stated media preferences (right). Overall, we replicate the bivariate results from above: respondents who self-identify as Democrats,

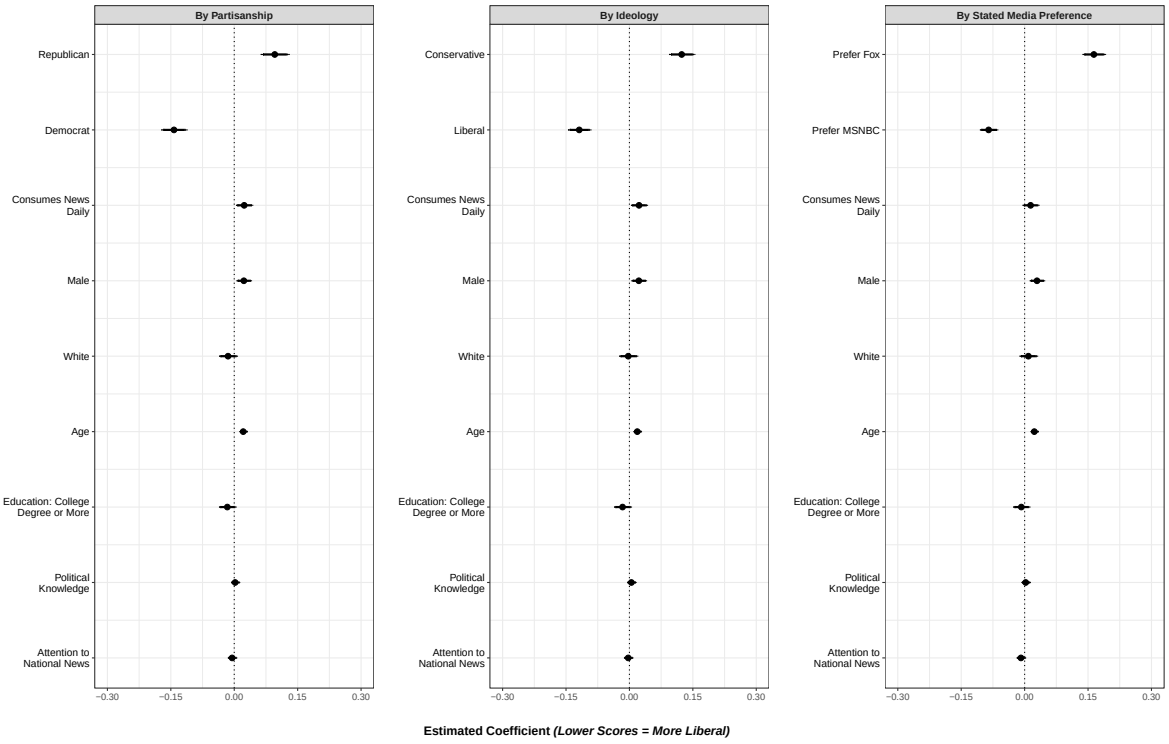


Figure G3: Predictors of relative slant scores, based on OLS models regressing average alignment scores on self-reported partisanship, ideological self-placement, stated media preferences, and other personal characteristics. 90/95% confidence intervals are based on robust standard errors. The reference categories are *Independent* (for partisanship), *Moderate* (for ideology), and *Prefer Entertainment* (for stated media preferences). Age, political knowledge, and attention to national news are standardized. Positive coefficients indicate more conservative alignment scores. Portal sites are excluded from all analyses.

liberals, and MSNBC preferrers, all else equal, are predicted to have significantly more liberal media diets, and respondents who self-identify as Republicans, conservatives, and Fox News preferrers, all else equal, are predicted to have significantly more conservative media diets, compared to Independents, moderates, and entertainment preferrers, respectively. However, neither political knowledge nor attention to national news is significantly associated with relative slant after accounting for other aspects of respondents' personal and political identities. Similarly, stated news consumption is only weakly and inconsistently associated with respondent alignment scores after controlling for other variables. These findings, in conjunction with the relative volume results summarized in Figure F3, suggest that political engagement and knowledge are highly predictive of *whether* individuals consume news but are less informative about the *types* of news they consume.

Relationship between Volume and Slant

Figure G4 contains scatterplots of respondents' scores on our two revealed preference measures. The x-axis plots scores for the first dimension of our model: the relative *volume* of news respondents consume, based on the proportion of respondents' site visits that were to news versus non-news domains. The y-axis plots scores for the second dimension of our model: the relative *slant* of respondents' news diets, based on the average alignment score of news domains they visited during the pre-study period; the bottom plot uses the absolute value of this score as a proxy for the extremity of respondents' news diets. Overall, the two dimensions of preferences appear only weakly correlated, as our theoretical model would predict.

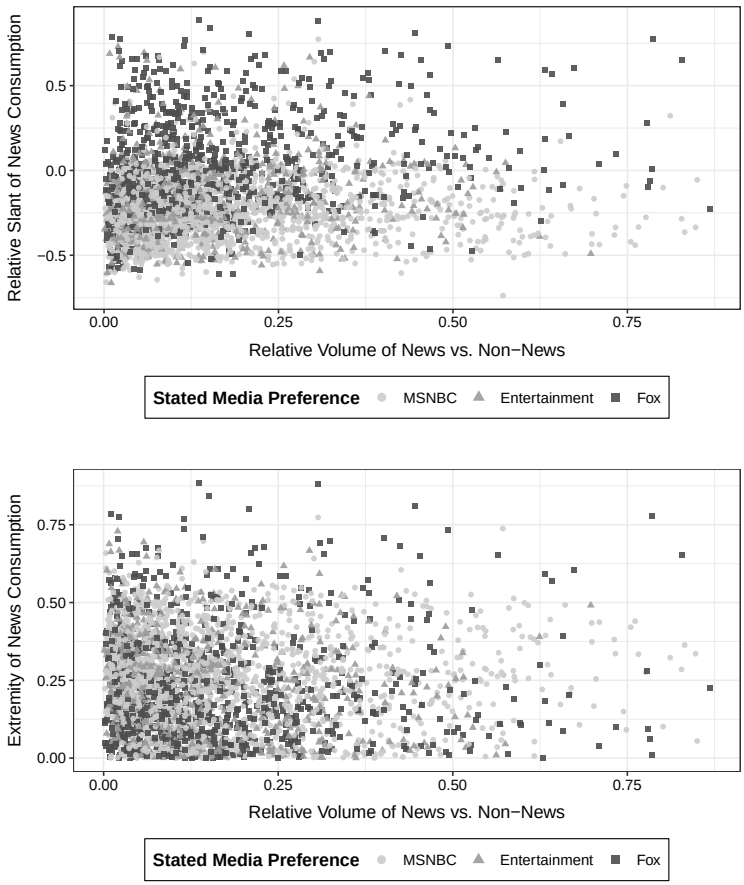


Figure G4: Comparison of our two revealed preference measures. Points are color-coded by respondents' stated media preferences.

Heterogeneity of Respondents' Media Diets

Figure G5 contains a scatterplot of the mean and variance of our relative slant measure, color-coded by stated media preferences. Replicating Guess (2021), many respondents seem to consume ideologically diverse media, as evidenced by high levels of variance in their alignment scores. This tendency is especially apparent among respondents with more moderate and conservative alignment scores. One implication of these results is that some individuals whose news diets appear centrist on average may actually prefer to consume a wide range of ideologically heterogeneous content.

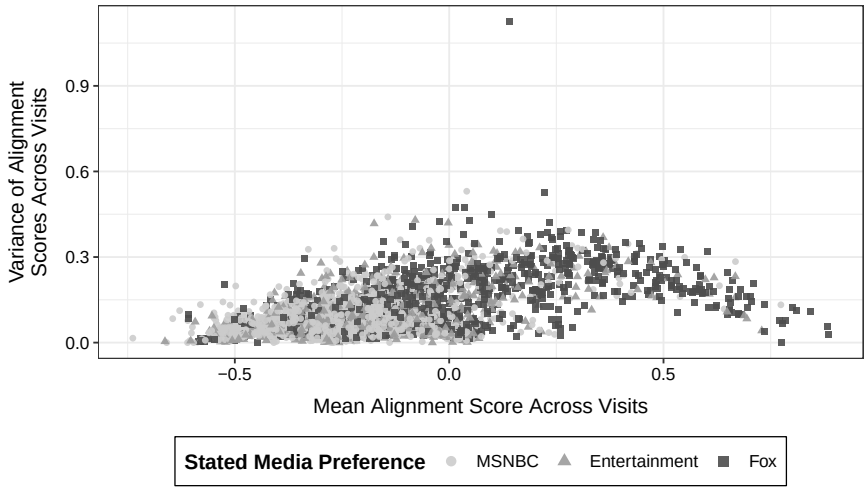


Figure G5: Comparison of the mean and variance of our "relative slant" measure, based on the alignment scores of news domains visited by each respondent during the pre-study period. Points are color-coded by respondents' stated media preferences.

H Discrepancies between Stated and Revealed Preferences

Building on Figure 2, we investigate discrepancies between individuals' stated preferences (as measured in the survey) and their revealed preferences (as measured via their web-browsing data). First, Tables H1 and H2 show the count of respondents for each permutation of stated and revealed preferences, where the latter is coded based on respondents' average alignment scores, relative to two exemplar sites (`cnn.com` and `yahoo.com/news`). As these tables indicate, relatively few respondents with comparatively conservative media diets report a preference for MSNBC ($n = 82$ in the full sample, $n = 45$ in the free-choice group), and relatively few respondents with comparatively liberal media diets report a preference for Fox ($n = 119$ in the full sample, $n = 53$ in the free-choice group). These extreme cases cover only 6% of respondents, regardless of the sample we analyze. In contrast, there are substantially more cases where respondents report a preference for partisan media but have fairly centrist and/or ideologically heterogeneous media diets in practice. As such, a stated preference for partisan media versus entertainment does not seem to signify that individuals primarily consume slanted media in their daily lives. On the contrary, these responses may simply reflect the fact that our stated preference measure offered respondents a choice between a very constrained set of media outlets, with no non-partisan or moderate option available.

	More Liberal Than CNN	Between CNN and Yahoo!	More Conserv. Than Yahoo!
MSNBC	733	873	82
Entertainment	265	416	108
Fox	119	414	340

Table H1: Alignment of stated and revealed preferences in full sample ($n = 3350$), using coding based on exemplar sites.

	More Liberal Than CNN	Between CNN and Yahoo!	More Conserv. Than Yahoo!
MSNBC	353	425	45
Entertainment	132	215	59
Fox	53	225	172

Table H2: Alignment of stated and revealed preferences among respondents in the free-choice group ($n = 1679$), using coding based on exemplar sites.

What factors, however, predict whether individuals' stated and revealed media preferences diverge? To answer this question, we constructed a continuous measure of how "out of step" respondents' online media diets were, compared to other members of their stated preference group. For each respondent who stated a preference for partisan media, we calculated the percentile into which their alignment score fell, relative to the empirical distribution of alignment scores among members of their stated preference group. For respondents who stated a preference for MSNBC, higher ratings indicate more *conservative* alignment scores, relative to other MSNBC preferrers. For respondents who stated a preference for Fox News, higher ratings indicate more *liberal* alignment scores, relative to other Fox News preferrers. In both cases, higher ratings thus signify greater discrepancies between one's stated and revealed preferences. In Figure H1, we present estimated coefficients from OLS models regressing this measure on self-reported partisanship (left panel), ideology (middle panel), stated media preferences (right panel), and other background characteristics (all panels). Respondents who state a preference for entertainment are excluded from all analyses.

Across models, several interesting patterns emerge. First, as shown in the right panel of this figure, Fox News preferrers tend to have media diets that more closely match their stated preferences, compared to MSNBC preferrers—a result that may reflect the larger size of (and therefore diversity of scores within) the latter group. In addition, all else equal, self-reported partisans and ideologues tend to have media diets that are more in step with others within their stated preference groups, as evidenced by negative coefficients in the left and middle panels of Figure H1. In other words, perhaps unsurprisingly, Independents and moderates who report a preference for MSNBC (Fox News) tend to have less liberal (conservative) media diets, compared to other MSNBC (Fox News) preferrers. We likewise find that higher levels of political knowledge and attention to national news tend to be associated with aligned preferences. One explanation for these results is that political engagement, broadly defined, allows individuals to more effectively sort into the "correct" stated preference group. Finally, holding other factors constant, male respondents tend to have media diets that diverge more from their stated preference group, relative to female respondents.

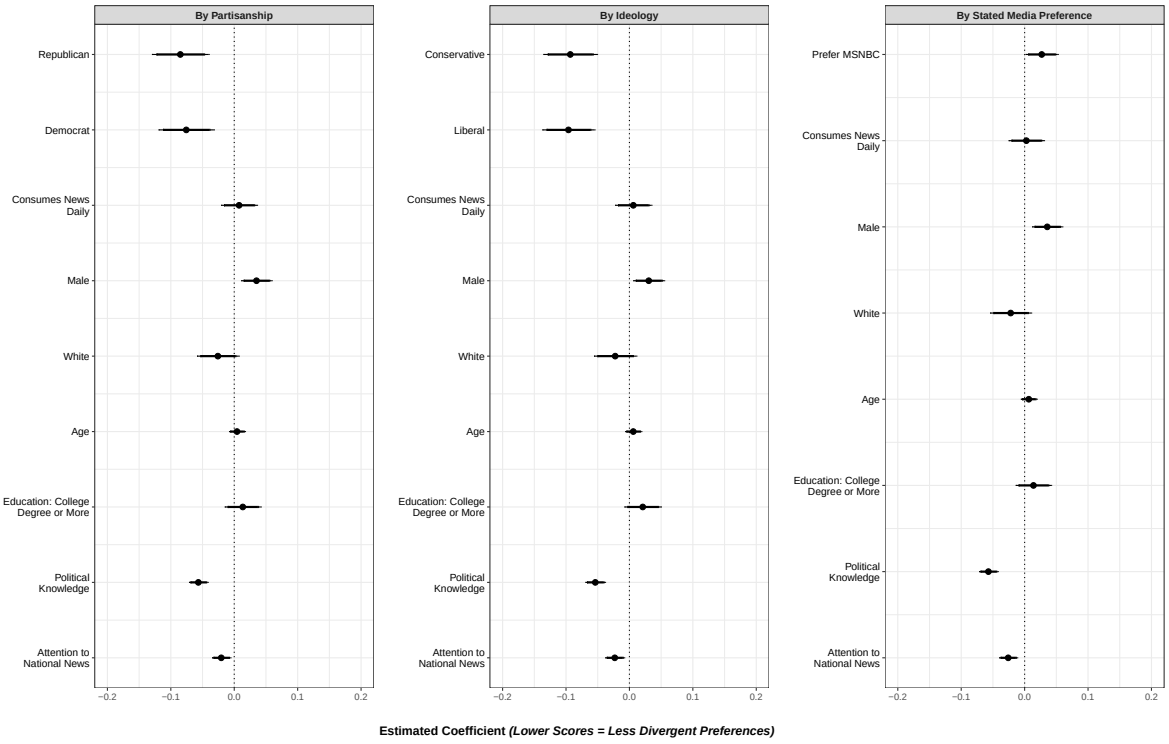


Figure H1: Predictors of news diet extremity, based on OLS models regressing extremity on self-reported partisanship, ideological self-placement, stated media preferences, and other personal characteristics. 90/95% confidence intervals are based on robust standard errors. The reference categories are *Independent* (for partisanship), *Moderate* (for ideology), and *Prefer Fox* (for stated media preferences). Age, political knowledge, and attention to national news are standardized. Positive coefficients indicate more misaligned preferences, relative to one's stated preference group. Individuals who report a preference for entertainment are excluded in all cases.

Experimental Results

I Treatment Effects and Average Ratings

Figure I1 plots the unconditional average treatment effect of assignment to a given partisan media outlet on respondents' attitudes (left panel) and intended sharing behavior (right panel). Overall, we find that respondents exposed to Fox News report significantly more conservative attitudes, and respondents exposed to MSNBC report significantly more liberal attitudes, relative to respondents assigned to entertainment. This results in a meaningful difference in education policy attitudes between respondents assigned to Fox News versus MSNBC (Cohen's $d = 0.26$). When it comes to intended sharing behavior, we also find that respondents are significantly more likely to say they would share and discuss both sets of partisan media articles, relative to the entertainment articles, though respondents on the whole (who tend to skew liberal) are significantly more likely to say they would share articles from MSNBC versus Fox.

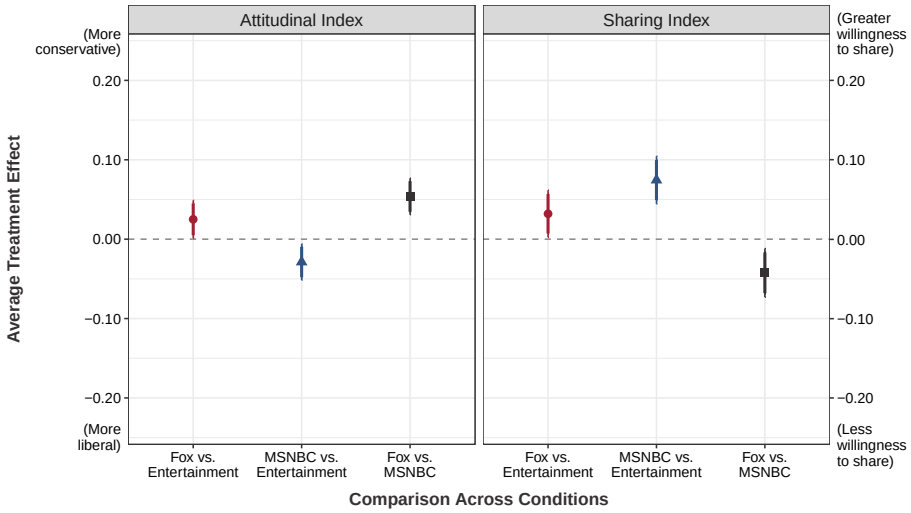


Figure I1: Average treatment effect of assignment to Fox versus MSNBC on respondents' attitudes (left panel) and intended sharing behavior (right panel), across the full sample of respondents in the forced-choice group. 90/95% confidence intervals are based on robust standard errors.

Average Ratings by Condition

Figures I2 to I4 display average ratings on the attitudinal and sharing indices, disaggregated by respondents' experimental condition (Fox News, MSNBC, or entertainment) and media preferences. Higher ratings on the attitudinal index indicate more conservative attitudes, and higher ratings on the sharing index indicate a greater stated likelihood of sharing and discussing the presented content with others. Average ratings only include respondents in the forced-choice group.

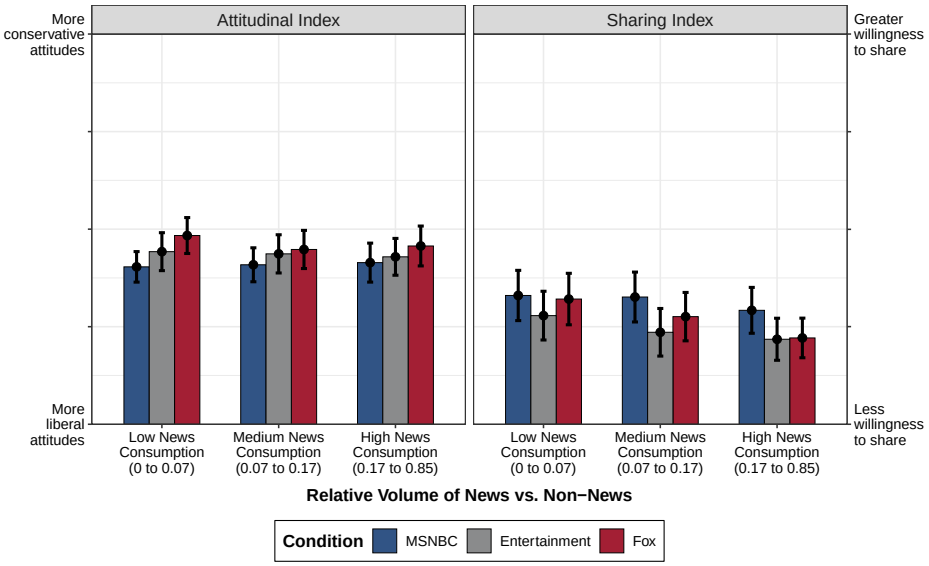
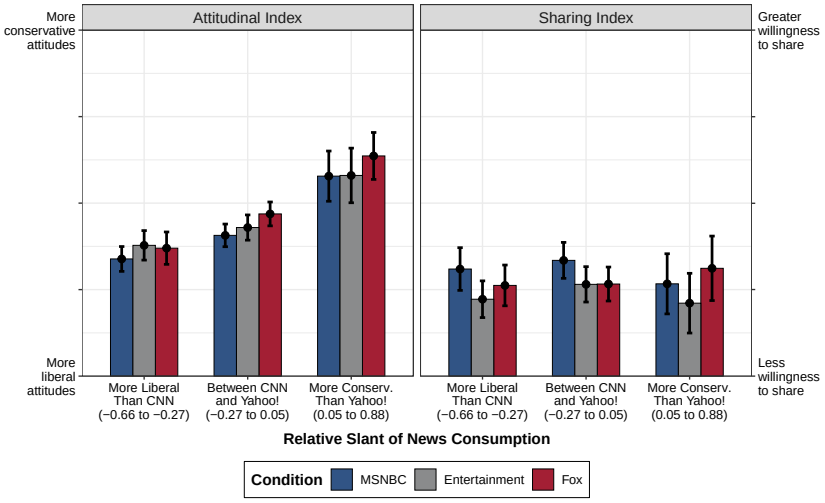


Figure I2: Average ratings of attitudes (left panel) and intended sharing behavior (right panel), disaggregated by experimental condition (Fox, MSNBC, or entertainment) and revealed preferences for news vs. non-news ("relative volume"). Revealed preferences are calculated as the number of visits to news domains, as classified by comScore, divided by the total number of site visits in the pre-study period. 95% confidence intervals are displayed.

(a) All URLs



(b) Hard News URLs

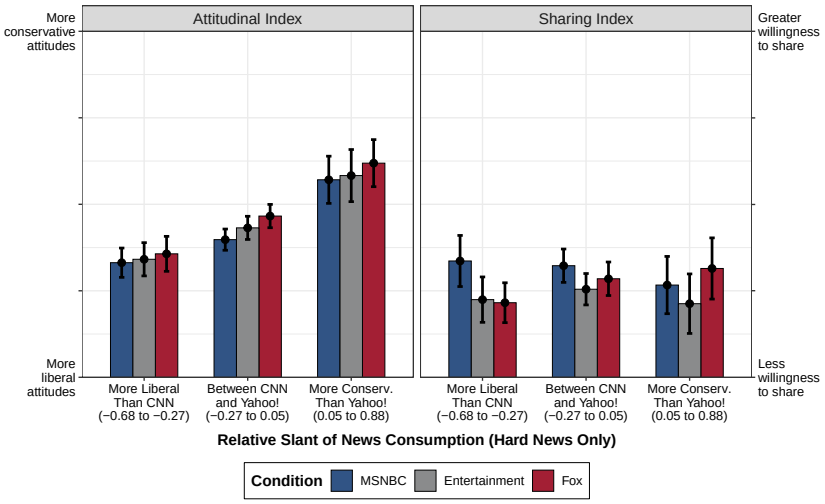


Figure I3: Average ratings of attitudes (left panel) and intended sharing behavior (right panel), disaggregated by experimental condition (Fox, MSNBC, or entertainment) and revealed preferences for ideological content ("relative slant"). Revealed preferences are calculated as the average alignment score of domains associated with respondents' news visits, excluding portals. Panel (a) includes all URLs associated with news domains, whereas panel (b) just includes URLs that are predicted to correspond to hard news. 95% confidence intervals are displayed.

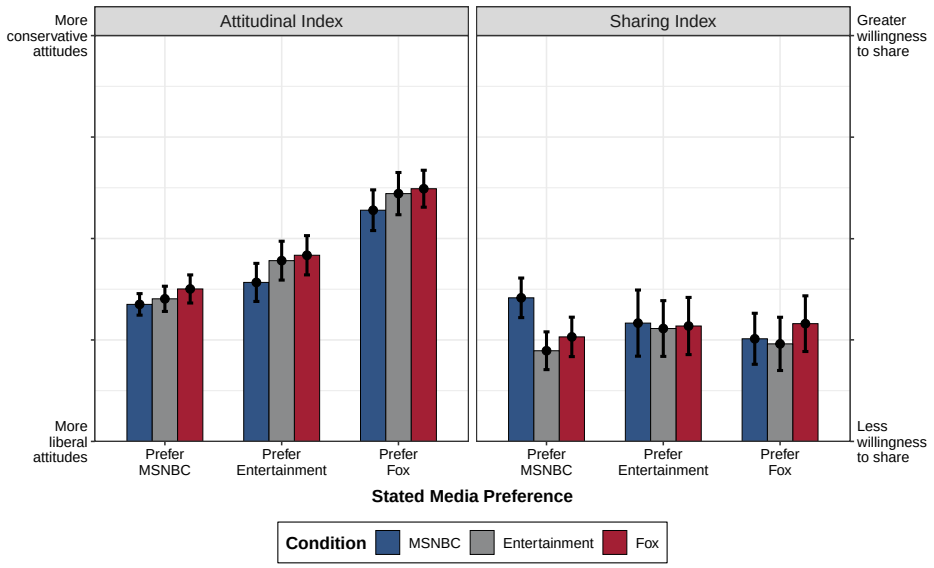


Figure I4: Average ratings of attitudes (left panel) and intended sharing behavior (right panel), disaggregated by experimental condition (Fox, MSNBC, or entertainment) and stated media preferences. 95% confidence intervals are displayed.

J Comparing Exposure to Fox versus MSNBC

Figures J1 to J3 present the treatment effects of assignment to Fox versus MSNBC, as opposed to partisan media versus entertainment. Positive coefficients on the attitudinal index indicate that respondents within a given subgroup, on average, reported more conservative attitudes when assigned to read Fox News versus MSNBC. Positive coefficients on the sharing index indicate that respondents within a given subgroup, on average, were more likely to say that they would share or discuss articles attributed to Fox News versus MSNBC. These plots suggest some evidence of attitudinal polarization across the board; in all three cases, respondents assigned to read articles from Fox News report at least somewhat more conservative attitudes, compared to respondents assigned to read articles from MSNBC—regardless of their media preferences (either stated or revealed). However, patterns of intended sharing behavior tend to vary more widely across preference groups.

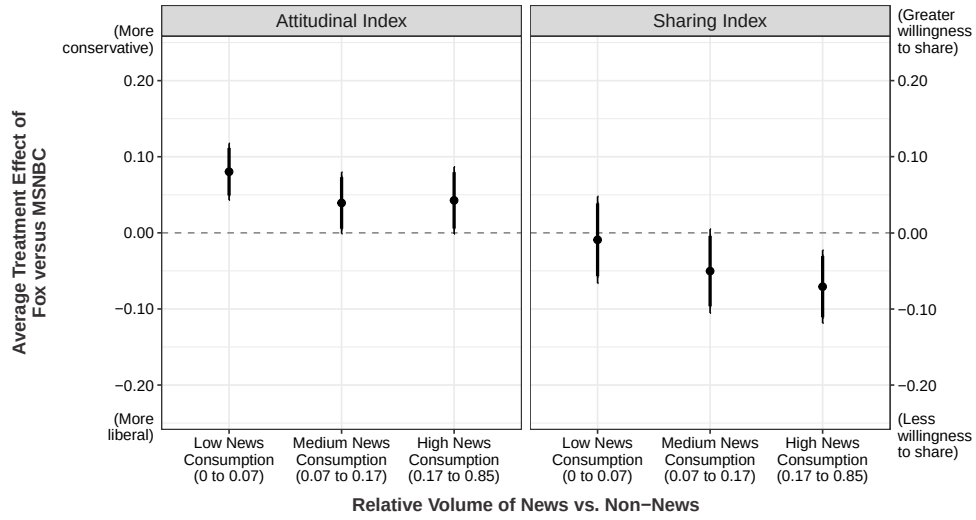
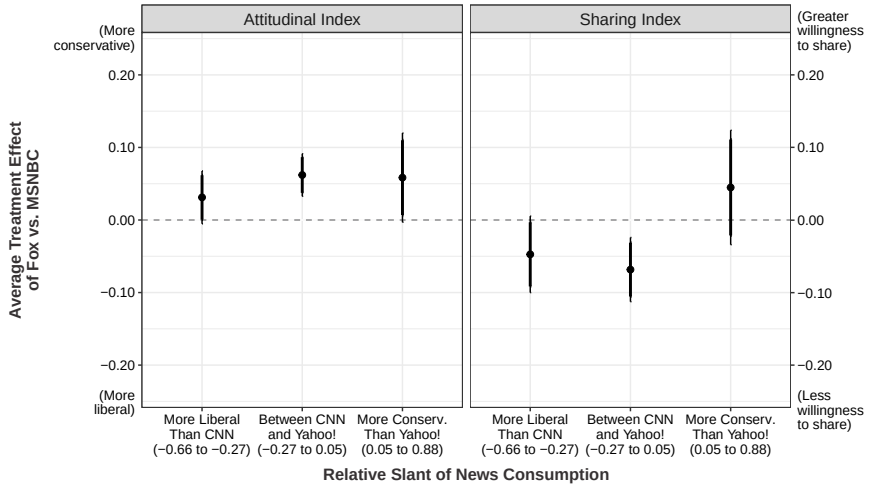


Figure J1: Average treatment effect of assignment to Fox versus MSNBC on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by revealed preferences for news versus non-news ("relative volume"). Revealed preferences are calculated as the number of visits to news domains, as classified by comScore, divided by the total number of site visits in the pre-study period. 90/95% confidence intervals are based on robust standard errors.

(a) All URLs



(b) Hard News URLs

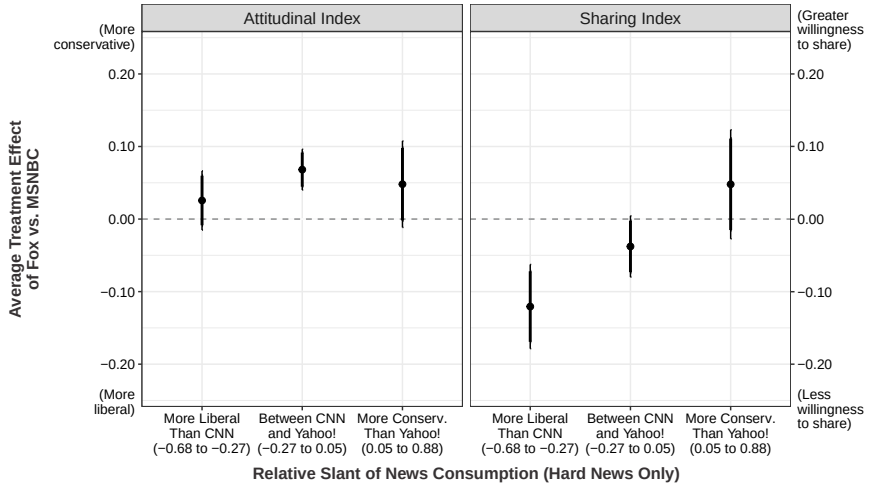


Figure J2: Average treatment effect of assignment to Fox versus MSNBC on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by revealed preferences for ideological content ("relative slant"). Revealed preferences are calculated as the average alignment score of all domains associated with respondents' news visits, excluding portals. Panel (a) includes all URLs associated with news domains, whereas panel (b) just includes URLs that are predicted to correspond to hard news. 90/95% confidence intervals are based on robust standard errors.

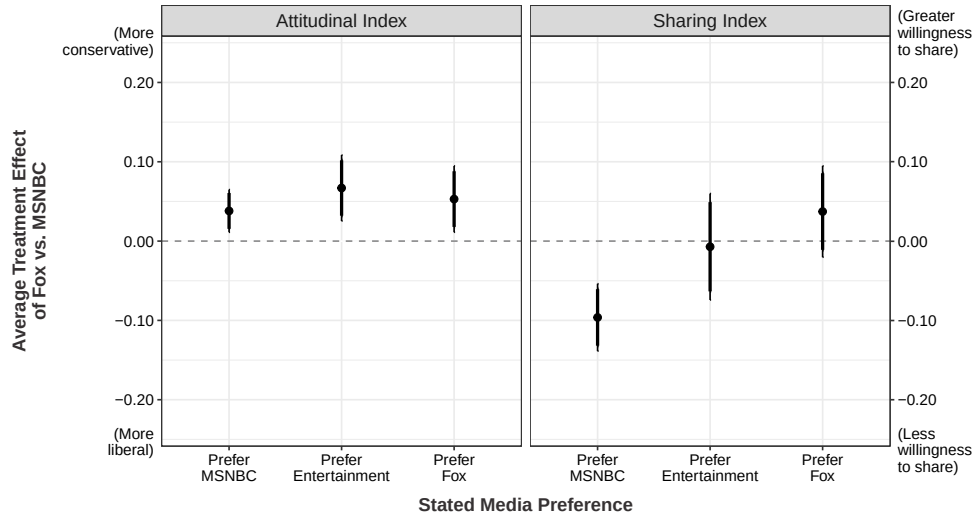


Figure J3: Average treatment effect of assignment to Fox versus MSNBC on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by stated media preferences. 90/95% confidence intervals are based on robust standard errors.

K Regression Tables

Tables K1 to K4 report the coefficients from OLS models estimating the difference in means between respondents assigned to partisan media (either Fox News or MSNBC) versus entertainment. For each subgroup, the intercept corresponds to the average rating among respondents assigned to view entertainment. All models are estimated only among respondents assigned to the forced-choice group, and both dependent variables range from 0 to 1.

Table K1: OLS Models by Relative Volume

	Attitudinal Index			**Sharing Index**		
	Low News Consumption	Med. News Consumption	High News Consumption	Low News Consumption	Med. News Consumption	High News Consumption
Fox	0.04^{**}	0.01	0.03	0.04	0.04	0.003
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)
MSNBC	-0.04^{**}	-0.03	-0.01	0.05^{*}	0.09^{***}	0.07^{***}
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)
Constant	0.44^{***}	0.44^{***}	0.43^{***}	0.28^{***}	0.24^{***}	0.22^{***}
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)
N	557	559	569	555	556	568
R^2	0.03	0.01	0.01	0.01	0.02	0.02
Adjusted R^2	0.03	0.003	0.003	0.003	0.02	0.02

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is Entertainment. Both dependent variables range from 0 to 1.
p values are based on robust standard errors (HC2 variant).

Table K2: OLS Models by Relative Slant (All URLs)

	Attitudinal Index			**Sharing Index**		
	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!
Fox	−0.01	0.04**	0.06*	0.04	0.001	0.10**
	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.04)
MSNBC	−0.04**	−0.02	−0.002	0.09***	0.07***	0.06
	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	(0.04)
Constant	0.38***	0.43***	0.58***	0.22***	0.27***	0.21***
	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)
N	579	838	254	578	833	254
R^2	0.01	0.02	0.02	0.02	0.01	0.03
Adjusted R^2	0.01	0.02	0.01	0.02	0.01	0.02

*p < .1; **p < .05; ***p < .01

Note: The reference category is Entertainment. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant).

Table K3: OLS Models by Relative Slant (Hard News Only)

	Attitudinal Index			**Sharing Index**		
	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!
Fox	0.02	0.03**	0.04	−0.01	0.03	0.10***
	(0.02)	(0.01)	(0.03)	(0.03)	(0.02)	(0.04)
MSNBC	−0.01	−0.03**	−0.01	0.11***	0.07***	0.05
	(0.02)	(0.01)	(0.03)	(0.03)	(0.02)	(0.04)
Constant	0.34***	0.43***	0.58***	0.22***	0.25***	0.21***
	(0.02)	(0.01)	(0.02)	(0.02)	(0.01)	(0.03)
N	420	975	266	419	971	265
R^2	0.004	0.02	0.01	0.05	0.01	0.03
Adjusted R^2	−0.001	0.02	0.002	0.04	0.01	0.02

*p < .1; **p < .05; ***p < .01

Note: The reference category is Entertainment. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant). The revealed preference measure solely draws on visits to "hard news" URLs.

Table K4: OLS Models by Stated Media Preferences

	Attitudinal Index			Sharing Index		
	Prefer MSNBC	Prefer Entertainment	Prefer Fox	Prefer MSNBC	Prefer Entertainment	Prefer Fox
Fox	0.02*	0.01	0.01	0.03	0.01	0.05*
	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
MSNBC	−0.01	−0.05**	−0.04*	0.13***	0.01	0.01
	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
Constant	0.35***	0.45***	0.61***	0.22***	0.28***	0.24***
	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)
N	901	406	450	901	401	449
R^2	0.01	0.03	0.01	0.04	0.0004	0.01
Adjusted R^2	0.01	0.02	0.01	0.04	−0.005	0.003

*p < .1; **p < .05; ***p < .01

Note: The reference category is Entertainment. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant).

With Controls

Tables K5 to K8 report the estimated coefficients from OLS models controlling for age, gender, race, education, partisanship, ideology, and attention to national news. Our results are largely robust to the inclusion of these covariates. However, as shown in Table K6, after accounting for these variables, respondents with the most conservative media diets (based on our web-tracking data) no longer report marginally more conservative policy attitudes after being assigned to read Fox News versus entertainment (see also Table K7). Additionally, as shown in Table K8, respondents who state a preference for MSNBC now appear to be marginally persuaded by exposure to both Fox *and* MSNBC, not just Fox.

Table K5: OLS Models by Relative Volume

	Attitudinal Index			**Sharing Index**		
	Low News Consumption	Med. News Consumption	High News Consumption	Low News Consumption	Med. News Consumption	High News Consumption
Fox	0.04^{**}	0.03	0.02	0.05^{*}	0.02	0.01
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)
MSNBC	-0.05^{***}	-0.02	-0.02	0.07^{**}	0.08^{***}	0.09^{***}
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)
Constant	0.46^{***}	0.46^{***}	0.47^{***}	0.54^{***}	0.31^{***}	0.27^{***}
	(0.04)	(0.03)	(0.04)	(0.06)	(0.05)	(0.06)
N	508	516	526	507	514	526
R^2	0.32	0.35	0.40	0.12	0.14	0.10
Adjusted R^2	0.30	0.34	0.39	0.10	0.12	0.08
Controls?	✓	✓	✓	✓	✓	✓

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is Entertainment. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant). All models control for age, gender, race, education, partisanship, ideology, and attention to national news.

Table K6: OLS Models by Relative Slant (All URLs)

	Attitudinal Index			**Sharing Index**		
	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!
Fox	0.002	0.05^{***}	0.01	0.03	0.002	0.07^{*}
	(0.02)	(0.01)	(0.03)	(0.02)	(0.02)	(0.04)
MSNBC	-0.04^{**}	-0.03^{*}	-0.02	0.09^{***}	0.07^{***}	0.03
	(0.02)	(0.01)	(0.03)	(0.03)	(0.02)	(0.04)
Constant	0.44^{***}	0.45^{***}	0.51^{***}	0.50^{***}	0.31^{***}	0.43^{***}
	(0.04)	(0.03)	(0.06)	(0.06)	(0.04)	(0.09)
N	533	764	240	533	761	240
R^2	0.29	0.28	0.34	0.13	0.13	0.21
Adjusted R^2	0.27	0.27	0.30	0.11	0.11	0.17
Controls?	✓	✓	✓	✓	✓	✓

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is Entertainment. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant). All models control for age, gender, race, education, partisanship, ideology, and attention to national news.

Table K7: OLS Models by Relative Slant (Hard News Only)

	Attitudinal Index			**Sharing Index**		
	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!
Fox	0.01	0.04^{***}	-0.002	-0.01	0.03	0.07^{*}
	(0.02)	(0.01)	(0.03)	(0.03)	(0.02)	(0.04)
MSNBC	-0.01	-0.04^{***}	-0.02	0.12^{***}	0.07^{***}	0.02
	(0.02)	(0.01)	(0.03)	(0.03)	(0.02)	(0.04)
Constant	0.43^{***}	0.46^{***}	0.51^{***}	0.50^{***}	0.34^{***}	0.39^{***}
	(0.05)	(0.02)	(0.06)	(0.08)	(0.04)	(0.09)
N	390	891	248	390	889	247
R^2	0.26	0.29	0.32	0.16	0.12	0.17
Adjusted R^2	0.24	0.28	0.29	0.14	0.11	0.13
Controls?	✓	✓	✓	✓	✓	✓

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is Entertainment. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant). All models control for age, gender, race, education, partisanship, ideology, and attention to national news. The revealed preference measure solely draws on visits to "hard news" URLs.

Table K8: OLS Models by Stated Media Preferences

	Attitudinal Index			**Sharing Index**		
	Prefer MSNBC	Prefer Entertainment	Prefer Fox	Prefer MSNBC	Prefer Entertainment	Prefer Fox
Fox	0.03^{*}	0.02	0.01	0.03	-0.03	0.05^{*}
	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
MSNBC	-0.02^{*}	-0.05^{**}	-0.04^{*}	0.13^{***}	0.03	0.01
	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
Constant	0.48^{***}	0.41^{***}	0.52^{***}	0.31^{***}	0.47^{***}	0.38^{***}
	(0.03)	(0.04)	(0.05)	(0.05)	(0.07)	(0.07)
N	849	341	423	849	339	422
R^2	0.20	0.20	0.18	0.12	0.19	0.17
Adjusted R^2	0.19	0.17	0.16	0.11	0.17	0.15
Controls?	✓	✓	✓	✓	✓	✓

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is Entertainment. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant). All models control for age, gender, race, education, partisanship, ideology, and attention to national news.

Interactive Models

Tables K9 to K12 report the results of OLS models interacting the treatment indicator (assignment to partisan media versus entertainment) with a categorical measure of respondents' media preferences. The interaction terms represent the estimated change in the effect of assignment to a given source (Fox or MSNBC), relative to entertainment, when moving from one preference group to another. The reference category is "Low News Consumption" for Table K9, "More Liberal than CNN" for Tables K10 and K11, and "Prefer Entertainment" for Table K12. Of note, given that we solely examine the forced-choice group, and given the small size of some of the preference bins, we are underpowered to detect a significant interaction between media exposure and revealed preferences, despite interaction terms that in some cases appear substantively large.

Table K9: Difference in Treatment Effects by Relative Volume

	Attitudinal Index	**Sharing Index**
Fox	0.04^{**}	0.04
	(0.02)	(0.03)
MSNBC	-0.04^{**}	0.05^{*}
	(0.02)	(0.03)
Medium News Consumption	-0.01	-0.04
	(0.02)	(0.03)
High News Consumption	-0.01	-0.06^{**}
	(0.02)	(0.03)
Fox $\times$ Medium News Consumption	-0.03	-0.002
	(0.03)	(0.04)
MSNBC $\times$ Medium News Consumption	0.01	0.04
	(0.03)	(0.04)
Fox $\times$ High News Consumption	-0.01	-0.04
	(0.03)	(0.04)
MSNBC $\times$ High News Consumption	0.02	0.02
	(0.03)	(0.04)
Constant	0.44^{***}	0.28^{***}
	(0.02)	(0.02)
N	1,685	1,679
R^2	0.01	0.03
Adjusted R^2	0.01	0.02

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is Entertainment for media exposure and Low News Consumption for revealed volume preferences. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant).

Table K10: Difference in Treatment Effects by Relative Slant (All URLs)

	Attitudinal Index	**Sharing Index**
Fox	-0.01	0.04
	(0.02)	(0.02)
MSNBC	-0.04^{**}	0.09^{***}
	(0.02)	(0.03)
Between CNN and Yahoo!	0.05^{***}	0.04^{*}
	(0.02)	(0.02)
More Conserv. Than Yahoo!	0.20^{***}	-0.01
	(0.03)	(0.03)
Fox $\times$ Between CNN and Yahoo!	0.05^{*}	-0.04
	(0.03)	(0.03)
MSNBC $\times$ Between CNN and Yahoo!	0.02	-0.02
	(0.02)	(0.03)
Fox $\times$ More Conserv. Than Yahoo!	0.06^{*}	0.06
	(0.04)	(0.05)
MSNBC $\times$ More Conserv. Than Yahoo!	0.04	-0.03
	(0.04)	(0.05)
Constant	0.38^{***}	0.22^{***}
	(0.01)	(0.02)
N	1,671	1,665
R^2	0.16	0.02
Adjusted R^2	0.15	0.02

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is Entertainment for media exposure and More Liberal than CNN for revealed slant preferences. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant).

Table K11: Difference in Treatment Effects by Relative Slant (Hard News Only)

	Attitudinal Index	**Sharing Index**
Fox	0.02	−0.01
	(0.02)	(0.03)
MSNBC	−0.01	0.11***
	(0.02)	(0.03)
Between CNN and Yahoo!	0.09***	0.03
	(0.02)	(0.03)
More Conserv. Than Yahoo!	0.24***	−0.01
	(0.03)	(0.03)
Fox × Between CNN and Yahoo!	0.02	0.04
	(0.03)	(0.03)
MSNBC × Between CNN and Yahoo!	−0.02	−0.04
	(0.02)	(0.04)
Fox × More Conserv. Than Yahoo!	0.02	0.11**
	(0.04)	(0.05)
MSNBC × More Conserv. Than Yahoo!	−0.002	−0.06
	(0.04)	(0.05)
Constant	0.34***	0.22***
	(0.02)	(0.02)
N	1,661	1,655
R^2	0.16	0.02
Adjusted R^2	0.16	0.02

*p < .1; **p < .05; ***p < .01

Note: The reference category is Entertainment for media exposure and More Liberal than CNN for revealed slant preferences. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant). The revealed preference measure solely draws on "hard news" URLs.

Table K12: Difference in Treatment Effects by Stated Media Preferences

	Attitudinal Index	**Sharing Index**
Fox	0.01	0.01
	(0.02)	(0.03)
MSNBC	-0.05^{**}	0.01
	(0.02)	(0.03)
Prefer Fox	0.17^{***}	-0.04
	(0.02)	(0.03)
Prefer MSNBC	-0.09^{***}	-0.05^{**}
	(0.02)	(0.03)
Fox $\times$ Prefer Fox	-0.001	0.04
	(0.03)	(0.04)
MSNBC $\times$ Prefer Fox	0.01	-0.001
	(0.03)	(0.04)
Fox $\times$ Prefer MSNBC	0.01	0.03
	(0.03)	(0.04)
MSNBC $\times$ Prefer MSNBC	0.04	0.12^{***}
	(0.02)	(0.04)
Constant	0.45^{***}	0.28^{***}
	(0.02)	(0.02)
N	1,757	1,751
R^2	0.26	0.03
Adjusted R^2	0.26	0.02

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is Entertainment for media exposure and Prefer Entertainment for stated media preferences. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant).

Fox News versus MSNBC

Supplementing Appendix J, Tables K13 to K16 report the results from OLS models estimating the difference in means between respondents assigned to Fox News versus MSNBC. Positive coefficients on the attitudinal index that respondents reported more conservative attitudes after being assigned to Fox versus MSNBC, and positive coefficients on the sharing index indicate that respondents were more likely to say they would share or discuss articles from Fox versus MSNBC. Respondents assigned to the entertainment condition are excluded in all cases.

Table K13: OLS Models for Fox News vs. MSNBC by Relative Volume

	Attitudinal Index			**Sharing Index**		
	Low News Consumption	Med. News Consumption	High News Consumption	Low News Consumption	Med. News Consumption	High News Consumption
Fox	0.08^{***}	0.04^{*}	0.04^{*}	-0.01	-0.05^{*}	-0.07^{***}
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)
Constant	0.40^{***}	0.41^{***}	0.41^{***}	0.33^{***}	0.33^{***}	0.29^{***}
	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)
N	374	382	372	372	379	372
R^2	0.05	0.01	0.01	0.0003	0.01	0.02
Adjusted R^2	0.04	0.01	0.01	-0.002	0.01	0.02

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is MSNBC. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant).

Table K14: OLS Models for Fox News vs. MSNBC by Relative Slant (All URLs)

	Attitudinal Index			**Sharing Index**		
	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!
Fox	0.03^{*}	0.06^{***}	0.06^{*}	-0.05^{*}	-0.07^{***}	0.04
	(0.02)	(0.01)	(0.03)	(0.03)	(0.02)	(0.04)
Constant	0.34^{***}	0.41^{***}	0.58^{***}	0.31^{***}	0.33^{***}	0.27^{***}
	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)
N	381	569	171	380	565	171
R^2	0.01	0.03	0.02	0.01	0.02	0.01
Adjusted R^2	0.005	0.03	0.01	0.01	0.01	0.001

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is MSNBC. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant).

Table K15: OLS Models for Fox News vs. MSNBC by Relative Slant (Hard News Only)

	Attitudinal Index			**Sharing Index**		
	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!
Fox	0.03	0.07***	0.05	−0.12***	−0.04*	0.05
	(0.02)	(0.01)	(0.03)	(0.03)	(0.02)	(0.04)
Constant	0.33***	0.40***	0.57***	0.34***	0.32***	0.27***
	(0.01)	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)
N	284	650	181	283	647	180
R^2	0.01	0.03	0.01	0.06	0.005	0.01
Adjusted R^2	0.002	0.03	0.01	0.05	0.003	0.003

*p < .1; **p < .05; ***p < .01

Note: The reference category is MSNBC. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant). The revealed preference measure solely draws on "hard news" URLs.

Table K16: OLS Models for Fox News vs. MSNBC by Stated Media Preferences

	Attitudinal Index			**Sharing Index**		
	Prefer MSNBC	Prefer Entertainment	Prefer Fox	Prefer MSNBC	Prefer Entertainment	Prefer Fox
Fox	0.04***	0.07***	0.05**	−0.10***	−0.01	0.04
	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
Constant	0.34***	0.39***	0.57***	0.35***	0.29***	0.25***
	(0.01)	(0.01)	(0.02)	(0.02)	(0.03)	(0.02)
N	603	264	309	603	260	308
R^2	0.01	0.04	0.02	0.03	0.0002	0.01
Adjusted R^2	0.01	0.03	0.02	0.03	−0.004	0.002

*p < .1; **p < .05; ***p < .01

Note: The reference category is MSNBC. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant).

Fox News versus MSNBC - With Controls

Tables K17 to K20 report the estimated coefficients from OLS models comparing the effect of exposure to Fox News versus MSNBC and controlling for age, gender, race, education, partisanship, ideology, and attention to national news. Almost all results remain substantively similar after incorporating these covariates. However, as shown in Table K18, among respondents with the most conservative media diets, the attitudinal effect of assignment to Fox News versus MSNBC becomes somewhat smaller and is no longer statistically significant after controlling for personal characteristics. Likewise, as shown in Table K20, among respondents who state a preference for entertainment, there is now a significant difference in their intended sharing behavior after accounting for background traits.

Table K17: OLS Models for Fox News vs. MSNBC by Relative Volume

	Attitudinal Index			**Sharing Index**		
	Low News Consumption	Med. News Consumption	High News Consumption	Low News Consumption	Med. News Consumption	High News Consumption
Fox	0.09^{***}	0.04^{**}	0.04^{**}	-0.02	-0.06^{**}	-0.08^{***}
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)
Constant	0.37^{***}	0.49^{***}	0.47^{***}	0.62^{***}	0.38^{***}	0.43^{***}
	(0.03)	(0.04)	(0.05)	(0.08)	(0.07)	(0.07)
N	345	352	344	344	350	344
R^2	0.29	0.34	0.45	0.13	0.15	0.13
Adjusted R^2	0.27	0.32	0.43	0.10	0.12	0.10
Controls?	✓	✓	✓	✓	✓	✓

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is MSNBC. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant). All models control for age, gender, race, education, partisanship, ideology, and attention to national news.

Table K18: OLS Models for Fox News vs. MSNBC by Relative Slant (All URLs)

	Attitudinal Index			**Sharing Index**		
	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!
Fox	0.04^{**}	0.07^{***}	0.04	-0.06^{**}	-0.08^{***}	0.04
	(0.02)	(0.01)	(0.03)	(0.03)	(0.02)	(0.04)
Constant	0.40^{***}	0.45^{***}	0.48^{***}	0.62^{***}	0.43^{***}	0.44^{***}
	(0.04)	(0.03)	(0.07)	(0.07)	(0.06)	(0.11)
N	352	519	163	352	516	163
R^2	0.25	0.28	0.32	0.13	0.15	0.22
Adjusted R^2	0.23	0.26	0.28	0.10	0.14	0.17
Controls?	✓	✓	✓	✓	✓	✓

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is MSNBC. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant). All models control for age, gender, race, education, partisanship, ideology, and attention to national news.

Table K19: OLS Models for Fox News vs. MSNBC by Relative Slant (Hard News Only)

	Attitudinal Index			**Sharing Index**		
	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!	More Liberal Than CNN	Between CNN & Yahoo!	More Conserv. Than Yahoo!
Fox	0.03	0.07^{***}	0.01	-0.13^{***}	-0.05^{**}	0.04
	(0.02)	(0.01)	(0.03)	(0.03)	(0.02)	(0.04)
Constant	0.40^{***}	0.45^{***}	0.47^{***}	0.65^{***}	0.47^{***}	0.37^{***}
	(0.05)	(0.03)	(0.06)	(0.10)	(0.05)	(0.11)
N	265	593	171	265	591	170
R^2	0.29	0.28	0.34	0.20	0.13	0.19
Adjusted R^2	0.26	0.26	0.29	0.17	0.12	0.14
Controls?	✓	✓	✓	✓	✓	✓

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is MSNBC. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant). All models control for age, gender, race, education, partisanship, ideology, and attention to national news. The revealed preference measure solely draws on "hard news" URLs.

Table K20: OLS Models for Fox News vs. MSNBC by Stated Media Preferences

	Attitudinal Index			**Sharing Index**		
	Prefer MSNBC	Prefer Entertainment	Prefer Fox	Prefer MSNBC	Prefer Entertainment	Prefer Fox
Fox	0.05^{***}	0.08^{***}	0.05^{**}	-0.10^{***}	-0.06^{*}	0.04
	(0.01)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)
Constant	0.46^{***}	0.37^{***}	0.45^{***}	0.44^{***}	0.58^{***}	0.42^{***}
	(0.03)	(0.06)	(0.05)	(0.06)	(0.09)	(0.08)
N	570	224	289	570	222	288
R^2	0.20	0.21	0.17	0.13	0.26	0.17
Adjusted R^2	0.18	0.17	0.14	0.11	0.22	0.14
Controls?	✓	✓	✓	✓	✓	✓

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is MSNBC. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant). All models control for age, gender, race, education, partisanship, ideology, and attention to national news.

Alternative Measures of Revealed Preferences

L Subsetting to Hard News URLs

As noted in the main manuscript, our primary analyses rest on the assumption that *any* visit to a news domain—regardless of the type of content viewed—confers similar information about a respondent's media preferences. This assumption is motivated by the finding that selective exposure to partisan media often occurs even in the context of "soft news" (Iyengar and Hahn 2009). In the bottom panel of Figure 4, we relax this assumption and instead focus on a subset of URLs that are likely to correspond to "hard news." To do so, we draw upon existing dictionaries scholars have previously used to aid in the classification of political versus non-political URLs.

Matching Procedure

As a first step, we merge three dictionaries used in previous papers to distinguish political from non-political URLs. These prior works either use these keywords to directly label URLs as political or non-political or to train a more sophisticated classifier that also incorporates information from the full text or headline of each news article. Combined, these terms encompass a wide array of political issues and actors and are therefore likely to capture a broad sample of "hard news" content, even if they are not wholly exhaustive.

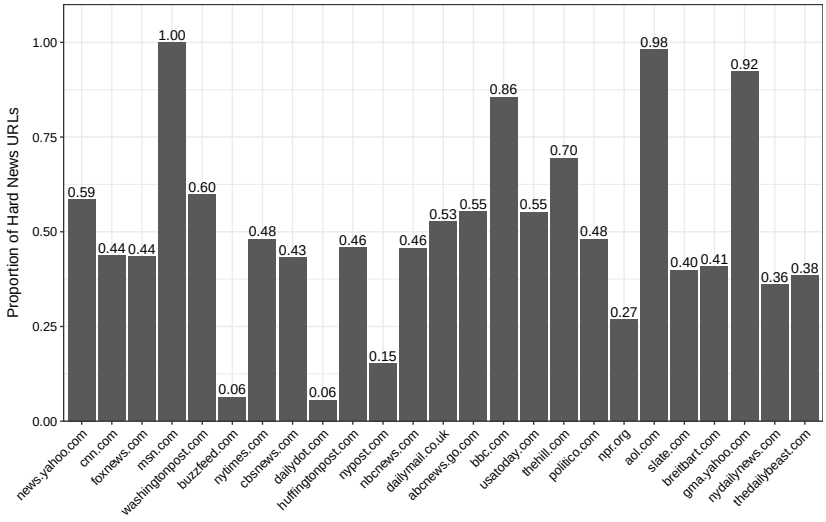
- **Bakshy, Messing, and Adamic (2015)**: `politi; usnews; world; national; state; elect; vote; govern; campaign; war; polic; econ; unemploy; racis; energy; abortion; educa; healthcare; immigr`
- **Guess (2021)**: `africa; aponline; asia; business; economy; education; europe; international; middleeast; national; news; nyregion; politics; upshot; world; opinion; nytfrontpage; opiniontoday; reuters; elections; washington; allpolitics; americas; asiapcf; justice; poli-tics; hannity; columns; editorial; gerrymandering; govbeat; metro; wonkblog; blogs; us; capitalbusiness`
- **Tyler, Grimmer, and Iyengar (2022):** `trump; politic; clinton; elect; obama; hillary; campaign; vote; debate; president; kaepernick; tax; government; washington; donald; republican; gop; democrat; voting; polls; pence; congress; candidate; senate; comey; governor; dnc; weiner; parties;`

```
endorsement; ballot; wikileak; kaine; assange; sanders; breitbart; abedin;
manafort; rnc; bernie; melania; pelosi; proposition; ivanka; turnout;
chaffetz; flynn; representative; barack; pacs; superpac; election-us
```

We code URLs as "hard news" if their path contains at least one of these strings. Note that, for the "us" and "war" cases, we further restrict our search to avoid obtaining false positives due to the presence of these terms within other words (e.g., useful, warmth). We rely on the URL path for the present analysis, as news domains typically embed detailed information about an article's content within this path (e.g., the section of the website in which it is hosted or a snippet of the headline). For example, a link to CNN in our dataset contains the following path: 2018/01/08/politics/daca-immigration-negotiations-latest/index.html. To identify matches, we extract the path of each URL using the urltools package in R; if a given path contains one of these terms, we classify it as a hard news story. We make one exception to this process: given that many members of the public use Yahoo! News as their homepage, we treat visits to this landing page (yahoo.com/news) as soft news, despite the fact that the URL path technically contains the keyword "news." Of note, as we detail below, this approach captures some false positives—for example, opinion pieces and editorials that are not exclusively related to politics. In addition, the use of a relatively constrained dictionary of key terms also leads to some false negatives—for instance, when a political figure (e.g., Robert Mueller or Rick Perry) is referenced in a headline but not included in our dictionary. Nevertheless, we believe this strategy, while imperfect, is useful in filtering out a substantial amount of non-news content. After completing this process, we end up with 612,087 hard news URLs (44.8% of all visits to news domains), of which 534,796 could be matched to a BMA alignment score. After removing portal sites (msn.com and aol.com), this leaves us with a final dataset of 460,236 matched site visits.

As a secondary measure, we also re-estimate the *volume* of news consumption for each respondent using only hard news URLs. Given that comScore's record of respondents' total URL visits is based on their web tracking before removing sequential duplicates, we apply our dictionary-based classifier to the full set of news URLs for this latter analysis. Of the 2,008,079 total site visits to domains comScore considers "News/Information," 832,810 (41.5%) are to URLs classified as

(a) All Visits



(b) Excluding Homepage Visits

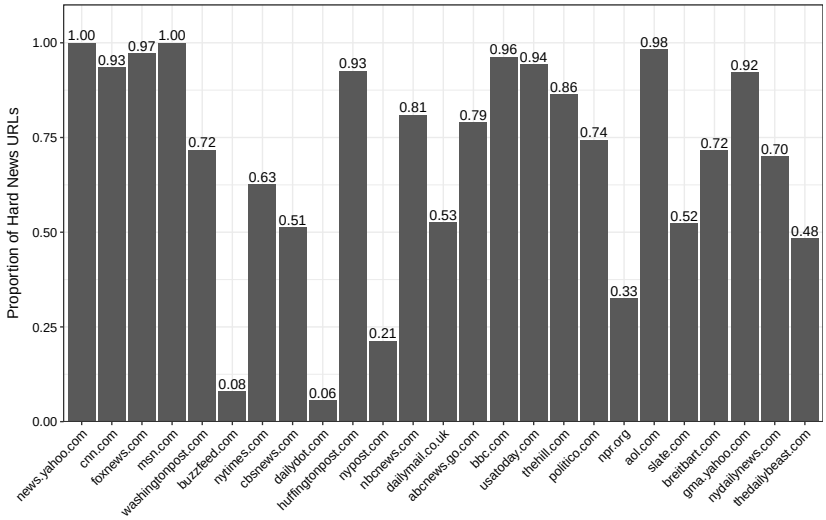


Figure L1: Proportion of visits to "hard" versus "soft" news URLs at the 25 most popular domains in the comScore data, among sites that were able to be matched to the BMA alignment scores. The top panel shows the proportion of all matched visits to "hard" news URLs, and the bottom panel shows the proportion of matched visits to "hard" news URLs, excluding visits to homepages (e.g., `nytimes.com`) from the denominator.

hard news. On average, respondents' visits to hard news domains comprised 7.3% of their total site visits (4.8% at the median). This estimate closely aligns with other work conducted during a similar time period (e.g., Allen et al. 2020), providing further support for the validity of our approach.

Figure L1 summarizes the proportion of visits classified as hard news at the top 25 most-visited domains in the comScore data. Given that our classifier, by definition, never categorizes

homepage visits as hard news (as these visits do not have a valid URL path), we present two versions of this plot: one including and one excluding homepage visits from the denominator (top and bottom panel, respectively). Overall, these results have reassuring face validity: respondents tend to consume more hard news content from politics-focused sites like `washingtonpost.com` or `thehill.com`, whereas they consume less hard news at more entertainment-focused outlets like `buzzfeed.com` and `nypost.com`. Of note, a large number of visits to portal sites (including `msn.com` and `aol.com`) tend to be classified as hard news. This is because these sites tend to use `"news"` as a section header in virtually all of their URL paths. However, this potential for false positives does not affect our reported findings, given that we exclude portal sites from our calculation of the respondent and site-level alignment scores.

Measurement Validation

To validate our dictionary-based approach, we had a group of workers on Amazon's Mechanical Turk (n = 220 raters) classify a subset of URLs as either news or non-news. We selected a sample of 2000 URLs from our dataset to construct this validation set. To identify candidate cases, we first filtered out any URLs that did not have a valid path (i.e., visits to domain homepages) or could not be matched to a BMA alignment score, resulting in a list of 207,124 unique URLs. We then randomly sampled 2000 URLs, without replacement, from this list, with the probability of selecting a URL weighted based on its prevalence in our dataset. Because this selection process favors URLs that are visited more frequently, the resulting sample of URLs covered 14.0% of respondents' (matched) site visits to news domains.

For each URL, we asked raters to indicate whether they thought it was likely to link to a *news* article, as opposed to an *entertainment* article. Raters were provided with the full URL (including the domain) so that they could visit the page when making their decision. To help guide the classification process, we included the following instructions: "When we say 'news,' we mean stories related to politics, policies, elections, current events, and/or domestic/international affairs. These stories may cover specific issues, such as the economy, business/finance, or crime, and may

		Mechanical Turk	
		Soft News	*Hard News*
Dictionary-Based Classifier	*Soft News*	295	321
	Hard News	175	1209

Table L1: Correspondence between human coders and dictionary-based method for classifying "hard" vs. "soft" news.

include both news articles, as well as opinion pieces or editorials." Raters were then asked, "In your opinion, is this URL likely to correspond to a news story?" and had the option of selecting "Yes," "No," or "Not sure." We obtained five ratings for each URL, resulting in 10,000 total observations. Each worker rated between 1 and 267 URLs (M = 23, $\bar{x}$ = 45.5).

We classified a given URL as "hard news" when over 50% of raters indicated that it was likely to link to a news story. Overall, for all but 477 URLs, raters exhibited some disagreement about whether a URL corresponded to news versus entertainment, though there were very few cases in which a majority of the raters selected the "Not sure" option. As such, perhaps unsurprisingly, workers seemed to rely on slightly different criteria when judging a URL's probable content. Nonetheless, as shown in Table L1, we generally find a great deal of correspondence between our dictionary-based classifier and the crowdsourced ratings from human coders. Within our validation set, our classifier has a 75.2% accuracy rate. Moreover, considering our use of a relatively coarse classifier, we obtain both high recall (79.0%) and precision (87.4%). As these performance metrics indicate, we observed more false negatives versus positives in our sample, implying that our dictionary-based approach tended to over-classify URLs as "soft news."

This result is not entirely surprising; *ex ante*, we would expect recall to be lower than precision in our case, given that our relatively constrained dictionary is unlikely to capture the full universe of politically relevant events, actors, and terms. In addition, it is important to note that our validation set is somewhat imbalanced, in that it tends to contain a much larger portion of "hard" versus "soft" news cases; this implies that the URLs that were visited more commonly tend to correspond to hard news at a higher rate than the rest of the dataset. However, despite these limitations, our classifier nonetheless appears to extract meaningful information about a URL's likely content.

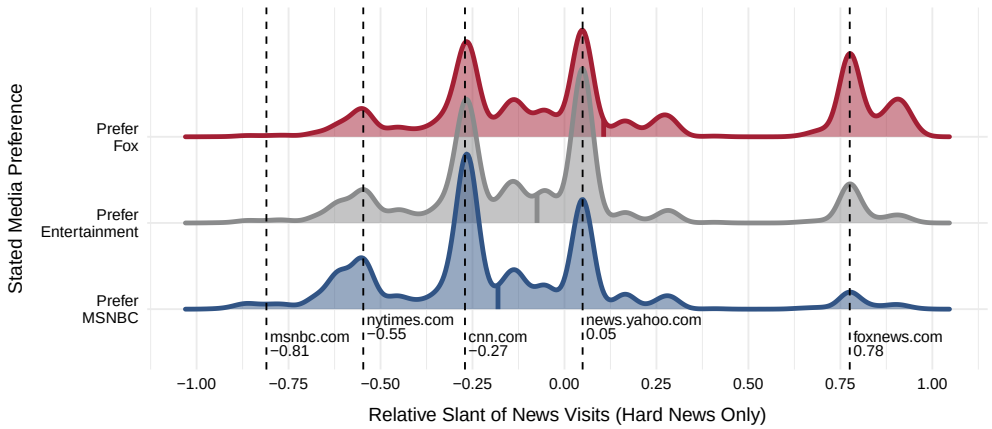


Figure L2: Distribution of ideological alignment scores for "hard news" visits (excluding portals), disaggregated by stated media preferences. The average alignment score in each group is indicated by a vertical line. Lower scores indicate more liberal news visits, and higher scores indicate more conservative news visits.

Descriptive Results

We first replicate the measurement validation exercise in the main manuscript using the subset of URLs that are predicted to contain hard news coverage. In Figure L2, we plot the distribution of site visits to hard news URLs, disaggregated by stated media preferences. Consistent with our overall results, respondents who state a preference for Fox News tend to more frequently visit pages associated with right-leaning outlets, and respondents who state a preference for MSNBC tend to more frequently visit pages associated with left-leaning outlets, but much overlap remains. In particular, we estimate an overlapping coefficient of 0.660 when comparing the site visits of these two groups of respondents, suggesting slightly more overlap in their web traffic than was visible with the full dataset (for which we estimated an overlapping coefficient of 0.638). Likewise, when examining respondent-level alignment scores (right panel of Figure L3), we see a similar pattern: though Fox News preferrers tend to have average alignment scores that are more conservative than MSNBC preferrers, there continues to be close correspondence in the distributions of alignment scores across groups (overlapping coefficient of 0.572, compared to 0.589 in the full dataset). Hence, it does not appear that our decision to group both "hard" and "soft" news together obscured sizable amounts of media segregation.

When it comes to the intensity of preferences for hard news versus other content (our "relative

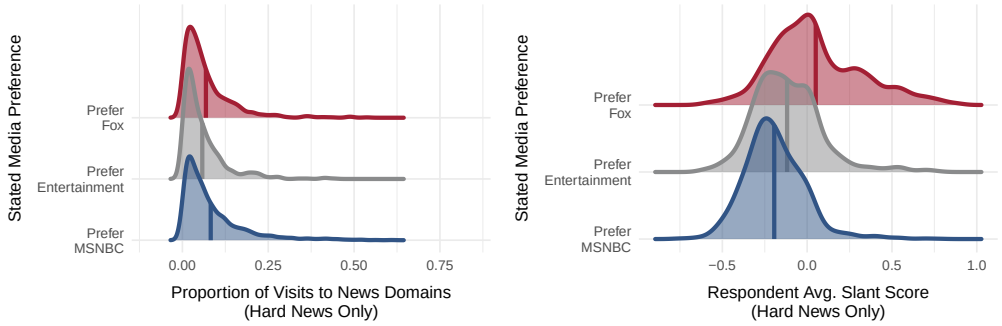


Figure L3: Distribution of revealed media preferences by stated media preferences, using only "hard news" URLs. The left panel shows the *volume* of hard news individuals consume, and the right panel shows the *slant* of hard news individuals consume (excluding portals). The average score in each group is indicated by a vertical line.

volume" measure), the results largely mirror the overall findings presented in Figure G1. As shown in the left panel of Figure L3, we find that respondents who state a preference for entertainment tend to consume hard news slightly less frequently, compared to respondents who state a preference for either partisan media source, but the differences between these groups remain quite slim.

Experimental Results

To categorize respondents for our experimental analyses, we use the same exemplar sites as in Figure 4 to define our three comparison groups. However, given changes in the overall distribution of site visits, the size of these groups is slightly different: 420 respondents in the forced-choice condition fall into the most liberal bin, 975 into the moderate bin, and 266 into the most conservative bin (compared to 579, 838, and 254, respectively, overall). In particular, after subsetting to hard news URLs, a large number of respondents with less extreme, but still polarized, media diets moved into the moderate group.

As we show in the main manuscript (Figure 4), among respondents in this middle bin, we replicate our previous findings: respondents who consume more moderate or ideologically heterogeneous content tend to be swayed by exposure to both Fox News and MSNBC but tend to be more likely to share MSNBC versus Fox News. Adding nuance to these results, however, we find that the attitudinal effects of partisan media exposure are attenuated for respondents who have more

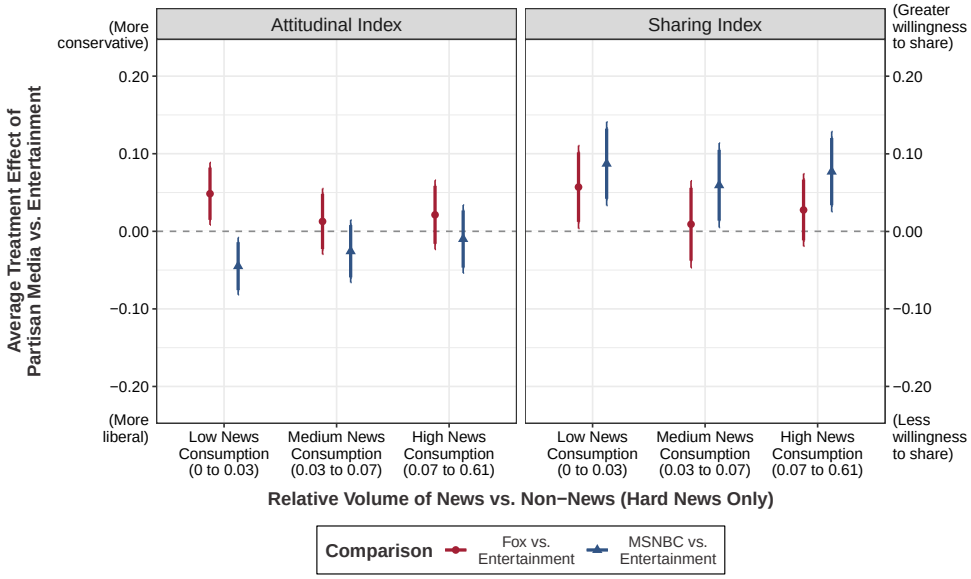


Figure L4: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by revealed preferences for news versus non-news ("relative volume"). Revealed preferences are calculated as the number of visits to hard news URLs, divided by the total number of site visits in the pre-study period. 90/95% confidence intervals are based on robust standard errors.

extreme media diets. Although respondents with more conservative media diets are still modestly persuaded by Fox News, these differences are not statistically significant at $p < 0.10$. Moreover, among respondents with more liberal media diets, there is no discernible effect of exposure to either source.

When it comes to relative volume (shown in Figure L4), however, our experimental results largely mimic our main findings (shown in Figure 3). In particular, respondents who less frequently consume hard news tend to be polarized by exposure to partisan media and less discerning in the types of political content they are willing to share and discuss with others. In contrast, respondents who consume relatively more hard news tend to exhibit less visible attitude change in response to this coverage but tend to be marginally more amenable to sharing and discussing content from MSNBC versus Fox News.

M Alternative Binning Strategies

Comparing Survey and Behavioral Responses

In Figure 2 in the main manuscript, we compare respondents' stated and revealed media preferences by binning respondents into three groups, based on where their average alignment score falls relative to two exemplar sites (`cnn.com` and `yahoo.com/news`). Though this approach was informed by natural cutpoints in the data, the resulting bins varied widely in size, reflecting sample demographics. Within the free-choice group, 538, 865, and 276 respondents fell into the liberal, moderate, and conservative bins, respectively. Similarly, within the forced-choice group, 579, 838, and 254 respondents were grouped into these same bins. In contrast, Figure M1 groups respondents into three evenly sized bins based on their alignment scores (excluding portals). Overall, we find that respondents who state a preference for MSNBC or Fox News—the two partisan media options—are represented in all three revealed preference groups. In contrast, there is much more stability between individuals' stated preferences and their choice of media within the experiment.

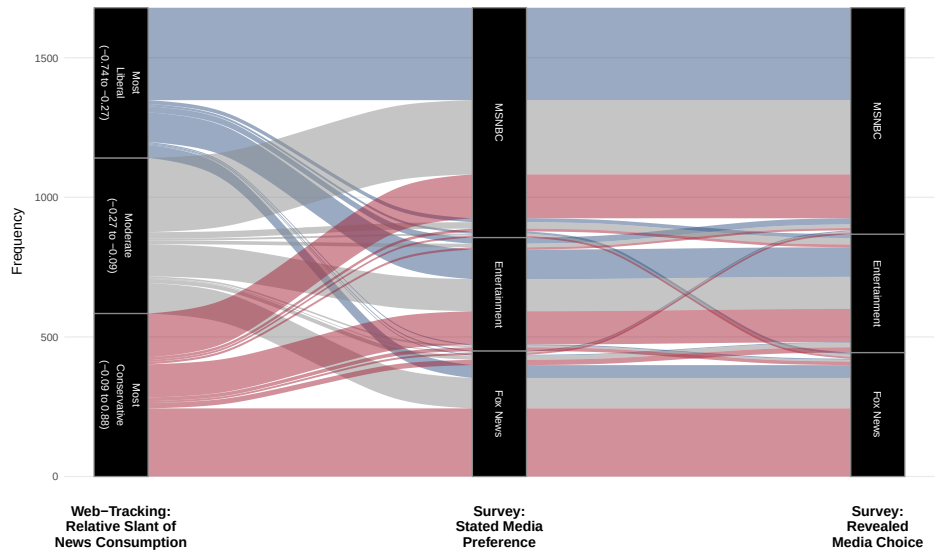


Figure M1: Correspondence between online news consumption, stated media preferences, and media choice among respondents in the free-choice group. Revealed preferences are measured by binning respondent-level alignment scores into terciles (excluding portals).

Relative Volume of News versus Non-News

In this section, we disaggregate treatment effects by respondents' revealed preferences for news vs. non-news ("relative volume") using several binning strategies. In all cases, revealed preferences are calculated as the number of visits to news domains (as classified by comScore), divided by the total number of site visits in the pre-study period. In Table M1, we treat news consumption as a continuous measure and linearly interact this measure with our two treatment indicators (Fox versus entertainment, MSNBC vs. entertainment). In addition, we break respondents' news consumption scores into quartiles (Figure M2), quintiles (Figure M3), and sextiles (Figure M4), rather than the terciles shown in Figure 3. Our results are consistent across binning strategies: respondents who consume relatively less news tend to be more consistently persuaded by exposure to partisan media but less discerning in terms of which sources they would be willing to share and discuss with others.

As shown in Table M1, these differences in treatment effects between frequent and infrequent news consumers are not statistically significant. However, it is important to note that multiplicative interaction models, such as the ones we use here and in Table M2, come with several key assumptions, including (i) common support across the range of the moderator variable (in this case, preferences over the relative volume or slant of news consumption), and (ii) a linear interaction effect that changes at a constant rate across all levels of the moderator variable (Hainmueller, Mummolo, and Xu 2019). As we note in the main manuscript, we have good theoretical reason to suspect that heterogeneity in treatment effects may not follow this linear form—as evidenced by both prior work (Arceneaux and Johnson 2013; Zaller 1992), as well as the binned plots presented below.

	Attitudinal Index	Sharing Index
Fox	0.03^{**}	0.03^{*}
	(0.01)	(0.02)
MSNBC	-0.03^{**}	0.07^{***}
	(0.01)	(0.02)
News Consumption (Standardized)	-0.01	-0.03^{***}
	(0.01)	(0.01)
Fox × News Consumption	0.004	-0.01
	(0.01)	(0.01)
MSNBC × News Consumption	0.02	0.01
	(0.01)	(0.01)
Constant	0.44^{***}	0.24^{***}
	(0.01)	(0.01)
N	1,685	1,679
R^2	0.01	0.03
Adjusted R^2	0.01	0.02

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$

Note: The reference category is Entertainment. The news consumption measure is standardized. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant).

Table M1: Difference in treatment effects by "relative volume," using a continuous measure of this quantity. Higher scores indicate that respondents visited relatively more news vs. non-news domains.

Figure M2: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by news consumption *quartiles*. 90/95% confidence intervals are based on robust standard errors.

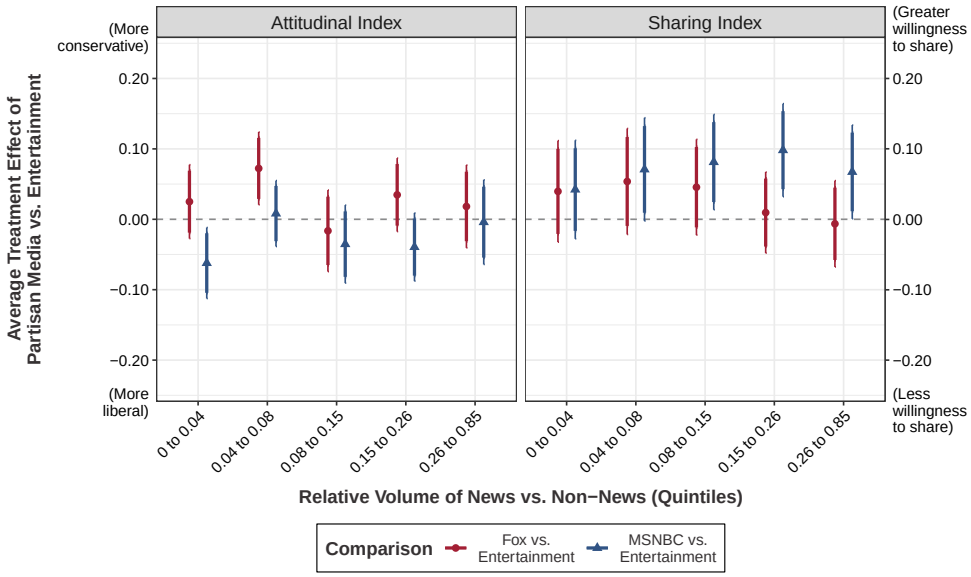


Figure M3: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by news consumption *quintiles*. 90/95% confidence intervals are based on robust standard errors.

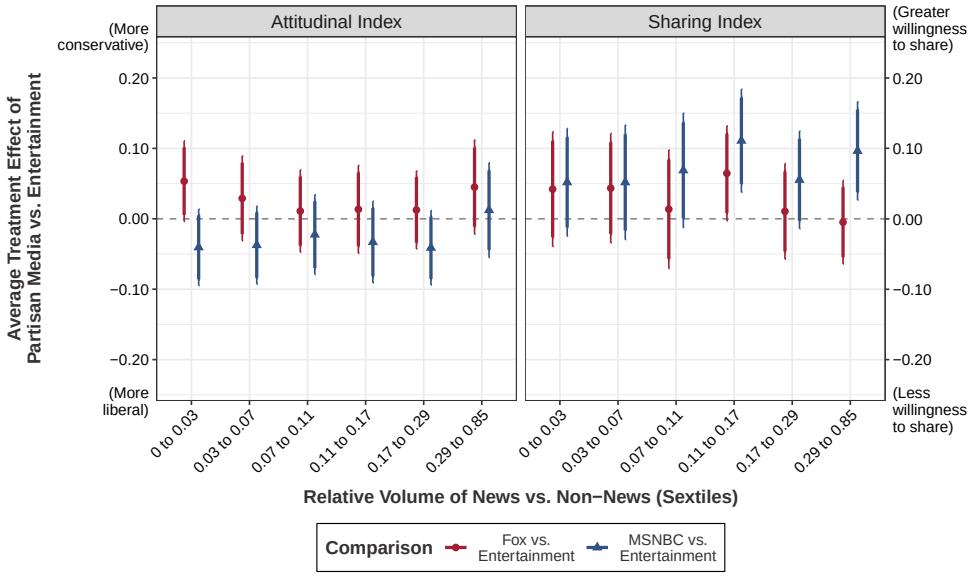


Figure M4: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by news consumption *sextiles*. 90/95% confidence intervals are based on robust standard errors.

Relative Slant of News Consumption

In this section, we disaggregate treatment effects by respondents' revealed preferences for ideological content ("relative slant"). In all cases, revealed preferences are calculated as the average alignment score (based on the BMA scores) of all domains associated with each respondent's news visits, excluding portals. As noted above, in the main body of the paper, we categorize respondents into three groups, based on their position vis-à-vis two exemplar sites (`cnn.com` and `news.yahoo.com`). Here, we instead break respondents' news consumption scores into evenly sized terciles (Figure M5), quartiles (Figure M6), quintiles (Figure M7), and sextiles (Figure M8). In addition, in Table M2 we linearly interact a continuous measure of ideological alignment with our categorical treatment indicator.

	Attitudinal Index	**Sharing Index**
Fox	0.03^{**}	0.03^{*}
	(0.01)	(0.02)
MSNBC	-0.03^{**}	0.07^{***}
	(0.01)	(0.02)
Ideological Alignment Score (Standardized)	0.07^{***}	-0.003
	(0.01)	(0.01)
Fox × Ideological Alignment Score	0.02^{*}	0.02
	(0.01)	(0.02)
MSNBC × Ideological Alignment Score	0.004	-0.02
	(0.01)	(0.02)
Constant	0.43^{***}	0.24^{***}
	(0.01)	(0.01)
N	1,671	1,665
R^2	0.18	0.02
Adjusted R^2	0.17	0.01

$^{*}p < .1$; $^{**}p < .05$; $^{***}p < .01$
Note: The reference category is Entertainment. The measure of ideological alignment is standardized, and portals are excluded. Both dependent variables range from 0 to 1. *p* values are based on robust standard errors (HC2 variant).

Table M2: Difference in treatment effects by "relative slant," using a continuous measure of this quantity. Higher scores indicate more conservative media diets.

The results are generally similar, albeit noisier, when using these alternative binning strategies. As shown in Table M2, respondents with more moderate media diets tend to be persuaded by both Fox News and MSNBC, such that they report significantly more conservative attitudes when

assigned to read Fox News versus entertainment and more liberal attitudes when assigned to read MSNBC versus entertainment. As individuals' media diets become more conservative, as signified by a higher alignment score, Fox News exerts a marginally larger persuasive effect on individuals' attitudes, though this pattern is not visible for MSNBC. With the exception of the null interaction term for the MSNBC treatment, these results are largely consistent with the findings presented in Figure 4, which suggest that individuals with less extreme media diets may be persuaded by both sides, whereas individuals with more ideologically polarized media diets tend to primarily be persuaded by pro-attitudinal sources.

Similar patterns of attitudinal effects persist across our binned plots as well (Figures M5 to M8). Notably, when using a larger number of categories (5-6 bins), we find that respondents with the most liberal media diets tend not to be persuaded by either source (Fox News or MSNBC), suggesting that pro-attitudinal persuasion may be especially apparent among those who consume some partisan media but are not as strongly polarized in their media diets. When it comes to intended sharing behavior, we again find substantively similar patterns of results as in Figure 4: respondents with more extreme media diets appear more willing to share and discuss political content versus entertainment but are more strongly galvanized to action by pro- versus counter-attitudinal sources. However, when using our binned measures—particularly terciles and quartiles—we find smaller differences in intended sharing behavior among respondents with the most conservative media diets. This discrepancy may reflect the composition of our sample, which skewed liberal; this sample imbalance means that some respondents grouped into more conservative bins, based on their media diets, may have still leaned liberal in their news consumption (just to a lesser extent than other respondents).

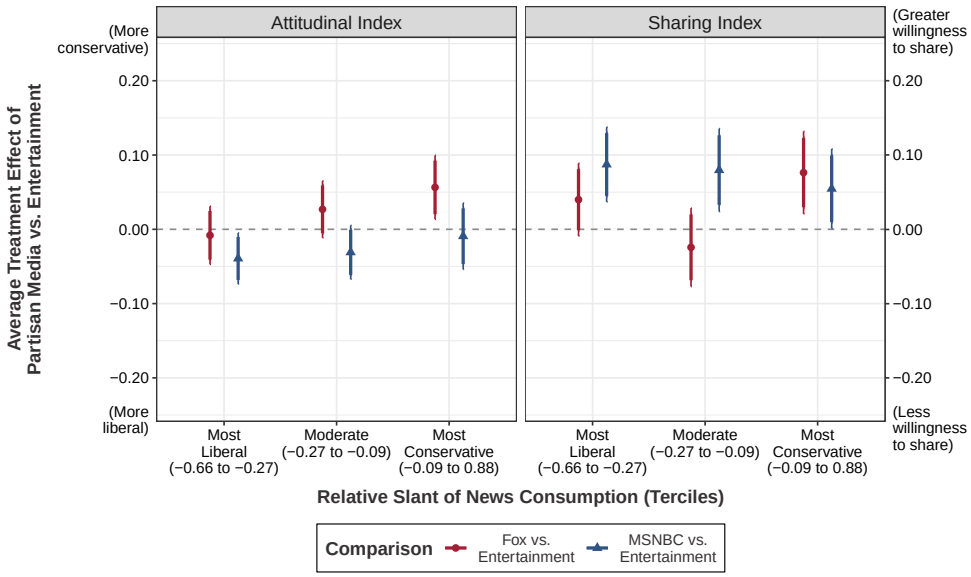


Figure M5: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by alignment score *terciles*. 90/95% confidence intervals are based on robust standard errors.

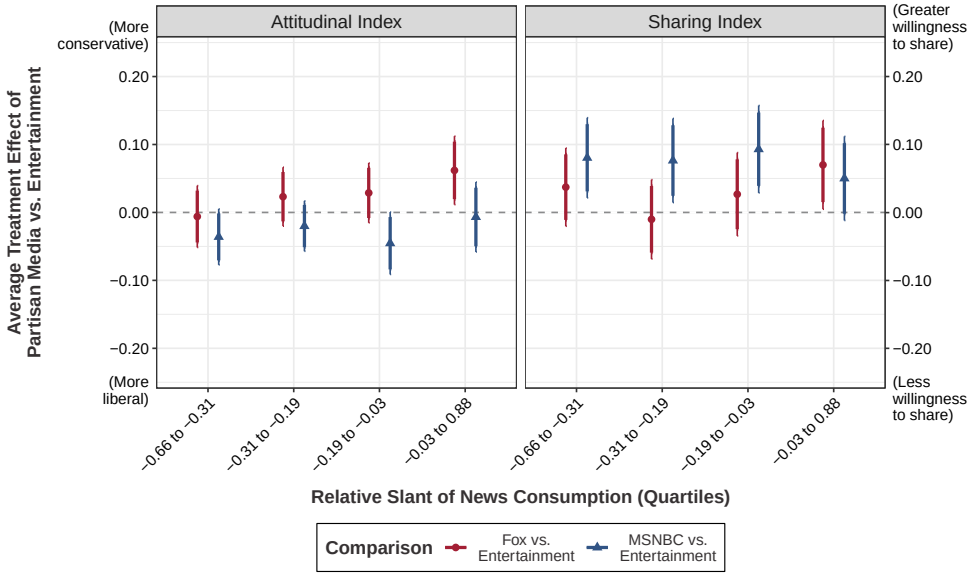


Figure M6: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by alignment score *quartiles*. 90/95% confidence intervals are based on robust standard errors.

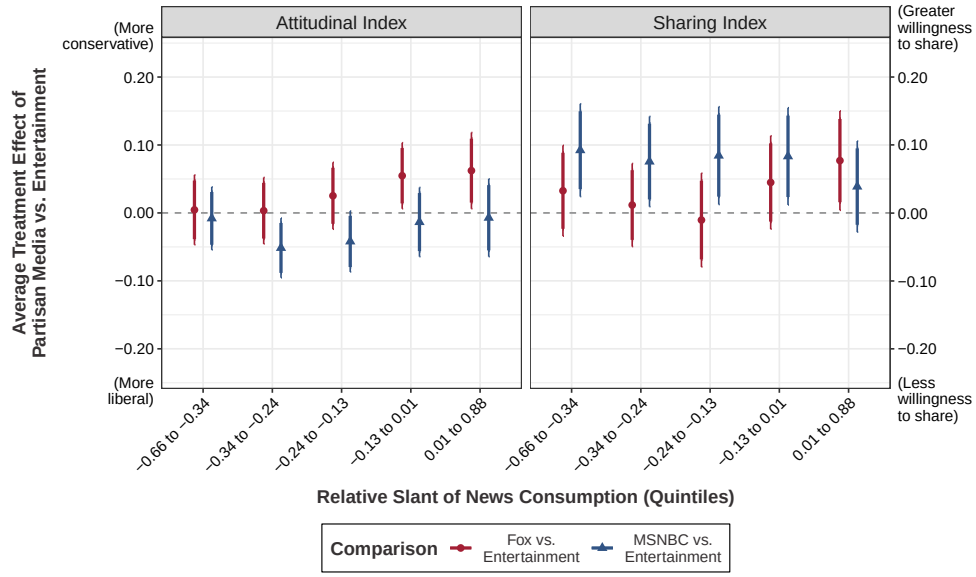


Figure M7: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by alignment score *quintiles*. 90/95% confidence intervals are based on robust standard errors.

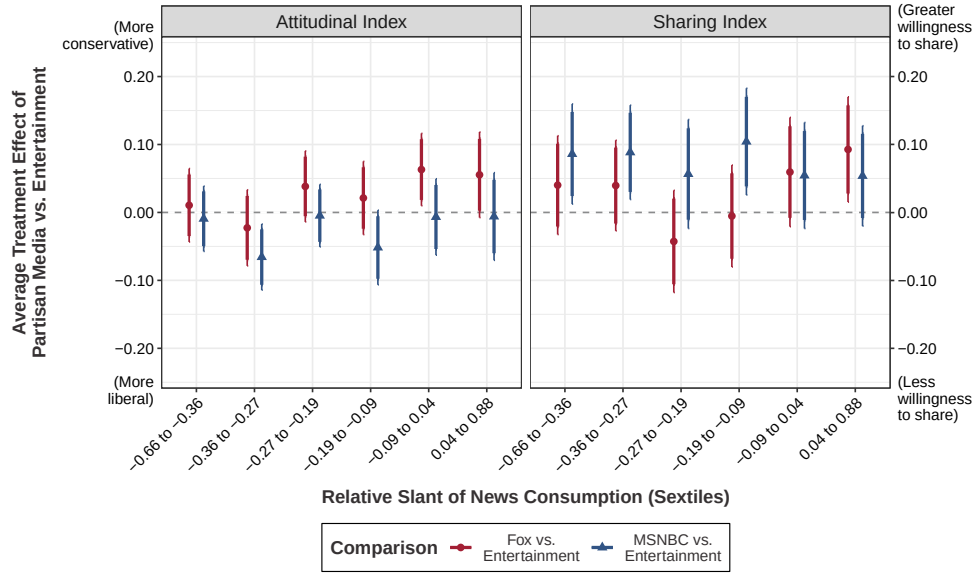


Figure M8: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by alignment score *sextiles*. 90/95% confidence intervals are based on robust standard errors.

N Results Including Portal Sites

The following section presents results based on respondent-level alignment scores that include two portal sites: `msn.com` and `aol.com`. Note that previous work often categorizes `google.com` as a portal site, but given the structure of the comScore data—specifically, the pre-processing of the data to remove domains comScore does not consider "News/Information"—visits to Google do not appear in our data in the first place.

Descriptive Results

Figures N1 and N2 plot the distributions of site- and respondent-level alignment scores, respectively, across political strata. As expected, across these two plots, we find increased overlap in respondents' media diets after including portal sites. In particular, we estimate an overlapping coefficient of 0.595 for the distributions of respondent-level alignment scores for Fox versus MSNBC preferrers, compared to 0.589 when excluding these domains. Similarly, for the visit-level alignment scores that include portal sites, we estimate an overlapping coefficient of 0.660, compared to 0.638 when excluding these domains. As such, consistent with previous work, the inclusion of portal sites moderately reduces the degree of polarization in respondents' media diets.

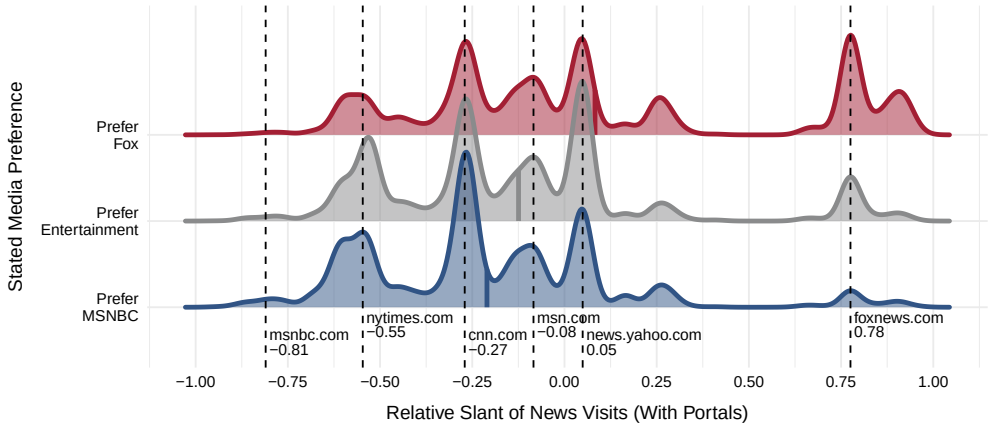


Figure N1: Distribution of ideological alignment scores for all news visits (including portals), disaggregated by stated media preferences. The average alignment score in each group is indicated by a vertical line. Lower scores indicate more liberal news visits, and higher scores indicate more conservative news visits.

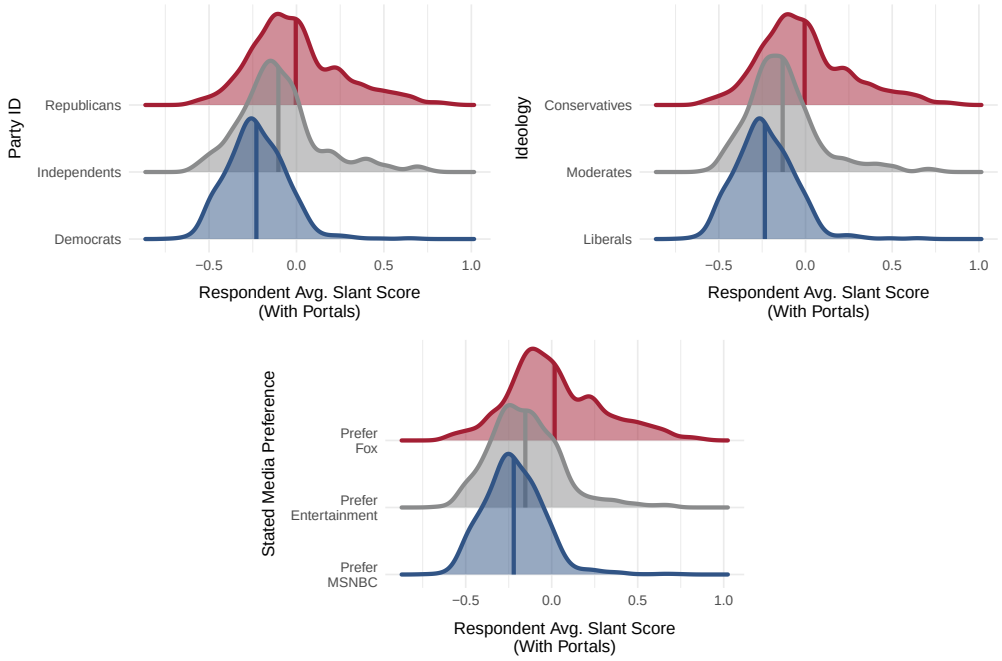


Figure N2: Distributions of respondent-level alignment scores (including portals) by partisanship, ideology, and stated preferences. The average alignment score in each group is indicated by a vertical line. Lower scores indicate more liberal media diets, and higher scores indicate more conservative media diets.

Experimental Results

Figures N3 and N4 plot the average treatment effects of assignment to partisan media versus entertainment on respondents' attitudes and intended sharing behavior, disaggregated by alignment score groupings (including portal sites). Figure N3 uses the same coding scheme as Figure 4—namely, respondents are categorized into revealed preference groups based on how their average alignment score compares to two exemplar sites (`cnn.com` and `news.yahoo.com`). In contrast, Figure N4 splits respondents into terciles. When including portals, we obtain virtually identical results as when we exclude these sites. Respondents with more ideologically extreme media diets continue to be primarily persuaded by exposure to pro- versus counter-attitudinal sources. Further, we again find that respondents with more liberal and moderate media diets are more likely to say they would share or discuss articles attributed to MSNBC, whereas respondents with more conservative media diets show a stronger propensity to share or discuss articles from Fox News.

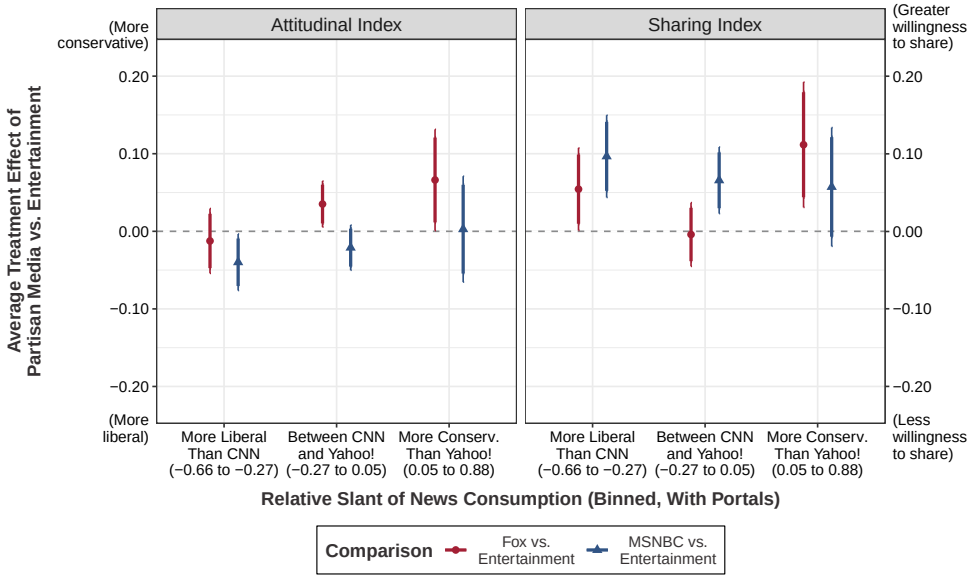


Figure N3: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by revealed preferences for ideological content ("relative slant"). Revealed preferences are calculated as the average alignment score (based on the BMA scores) of all domains associated with respondents' news visits, *including* portal sites. 90/95% confidence intervals are based on robust standard errors.

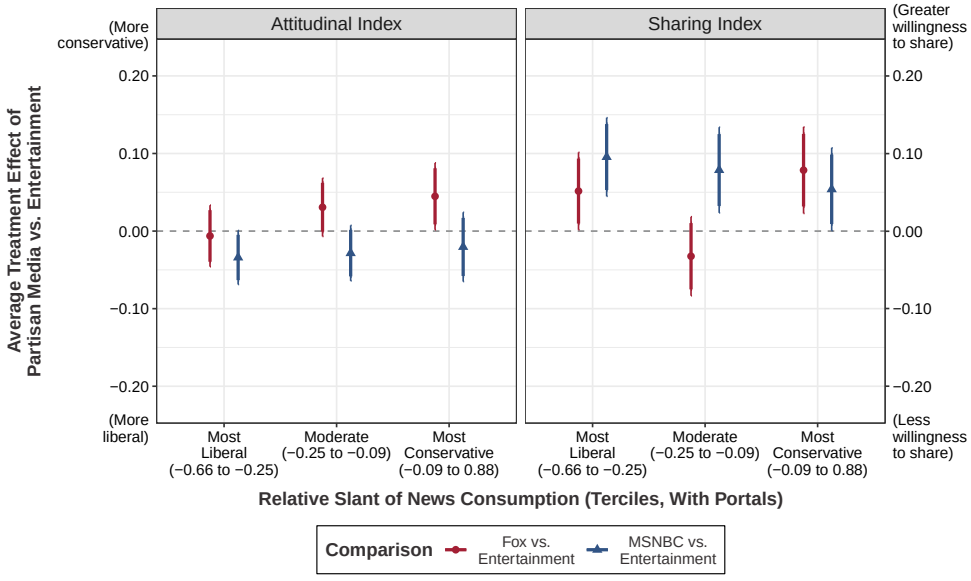


Figure N4: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by alignment score terciles. Revealed preferences are calculated as the average alignment score (based on the BMA scores) of all domains associated with respondents' news visits, *including* portal sites. 90/95% confidence intervals are based on robust standard errors.

O Results Without Yahoo! Domains

The following section presents results that exclude visits to three news aggregators: the two portal sites excluded earlier (`msn.com` and `aol.com`) and domains associated with Yahoo! News (`news.yahoo.com` and `gma.yahoo.com`). Some previous studies (e.g., Tyler, Grimmer, and Iyengar 2022) treat Yahoo! News as a portal site, under the assumption that visits to this domain are largely motivated by non-news objectives (e.g., checking one's email) and thus not reflective of one's true media preferences. As a robustness check, we therefore replicate our main results after removing all visits to URLs associated with Yahoo! domains.

Descriptive Results

Overall, Yahoo! domains are some of the most widely visited in our dataset (see Figure E1). As a result, it is perhaps not surprising that the removal of these popular, relatively centrist domains from our data suggests a higher level of media selectivity across partisan, ideological, and stated preference groups. Figures O1 and O2 plot the distributions of site- and respondent-level alignment scores after excluding visits to both portal sites and Yahoo! domains. Although we see somewhat more divergence between the distributions of scores among individuals at opposite ends of the political spectrum, substantial overlap remains. Specifically, we estimate an overlapping coefficient of 0.553 when comparing the distributions of respondent-level scores and an overlapping coefficient of 0.593 when comparing the distributions of visit-level scores for Fox versus MSNBC preferrers (compared to 0.589 and 0.638, respectively, when including Yahoo! domains). Thus, while the inclusion of Yahoo! domains seems to diminish the degree of polarization in respondents' media diets, there remains ample shared ground even after removing these site visits from our analysis.

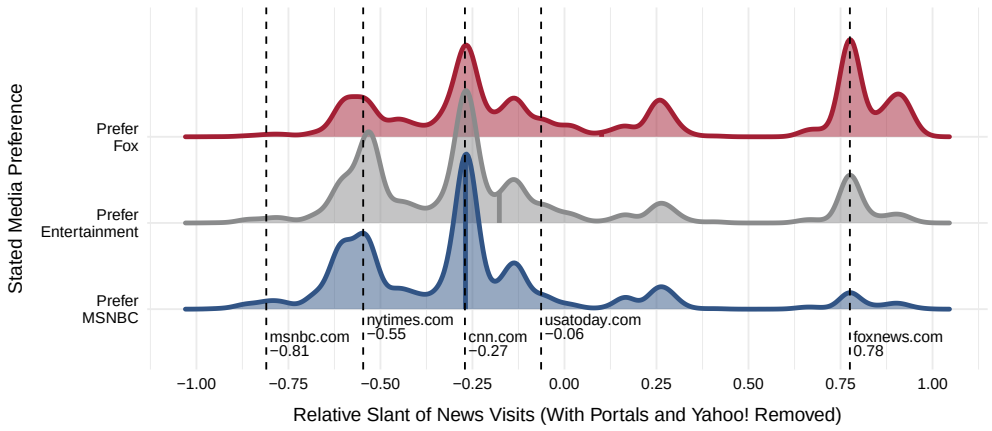


Figure O1: Distribution of ideological alignment scores (excluding visits to portals and Yahoo! News), disaggregated by stated media preferences. The average alignment score in each group is indicated by a vertical line. Lower scores indicate more liberal news visits, and higher scores indicate more conservative news visits.

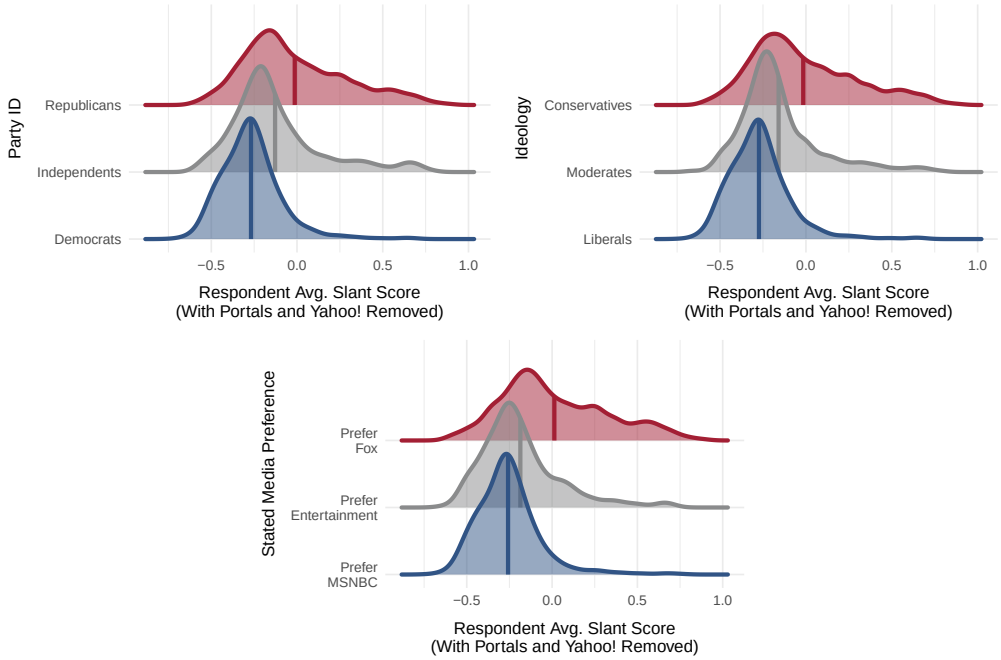


Figure O2: Distributions of respondent-level alignment scores (excluding portals and Yahoo! News) by partisanship, ideology, and stated preferences. The average alignment score in each group is indicated by a vertical line. Lower scores indicate more liberal media diets, and higher scores indicate more conservative media diets.

Experimental Results

Figures O3 and O4 plot the effects of assignment to partisan media (Fox or MSNBC) versus entertainment within revealed preference groups, coded using web exemplars and terciles, respectively. When excluding Yahoo! domains, the direction of treatment effects remains similar to Figure 4. Furthermore, the results are again similar across our exemplar and tercile-based measures—with one exception. As in Appendix M, whereas our exemplar-based measure continues to indicate that respondents with the most conservative media diets (after excluding portals and Yahoo! domains) are slightly, if not significantly, more willing to share and discuss articles from Fox versus MSNBC, our tercile-based measure instead suggests that respondents with the most conservative media diets are similarly likely to say they would share and discuss content from Fox News and MSNBC, relative to entertainment—a result that likely reflects the sample imbalance described elsewhere.

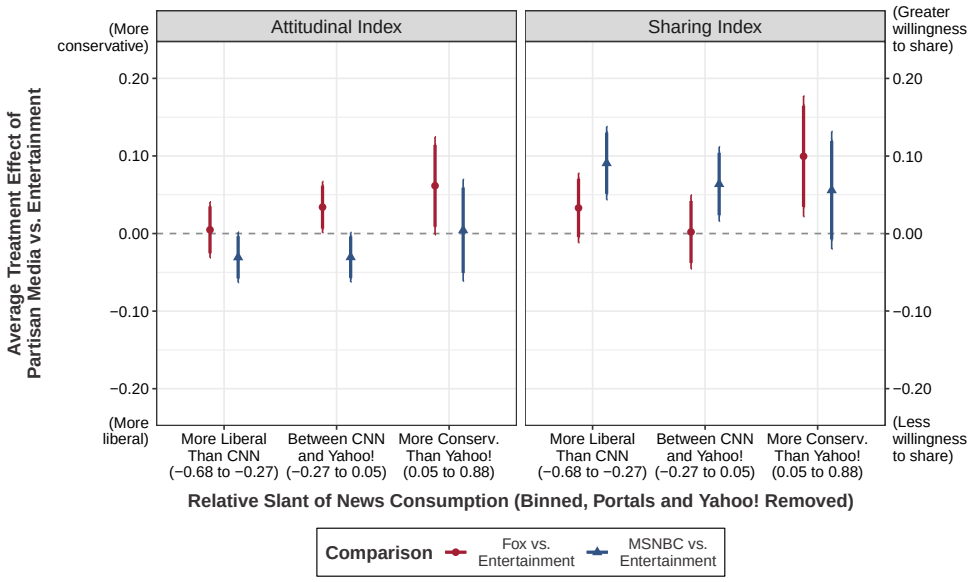


Figure O3: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by revealed preferences for ideological content ("relative slant"). Revealed preferences are calculated as the average alignment score (based on the BMA scores) of all domains associated with respondents' news visits, *excluding* portals and Yahoo! domains. 90/95% confidence intervals are based on robust standard errors.

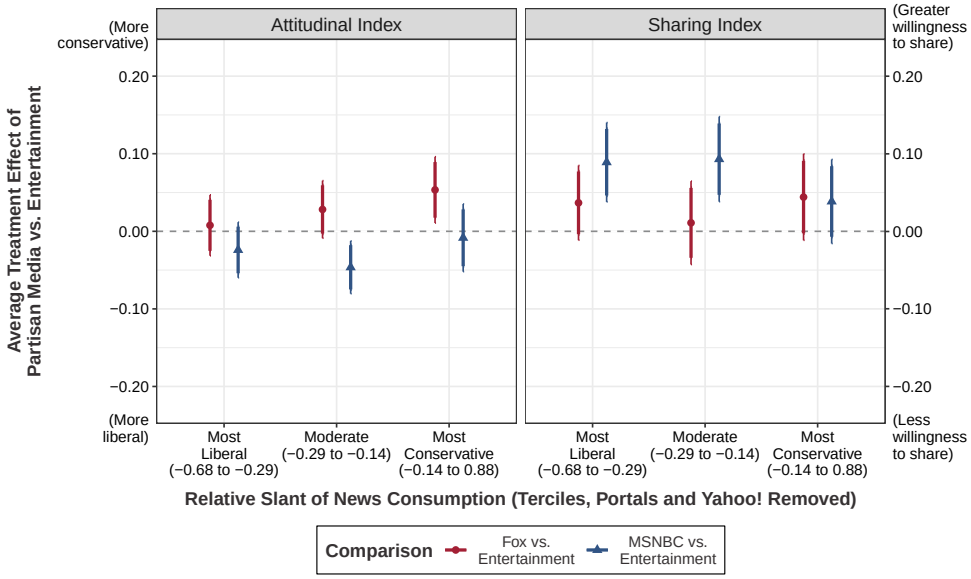


Figure O4: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by alignment score terciles. Revealed preferences are calculated as the average alignment score (based on the BMA scores) of all domains associated with respondents' news visits, *excluding* portals and Yahoo! domains. 90/95% confidence intervals are based on robust standard errors.

P Results Using Eady et al. (2019) Scores

The following section presents results using the alignment scores calculated by Eady et al. (2019) instead of Bakshy, Messing, and Adamic (2015). We first outline our matching procedure for this revised set of scores before summarizing our descriptive and experimental results.

Matching Procedure

We used a similar procedure to match the Eady et al. (2019) estimates of domain-level ideology to our web-tracking data as we did for the BMA scores (summarized in Appendix D). As an initial pre-processing step, we inspected URLs associated with two domains—`yahoo.com` and `buzzfeed.com`—to determine which of these site visits corresponded to the relevant scores for `yahoo.com/news` and `buzzfeednews.com` in the Eady et al. data. After recoding these site visits, we then sought to match domains across our two data sources. We first identified 86 *exact matches* between the comScore and Eady et al. datasets, corresponding to 59% of respondents' total site visits. We then used the `urltools` package in `R` to remove *third-level domain* information from the remaining domains in the comScore data (e.g., truncating `us.cnn.com` to `cnn.com`). This step enabled us to match an additional 159 domains from the comScore data to the Eady et al. scores. As part of this process, we again opted to exclude international and non-English-language domains (e.g., `cnnespanol.cnn.com` or `cn.nytimes.com`). Lastly, we used *manual coding* to further connect the two datasets, using the same criteria as with the BMA scores. Overall, this final step yielded matches to an additional 21 domains in the comScore dataset. Altogether, we were able to connect scores from 87 domains in the Eady et al. data to 266 domains in the comScore data, corresponding to 832,465 site visits (60.9% of respondents' total site visits).

Descriptive Results

Figure P1 plots the distributions of respondent-level alignment scores (based on the average alignment score of the domains visited by each respondent), disaggregated by partisanship, ideology, and stated media preferences. Mirroring the results using the BMA scores, Democrats, liberals, and

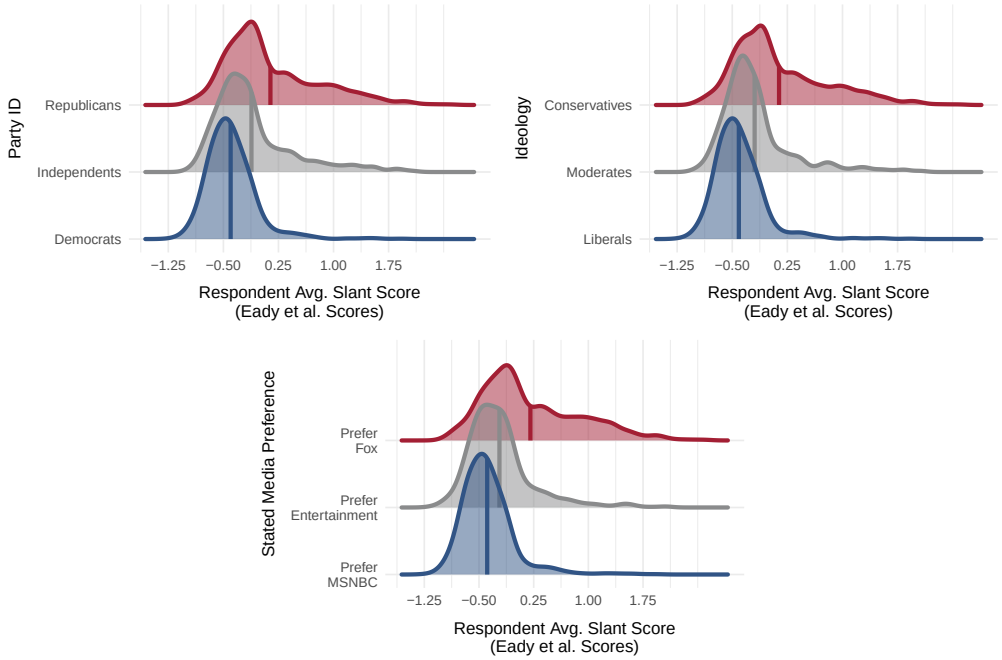


Figure P1: Distributions of respondent-level alignment scores by partisanship, ideology, and stated preferences, using the Eady et al. estimates. The average alignment score in each group is indicated by a vertical line. Lower scores indicate more liberal media diets, and higher scores indicate more conservative media diets. Portal sites are excluded in all cases.

MSNBC preferrers tend to have more liberal media diets, and Republicans, conservatives, and Fox News preferrers tend to have more conservative media diets. However, we again find substantial overlap; for instance, the overlapping coefficient for respondents who state a preference for Fox News versus MSNBC is 0.541 (compared to 0.589 for the BMA scores).

Figure P2 likewise plots the distributions of site visits across stated preference groups. In line with the BMA scores, respondents who state a preference for Fox tend to more frequently visit domains associated with right-leaning outlets, such as `foxnews.com` and `breitbart.com`, whereas respondents who state a preference for MSNBC tend to more frequently visit domains associated with left-leaning outlets, such as `msnbc.com` and `huffingtonpost.com`. Nevertheless, we again observe substantial overlap in the distributions of site visits across stated preference groups, with an overlapping coefficient of 0.676 when comparing respondents who state a preference for Fox versus MSNBC (compared to 0.638 for the BMA scores).

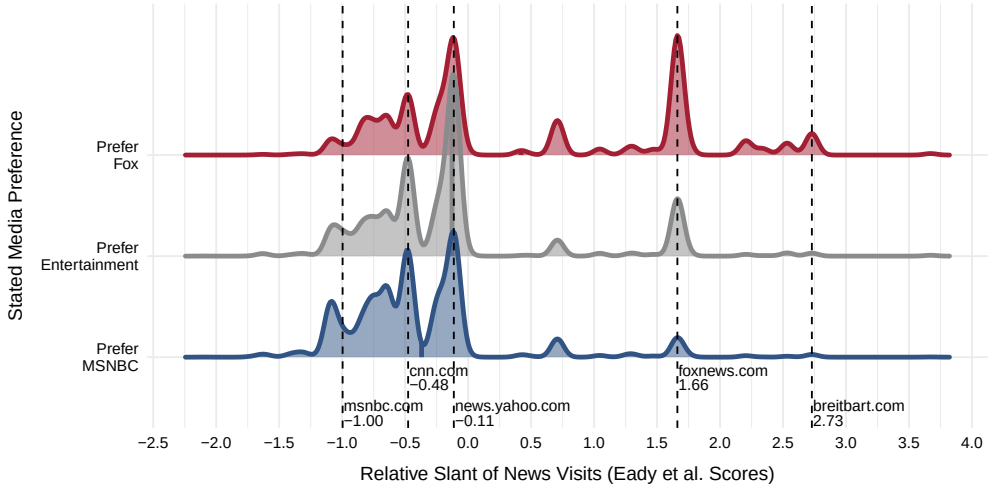


Figure P2: Distributions of ideological alignment scores by stated media preferences, using the Eady et al. estimates. The average alignment score in each group is indicated by a vertical line. Lower scores indicate more liberal news visits, and higher scores indicate more conservative news visits. Portal sites are excluded in all cases.

Experimental Results

Figure P3 plots the effect of exposure to partisan media versus entertainment across revealed preference groups. We categorize respondents into these groups using the same exemplar sites as in the main text: more liberal than `cnn.com` ($n = 561$), between `cnn.com` and `yahoo.com/news` ($n = 639$), and more conservative than `yahoo.com/news` ($n = 467$). It is important to note that the number of respondents assigned to each revealed preference group varies across the Eady et al. and BMA scores, due to differences in domain coverage and differences in the estimated scores for the two exemplar sites. In particular, more respondents are categorized as having conservative media diets and fewer are categorized as having moderate media diets when using the Eady et al. scores. As a secondary analysis, in Figure P4 we also disaggregate treatment effects by alignment score terciles to enable a cleaner comparison (i.e., to Figure M5).

Across both sets of plots, we generally replicate our original results. Beginning with the *attitudinal index*, respondents with more moderate media diets again appear to be persuaded by both media sources, reporting marginally more conservative attitudes on average after viewing Fox News and significantly more liberal attitudes on average after viewing MSNBC, relative to entertainment.

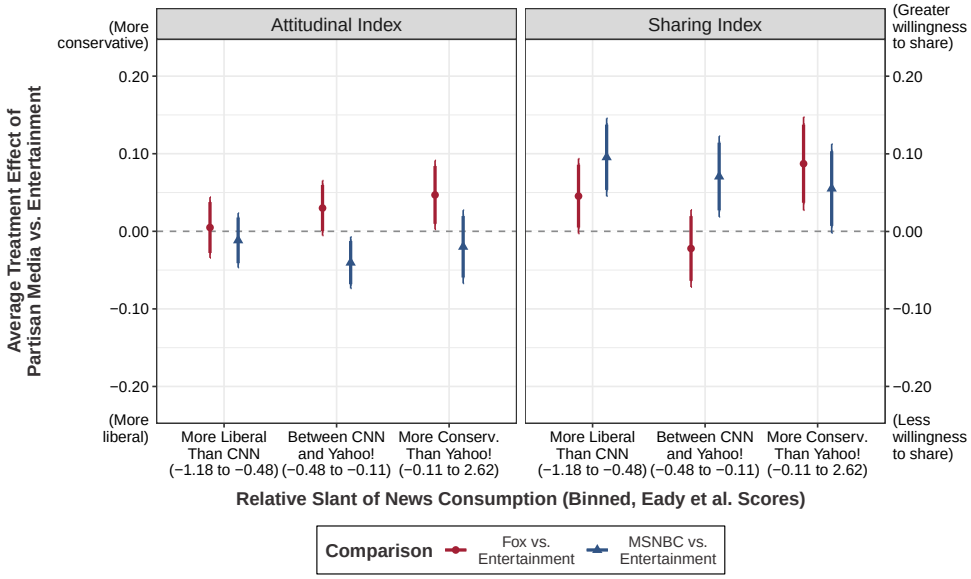


Figure P3: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by revealed preferences for ideological content ("relative slant"). Revealed preferences are calculated as the average alignment score (based on the Eady et al. estimates) of all domains associated with respondents' news visits, excluding portals. 90/95% confidence intervals are based on robust standard errors.

Moreover, the respondents with the most conservative media diets are again persuaded only by Fox News, with no change in their attitudes after viewing MSNBC versus entertainment. However, respondents with the most liberal media diets appear unpersuaded by either outlet—a finding that stands in contrast to the overall BMA results, wherein assignment to MSNBC had a small but significant effect on respondents' attitudes, but is consistent with the results focused just on "hard news" URLs. Moving to the *sharing* index, we find nearly identical patterns of intended sharing behavior when using the Eady et al. versus BMA scores, with respondents showing a slightly greater willingness to share and discuss content from like-minded sources but also exhibiting some openness to disseminating counter-attitudinal content. In addition, replicating the results using the BMA scores (Figure M5), when categorizing respondents into terciles, there is no difference in the stated likelihood of sharing and discussing content from Fox versus MSNBC for respondents with the most conservative media diets.

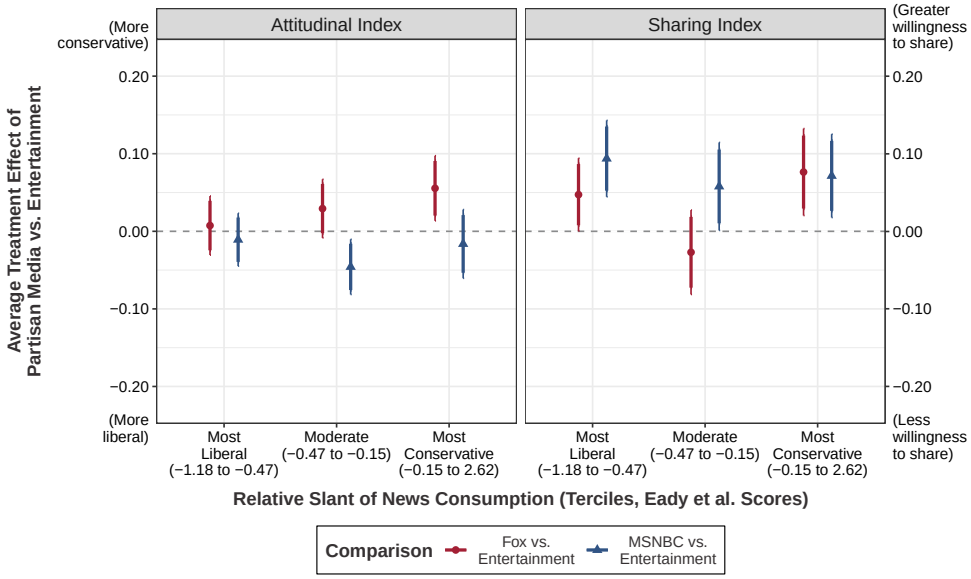


Figure P4: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by alignment score terciles. Revealed preferences are calculated as the average alignment score (based on the Eady et al. estimates) of all domains associated with respondents' news visits, excluding portals. 90/95% confidence intervals are based on robust standard errors.

Q Weighted Results

We contracted with comScore to recruit a non-probability sample of U.S. adults in February 2018 (with web-browsing data collected in January 2018). Given concerns about the representativeness of the resulting sample (see Table A1), we constructed survey weights for each respondent by raking to population marginal distributions for five demographic variables: age, gender, race/ethnicity, geographic region (all based on 2017 American Community Survey 1-year estimates), and party identification (based on the 2017 Pew Research Center estimates). All weights were calculated using the `anesrake` package in `R`. Weights were capped at a maximum value of 5, meaning that any estimated weights exceeding 5 were truncated. Table Q1 summarizes the categories used for constructing these weights.

Variable	Categories
Gender	Male, Female
Age	18-24, 25-34, 35-44, 45-54, 55-64, 65+
Race/Ethnicity	White, Non-White
Geographic Region	Northeast, Midwest, South, West
Party ID	Democrat, Republican, Independent

Table Q1: Demographic categories used to construct sampling weights

Descriptive Results

Figures Q1 to Q3 compare the distributions of relative volume and slant (at both the respondent- and visit-level) across stated preference groups, with and without sampling weights. Overall, though the distributions are certainly not identical, the general patterns remain the same. When it comes to *relative volume* preferences, respondents who state a preference for entertainment visit a slightly smaller proportion of news domains, relative to respondents who state a preference for partisan media, though the differences are substantively small. When it comes to *relative slant* preferences, respondents who identify as MSNBC preferrers tend to more frequently visit left-leaning domains, whereas respondents who identify as Fox News preferrers tend to more frequently visit right-leaning domains. Further, MSNBC preferrers again have average alignment scores that

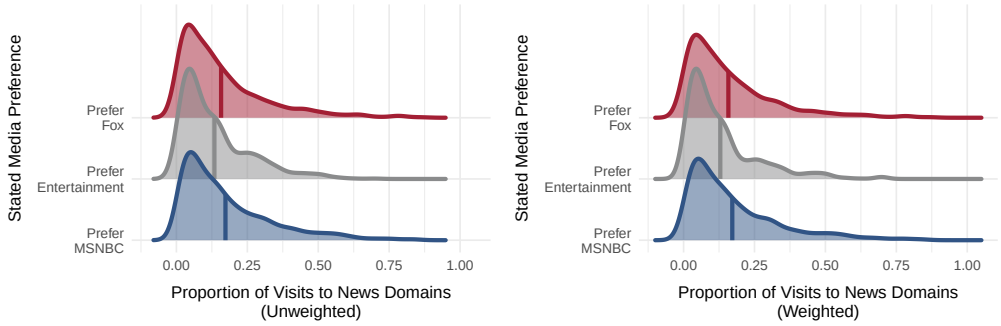


Figure Q1: Distributions of preferences for news vs. non-news ("relative volume") by stated media preferences, with (right) and without (left) sampling weights. The average alignment score in each group is indicated by a vertical line.

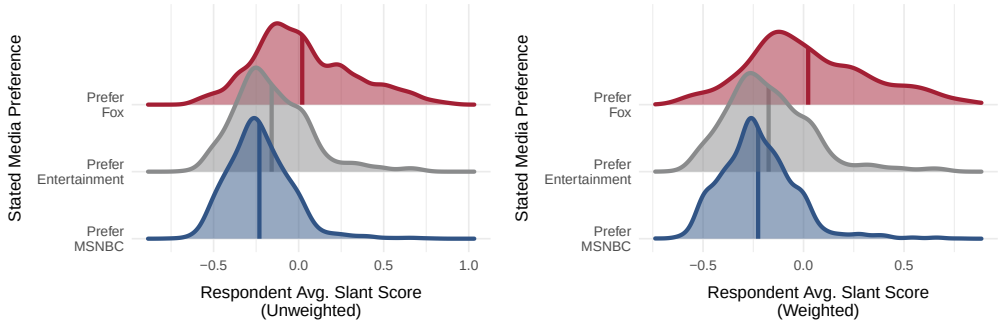


Figure Q2: Distributions of respondent-level alignment scores ("relative slant") by stated media preferences, with (right) and without (left) sampling weights. The average alignment score in each group is indicated by a vertical line. Portal sites are excluded in all cases.

are more liberal, and Fox News preferrers have average alignment scores that are more conservative. Still, even after incorporating sampling weights, there continues to be substantial overlap in the distributions of news consumption and alignment scores across stated preference groups, suggesting that the (un)representativeness of our sample did not lead us to dramatically understate the degree of media segregation within the population at large.

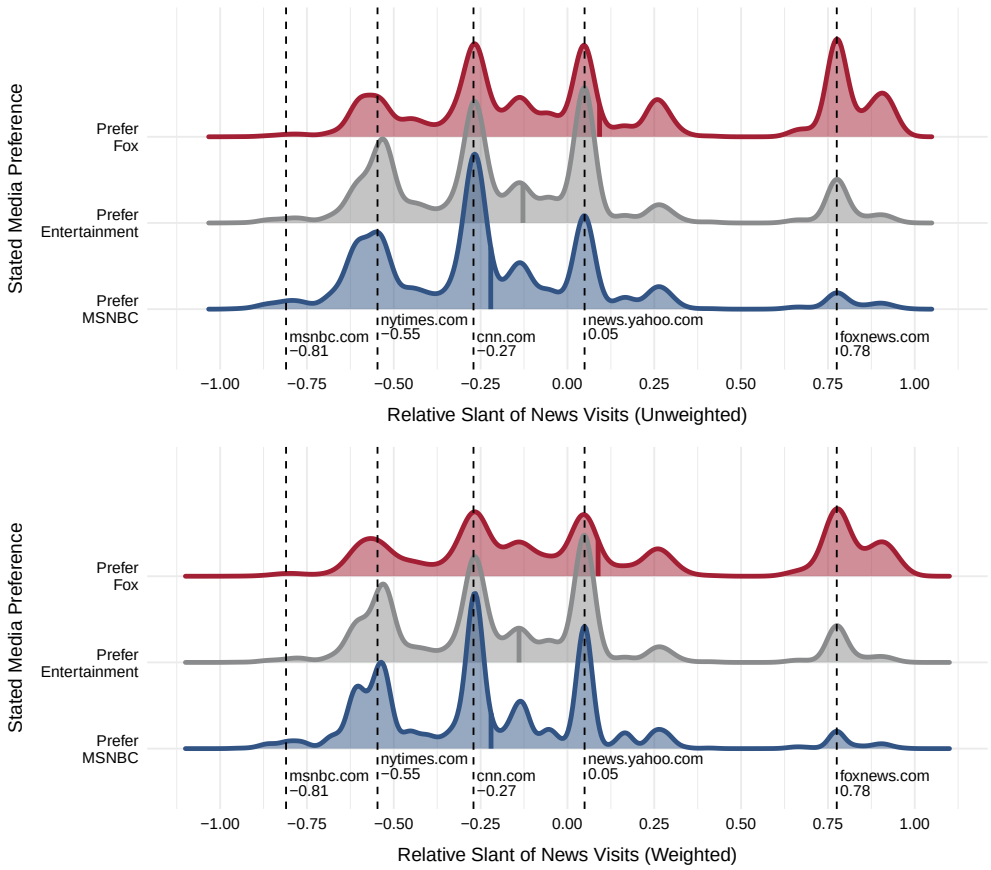


Figure Q3: Distributions of ideological alignment scores by stated media preferences, with (bottom) and without (top) sampling weights. The average alignment score in each group is indicated by a vertical line. Lower scores indicate more liberal news visits, and higher scores indicate more conservative news visits. Portal sites are excluded in all cases.

Experimental Results

For the most part, the experimental results likewise remain substantively similar after incorporating sampling weights. First, Figure Q4 shows the average treatment effects for our *relative volume* measure after incorporating sampling weights. As in Figure 3, we again see the strongest attitude polarization among respondents who consume the least amount of news, relative to non-news. Additionally, we again find that the most avid news consumers—those respondents who visited the largest proportion of news versus non-news domains in the pre-study period—tend to be more discerning in their intended sharing behavior than other respondents. Whereas respondents with a weaker preference for news versus non-news indicate a similar likelihood of sharing and discussing content from Fox and MSNBC, relative to entertainment, respondents who exhibit a

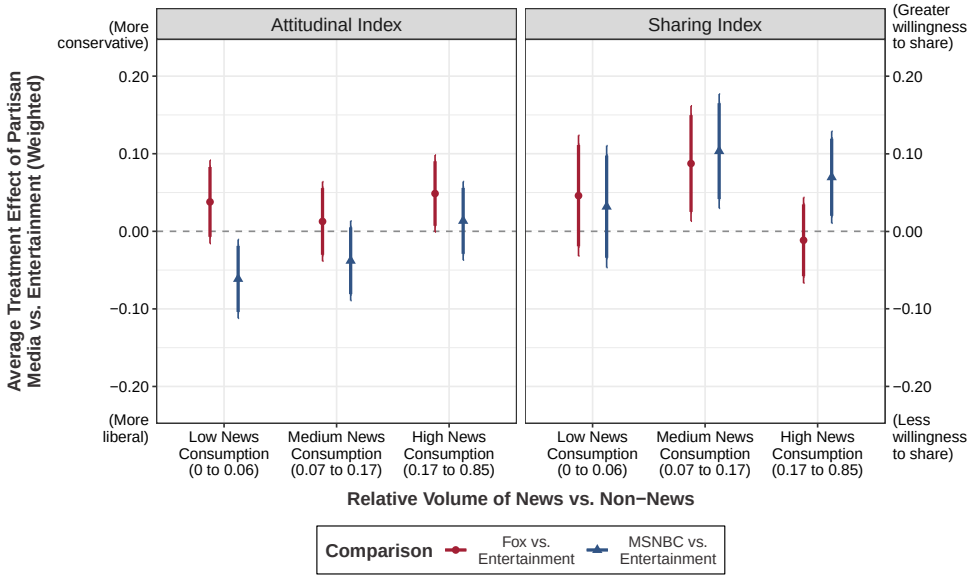
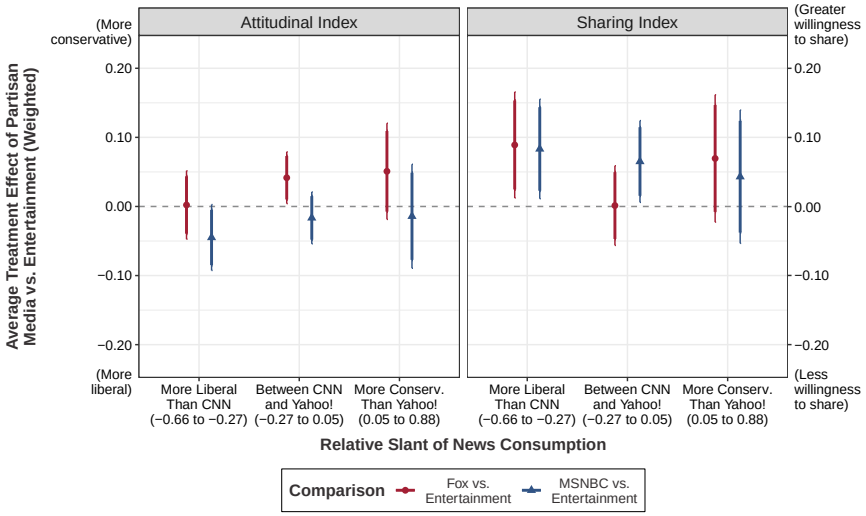


Figure Q4: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by revealed preferences for news versus non-news ("relative volume"). 90/95% confidence intervals are based on robust standard errors, and estimated effects incorporate sampling weights.

strong preference for news over non-news are more willing to share and discuss the articles from MSNBC, relative to both Fox News and entertainment.

Next, Figure Q5 shows the average treatment effects by revealed preferences for *ideological content* (categorized with respect to `cnn.com` and `yahoo.com/news`). When it comes to our *overall* results (top panel), we continue to primarily see evidence of pro-attitudinal persuasion among respondents with more ideologically extreme media diets. However, among respondents with the most liberal diets, we no longer observe a preference for sharing and discussing content from MSNBC versus Fox after incorporating sampling weights; within this group, respondents now indicate that they would be similarly likely to share articles from both Fox *and* MSNBC, relative to entertainment. When it comes to the *hard news* results (bottom panel), we also largely replicate our previous attitudinal results: respondents in the middle bin are modestly persuaded by both sources, whereas the effects are noisier for respondents with more extreme diets and not distinguishable from zero. Nevertheless, it is important to note that, once we incorporate weights, the magnitude of the attitudinal effects of exposure to Fox News are comparable across bins. In addition, among

(a) All URLs



(b) Hard News URLs

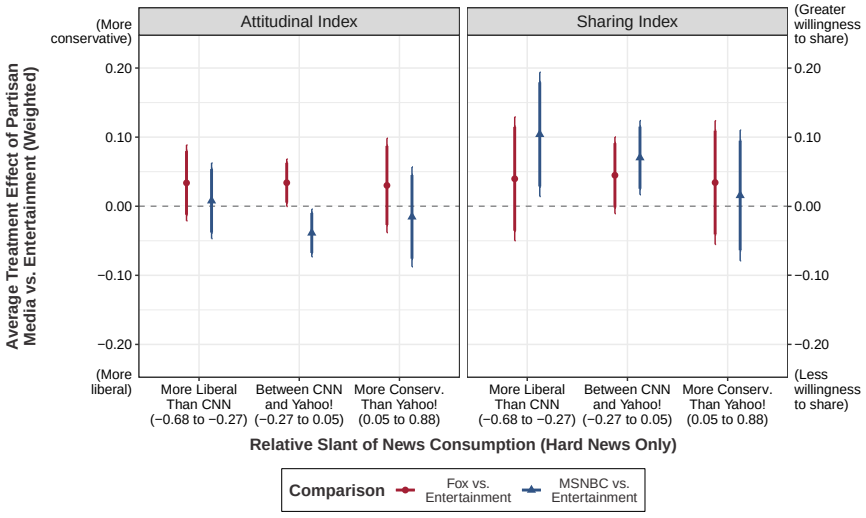


Figure Q5: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by revealed preferences for ideological content ("relative slant"). 90/95% confidence intervals are based on robust standard errors, and estimated effects incorporate sampling weights.

respondents with the most conservative media diets, we no longer observe a preference for sharing and discussing Fox News versus MSNBC.

Finally, Figure Q6 disaggregates the average treatment effects by *stated media preferences*. Replicating Figure 5, we again see evidence of counter-attitudinal persuasion among respondents who state a preference for partisan media. Consistent with our revealed preference results, we

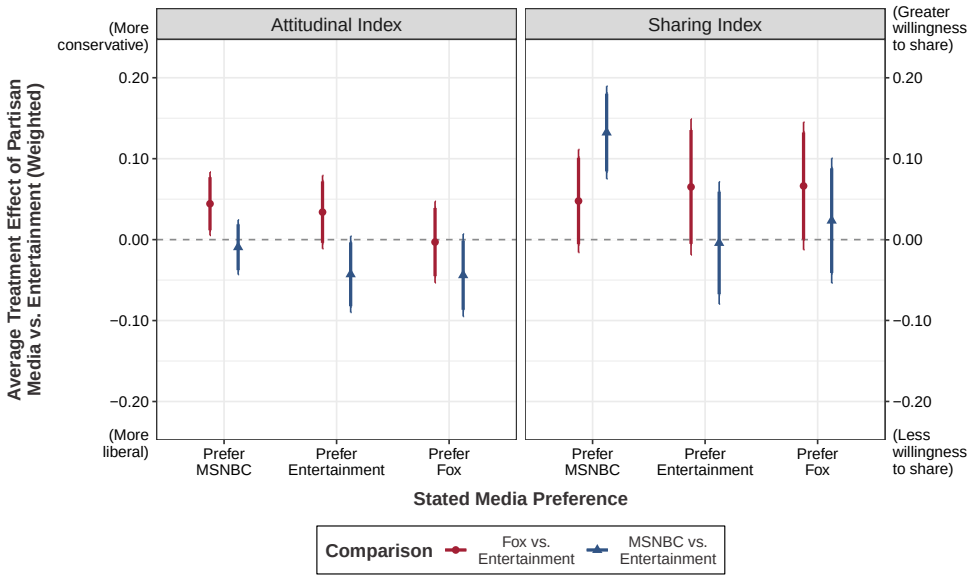


Figure Q6: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by stated preferences. 90/95% confidence intervals are based on robust standard errors, and estimated effects incorporate sampling weights.

also find that respondents who state a preference for entertainment tend to be modestly, albeit not significantly, persuaded by exposure to both sets of partisan media. Contrary to the main results, however, respondents who state a preference for entertainment are somewhat more likely to indicate that they would share or discuss content from Fox News versus MSNBC.

Sensitivity Analyses

R Sensitivity Analyses for Stated Preference Results

As described in Knox et al. (2019), our experimental estimates based on stated media preferences rely on the assumption that any discrepancy between respondents' stated preferences and their actual media choice in the experiment is "ignorable"—in other words, uncorrelated with the outcome variables. Following the recommendations of Knox et al. (2019), we thus conduct sensitivity analyses, which assess the extent to which our average choice-specific treatment effect (ACTE) estimates are robust to violations of this assumption (see also de Benedictis-Kessner et al. 2019). To do so, we leverage responses from both the free- and forced-choice arms of our study. In Figure R1, we plot the sensitivity analysis results when comparing respondents assigned to view Fox News versus entertainment, and in Figure R2, we plot the sensitivity analyses when comparing respondents assigned to view MSNBC versus entertainment.

On the far right side of each panel, we show in red the estimated bounds (and their 95% confidence intervals) under the "worst-case" scenario in which respondents' responses within *stated* preference groups are wholly uninformative about their responses within *actual* choice groups. As shown in the top row of each plot, for the attitudinal index, this extreme assumption renders nearly all of the estimated effects of exposure to partisan media (Fox News or MSNBC) versus entertainment statistically insignificant, though the estimated effect of exposure to MSNBC versus entertainment remains marginally significant among respondents who would actually choose MSNBC. As shown in the bottom row of each plot, these same patterns mostly hold true for intended sharing behavior as well. In particular, even under this extreme assumption, the positive effect of exposure to MSNBC versus entertainment persists for respondents who would actually choose MSNBC.

However, these no-assumption bounds may be overly conservative, as the opinions of individuals who state a preference for partisan media are likely to be at least partially related to the opinions of those members of the public who actually consume these media in the free-choice arm (see de Benedictis-Kessner et al. 2019 for a discussion). We thus define a parameter ρ that

represents the difference in average opinions between stated preference and actual choice groups. We plot along the x-axis the sensitivity bounds of our ACTEs in dark gray, with their corresponding confidence intervals in light gray, as we increase the value of ρ from 0, up until the point at which the bounds converge with the no-assumption bounds described above. At $\rho = 0$, the bounds match our naïve ACTE estimates. However, as ρ increases, the bounds grow wider as we allow for greater divergence between the stated preference and actual choice groups. Our primary quantity of interest is the value of ρ at which the sensitivity bounds overlap with zero—namely, the point at which the observed data are no longer informative about the direction of the ACTE.

Overall, given the small size of the observed treatment effects, several of the naïve ACTEs were statistically insignificant, meaning the bounds overlap with zero even at very low values of ρ. For non-null effects, however, our results suggest that the estimated effects are robust to slight, but not severe, violations of the ignorability assumption (consistent with de Benedictis-Kessner et al. 2019), particularly for the attitudinal index. In conjunction with our previous findings suggesting a disconnect between individuals' online news consumption activities and their stated preferences within a survey, these results raise additional challenges regarding the use of stated preferences as proxies for latent media preferences.

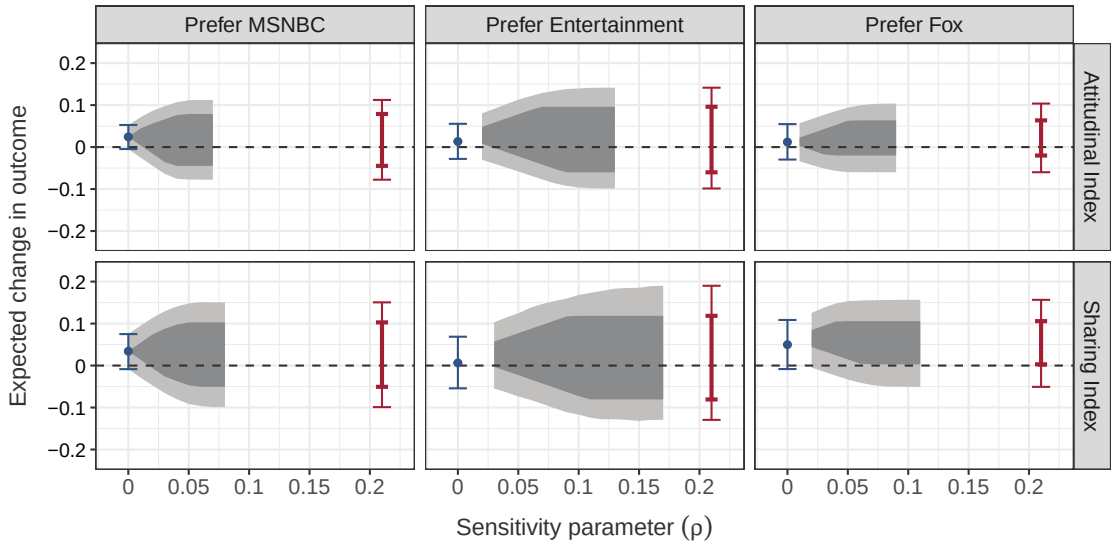


Figure R1: Sensitivity analyses using stated media preferences, for respondents assigned to view *Fox News versus entertainment*.

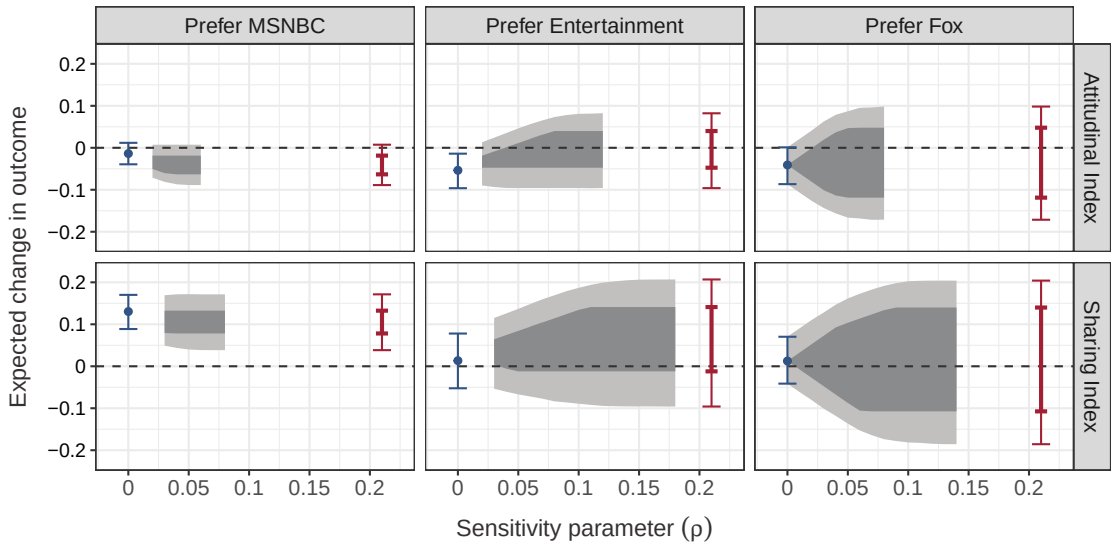


Figure R2: Sensitivity analyses using stated media preferences, for respondents assigned to view *MSNBC versus entertainment*.

S Sensitivity to Inclusion of Financial Domains

One potential shortcoming of our web-tracking data is that the set of URLs provided to us by comScore excludes sites that they classify as "financial news." This subcategory is primarily composed of domains that are unlikely to confer information about the ideological slant of individuals' media diets. However, it also includes several mainstream media outlets, such as the Wall Street Journal, Forbes, and Reuters, for which BMA calculated alignment scores. Previous work suggests that these sites tend to represent only a small fraction of respondents' online news consumption. For instance, the total number of visits to `wsj.com` among panelists in Guess's (2021) 2016 data was equivalent to approximately 14% of the total number of visits to `cnn.com`.

Given the relative unpopularity of these financial news sites, their omission from our data is unlikely to have a sizable impact on any of our findings. Nevertheless, in this section we conduct sensitivity analyses to assess the conditions under which the inclusion of these sites might change our descriptive and experimental results. To do so, we make a series of plausible assumptions about the distribution of site visits to `wsj.com` and, based on these assumptions, re-estimate our descriptive and experimental results after incorporating simulated visits to this domain. We choose to focus on `wsj.com` for these analyses because it has the most ideologically slanted alignment score (0.2754, relative to 0.0563 for `forbes.com` and -0.0945 for `reuters.com`). As such, its omission from our web-tracking data is the most likely to be consequential for our results.

Descriptive Results

We begin by examining the sensitivity of our descriptive results to the inclusion of visits to `wsj.com`. For these analyses, we assume that WSJ visits were primarily concentrated among individuals with right-leaning media preferences, given the outlet's more conservative reputation. Under this assumption, the exclusion of financial news websites like `wsj.com` could lead us to understate the degree of fragmentation in individuals' media diets across stated preference groups, if respondents who state a preference for Fox News in actuality have more conservative media diets than our data suggest. To assess this possibility, we took the following steps:

- We first estimated the **number of WSJ site visits** we would have likely observed had comScore provided us with these data. To do so, we calculated the relative proportion of visits to `wsj.com` versus `cnn.com` in Guess's (2021) data and used this figure to determine the approximate number of WSJ visits we might have observed if our web-tracking data followed a similar pattern.
  - In total, we observed 108,526 visits to `cnn.com` in our data. By comparison, Guess observed 18,055 visits to this domain (after filtering just to URLs that were likely to correspond to political news) and 2498 to `wsj.com`.
  - We thus estimated the number of unobserved WSJ visits as 14% (2498/18,055) of the observed visits to CNN in our data, such that we assumed approximately 15,015 unobserved WSJ visits ($108{,}526 \times 0.14$).
  - We chose to use CNN as our benchmark in order to be conservative about the number of unobserved visits to WSJ. That is, by using CNN as our comparison case, we estimated a larger number of unobserved WSJ visits than if we were to have used another widely-visited domain as our reference point.
    - However, to be conservative, we also present results below from an even more extreme case, where we instead assume that visits to `wsj.com` were over *three times* as prevalent as they were in Guess's data (50,000 visits).
- We then allocated WSJ visits to **stated preference groups** by assuming a scenario in which site visits occurred only among respondents who stated a preference for Fox News or MSNBC (not entertainment), at a highly skewed rate.
  - To do so, we first estimated the polarization of site visits among Fox News and MSNBC preferrers for all domains in our web-tracking dataset and selected a ratio that was even more extreme than what we observed at hyperpartisan outlets (e.g., `dailycaller.com` or `breitbart.com`).

  - Specifically, we assumed that 90% of the WSJ visits were from respondents who stated a preference for Fox News and 10% were from respondents who stated a preference for MSNBC.
    - As context, among respondents who stated a preference for partisan media, 81% of visits to `breitbart.com` were from respondents who stated a preference for Fox News and 19% were from respondents who stated a preference for MSNBC (76% and 24%, respectively, for `foxnews.com`).

- We then determined how many site visits to allocate to **each individual respondent** by tallying the total number of site visits within each stated preference group and calculating each respondent's relative share of these site visits, such that a Fox News preferrer who visited a larger proportion of news domains, relative to other Fox News preferrers, would be assigned a larger number of WSJ visits. In cases where we were unable to exactly allocate 15,015 site visits across respondents, we included a larger number of visits to be conservative.

- Finally, we **simulated the assumed distribution** of site visits and appended the results to our original web-tracking dataset. We then used this modified dataset to summarize the site- and respondent-level distributions of ideological alignment scores below.

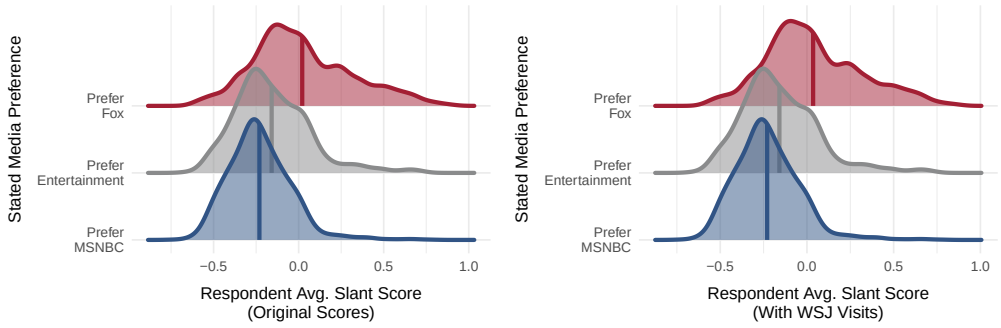


Figure S1: Distributions of respondent-level alignment scores by stated media preferences, both with (right) and without (left) the addition of financial news domains. The distribution on the right includes simulated visits to `wsj.com`, 90% of which were allocated to Fox News preferrers and 10% of which were allocated to MSNBC preferrers. The average alignment score in each group is indicated by a vertical line. Lower scores indicate more liberal media diets, and higher scores indicate more conservative media diets. Portal sites are excluded in all cases.

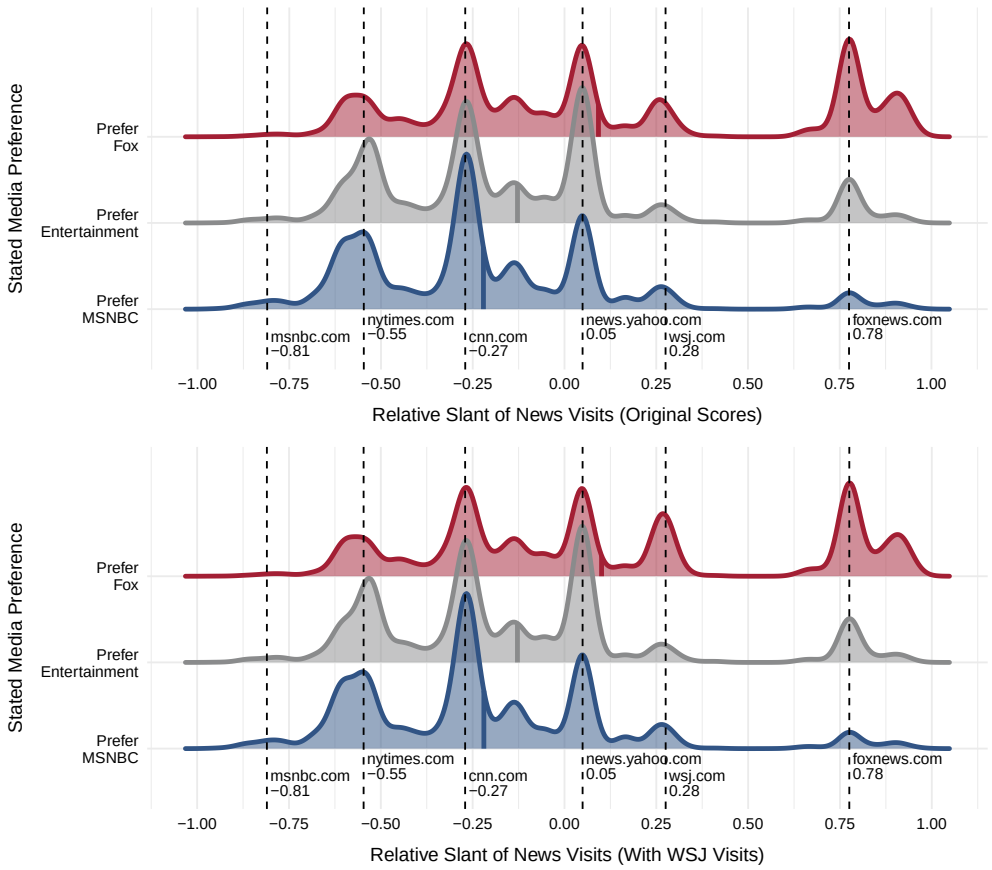


Figure S2: Distributions of ideological alignment scores by stated media preferences, both with (bottom) and without (top) the addition of financial news domains. The distribution in the bottom row includes simulated visits to `wsj.com`, 90% of which were allocated to Fox News preferrers and 10% of which were allocated to MSNBC preferrers. The average alignment score in each group is indicated by a vertical line. Lower scores indicate more liberal news visits, and higher scores indicate more conservative news visits. Portal sites are excluded in all cases.

Overall, we find that, even when we assume a highly skewed distribution of visits to `wsj.com`, there remains substantial overlap in the distributions of respondent- and visit-level alignment scores (Figure S1 and S2, respectively). In both cases, among respondents who state a preference for Fox News, we observe a larger density of alignment scores on the right side of the distribution. In particular, in the bottom row of Figure S2, as expected, we observe a marked increase in the density of site visits concentrated at the alignment score associated with `wsj.com`. However, because these site visits are distributed across a large number of respondents, many of whom visited many other news sites, the inclusion of the unobserved WSJ visits has only a small aggregate effect, especially when it comes to the respondent-level alignment scores. Indeed, even after adding over 15,000

conservative-leaning site visits to our dataset, the overlapping coefficients for the distributions of respondent- and visit-level alignment scores between Fox News and MSNBC preferrers remain well above 0.50: 0.551 and 0.621, respectively (compared to 0.589 and 0.638 in the original dataset).

Experimental Results

We next investigate the sensitivity of our experimental results to the inclusion of unobserved visits to financial domains. We do so using a similar process as in the previous section—but, critically, invert our assumption about how site visits are distributed among individuals who state a preference for Fox versus MSNBC. Namely, we assume in this case that 90% of the WSJ visits occur among *MSNBC* preferrers and 10% occur among *Fox* preferrers. This assumption allows us to test a "worst-case scenario" in which respondents are systematically misclassified into revealed preference groups. For example, if respondents consume large amounts of conservative media (in the form of visits to `wsj.com`), they might have mistakenly been categorized as having a more liberal media diet due to the exclusion of financial domains. It is important to note that this is a highly implausible assumption; given the WSJ's conservative reputation, it is quite improbable that its primary patrons are respondents who otherwise display more liberal media preferences. In the more likely event that the main consumers of financial news tend to exhibit more conservative media preferences (as we assumed in the previous section), we would expect to find very little misclassification of respondents into revealed preference groups and therefore would expect to observe minimal change in the estimated treatment effects of exposure to partisan media versus entertainment within revealed preference groups.

Even under these extreme assumptions, relatively few respondents move between revealed preference groups after incorporating the additional WSJ visits. For this analysis, we again define media preferences based on exemplar sites, classifying respondents as having liberal media diets when their average alignment score is more liberal than `cnn.com`, moderate media diets when their average alignment score is between `cnn.com` and `news.yahoo.com`, and conservative media diets when their average alignment score is more conservative than `news.yahoo.com`. When doing so,

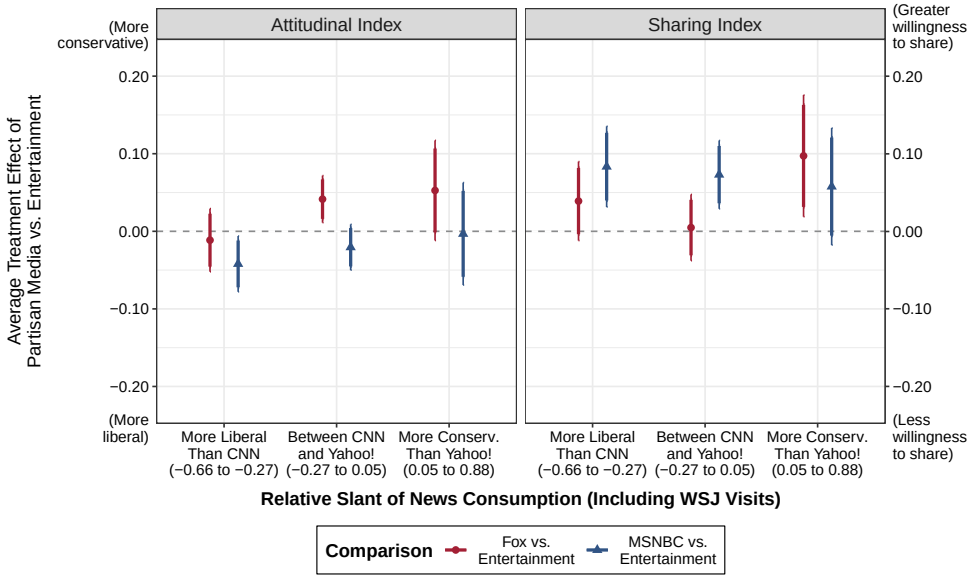


Figure S3: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by revealed preferences for ideological content ("relative slant"). Revealed preferences are calculated as the average alignment score (based on the BMA scores) of all domains associated with respondents' news visits, excluding portals, with 90% of the simulated visits to `wsj.com` allocated to MSNBC preferrers and 10% allocated to Fox News preferrers. 90/95% confidence intervals are based on robust standard errors.

only 36 respondents in the forced-choice condition are assigned to different revealed preference groups: 34 respondents who were initially categorized as having liberal media diets move to the moderate group, and 2 respondents who were initially categorized as having moderate media diets move to the most conservative group. In light of these relatively minor changes, we observe very similar patterns of results in Figure S3 as in Figure 4. We thus conclude that the omission of financial news domains is unlikely to meaningfully influence our results.

Extreme Case: 50,000 Missing Visits

What happens, though, if we make even stronger assumptions about the quantity of site visits to financial news domains? Here, we instead test what happens when the number of unobserved site visits to WSJ is far greater. Specifically, we assume 50,000 WSJ visits—over three times what we would expect based on the empirical distribution of site visits to this domain, relative to other prominent outlets such as CNN. For the analyses that follow, we again assume an improbably

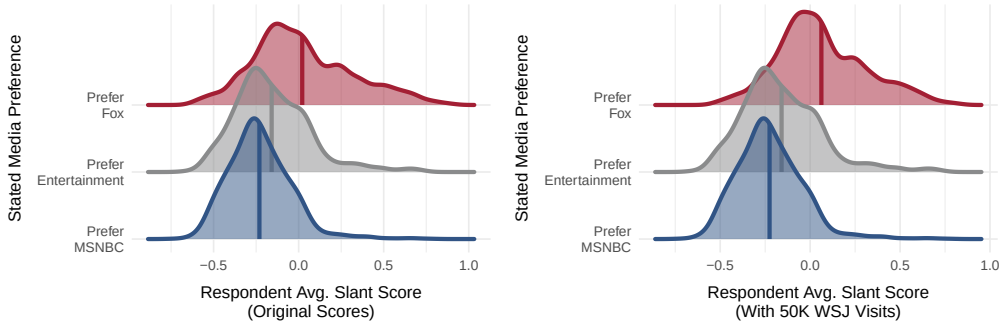


Figure S4: Distributions of respondent-level alignment scores by stated media preferences, both with (right) and without (left) the addition of financial news domains. The distribution on the right includes 50,000 simulated visits to `wsj.com`, 90% of which were allocated to Fox News preferrers and 10% of which were allocated to MSNBC preferrers. The average alignment score in each group is indicated by a vertical line. Lower scores indicate more liberal media diets, and higher scores indicate more conservative media diets. Portal sites are excluded in all cases.

polarized skew of site visits across stated preference groups. For the *descriptive* results, as before, we assume that the vast majority of site visits (90%) come from Fox preferrers, with the remaining 10% coming from MSNBC preferrers, and for the *experimental* results, we assume the reverse.

Starting with the descriptive results, we now see slightly more evidence of media selectivity across stated preference groups—but substantial overlap remains. For the respondent-level distributions (shown in Figure S4), the overlapping coefficient between Fox and MSNBC preferrers falls just below 0.50 to 0.475 (compared to 0.589 in the original dataset). Likewise, for the visit-level distributions (shown in Figure S5), the overlapping coefficient decreases from 0.638 to 0.585. In sum, even when we assume an extreme case—more than three times the relative prevalence of WSJ compared to CNN as observed in Guess (2021) and a more polarized skew of visits than at hyperpartisan outlets like Breitbart—we still find limited evidence of widespread selective exposure to partisan media across stated preference groups.

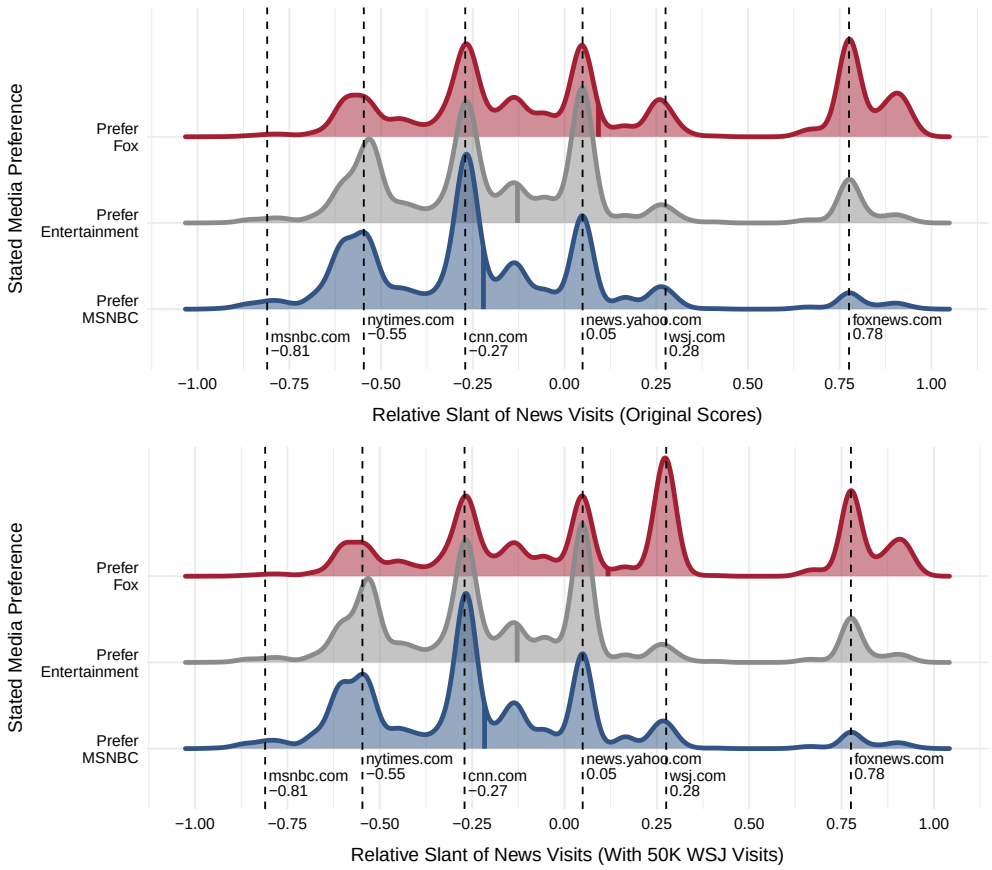


Figure S5: Distributions of ideological alignment scores by stated media preferences, both with (bottom) and without (top) the addition of financial news domains. The distribution in the bottom row includes 50,000 simulated visits to `wsj.com`, 90% of which were allocated to Fox News preferrers and 10% of which were allocated to MSNBC preferrers. The average alignment score in each group is indicated by a vertical line. Lower scores indicate more liberal news visits, and higher scores indicate more conservative news visits. Portal sites are excluded in all cases.

Moreover, we again replicate our experimental estimates after incorporating the simulated WSJ visits (Figure S6 versus Figure 4). Within the forced-choice group, more respondents now change revealed preference groups: 118 respondents who were originally categorized as having more liberal media diets move to the moderate group, and 17 respondents who were originally categorized as having more moderate media diets move to the most conservative group. At no point, however, do respondents in the forced-choice condition who were classified as having the most liberal media diets move to the most conservative group. Further, even under these less favorable conditions, our substantive conclusions about points of heterogeneity in partisan media's persuasive influence remain unchanged.

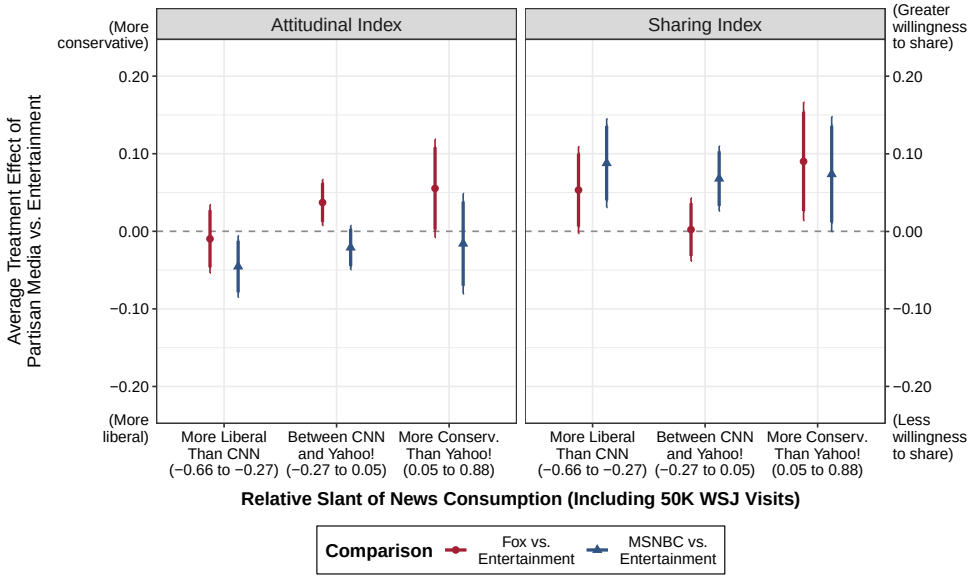


Figure S6: Average treatment effect of assignment to partisan media versus entertainment on respondents' attitudes (left panel) and intended sharing behavior (right panel), disaggregated by revealed preferences for ideological content ("relative slant"). Revealed preferences are calculated as the average alignment score (based on the BMA scores) of all domains associated with respondents' news visits, excluding portals, with 90% of 50,005 simulated visits to `wsj.com` allocated to MSNBC preferrers and 10% allocated to Fox News preferrers. 90/95% confidence intervals are based on robust standard errors.