The more news sources, the better for democracy? Diversity of information exposure and feelings of self-efficacy

Keywords: web tracking, information exposure, news sources, diversity, efficacy

Extended Abstract

When it comes to selecting information sources relevant to their opinion formation on political and societal issues, Internet users today experience so many choices, that it often results in information overload (Van Aelst et al., 2017). This creates a difficult normative dilemma; On the one hand, pluralism of media sources has been conceptualized as essential for democratic functioning, as it is linked to concepts of an informed citizenry and inclusive public discourse (Loecherbach et al., 2020) and often conceptualizes a high degree of source diversity as desirable (Vos & Wolfgang, 2018). On the other hand, there are a number of reasons why exposure to too many sources could actually be harmful to democratic functioning.

Extended choice options can be perceived as unsatisfying and demotivating (Iyengar & Lepper, 2000) and exposure to a higher amount of different sources does not necessarily result in exposure to a higher amount of perspectives depending on the sources consumed. But even if consulting diverse sources does lead to diverse exposure to perspectives, the multitude of opinions can leave news users with the impression that their own perspective is underrepresented. As a result, they might perceive the political system they are a part of as a place in which they have no voice or impact. Further, the chance that news users are exposed to hyper partisan news media with higher levels of misinformation increases with each additional source they consult. Finally, we know that exposure to opposing views (at least on social media) can increase political polarization (Bail et al., 2018).

Thus, the relationship between exposure to diverse news sources and democratic functioning is likely not linear. Instead, we expect that there is an optimum in news source diversity. The aim of this paper is to determine which amount and structure of diversity in exposure to news sources is too much or too little for democratic functioning. The very basis of a functioning democracy is political participation, which is why we will focus on one specific aspect of democratic participation: feelings of *political efficacy*. Efficacy describes the "feeling that individual action does have, or can have, an impact upon the political process" (Campbell et al., 1954; 187). Political efficacy is considered a pre-condition for political participation, and a known factor that mediates the effect of news exposure on political engagement (Karv et al., 2022; Moeller et al., 2014).

To measure news exposure we rely on web tracking data, since individuals are not able to correctly recall their news and information exposure in surveys (Parry et al., 2021).This methodological approach allows for relatively accurate measures of online news consumption, which are collected through browser plugins and a mobile app. We combine the log data with a user survey on demographics and political efficacy. The tracking and survey data used in the study is derived from the Internet activity of approximately 1700 panelists in Germany, collected over a period of 8 months. The tracking covers mobile and/or desktop devices, collecting URL and/or app data where available. The tracking data includes around 115 million

website visits, of which 2,5 million (2,2%) are visits to news websites. Around 29% of those news websites can be categorized as legacy press and around 26% each as tabloid newspapers and public broadcasters. The other three defined categories, digital-born news (10%), commercial broadcasters (9%), and hyperpartisan news (1%) have a substantially lower audience share.

To examine the diversity of information exposure, we explore a number of measures within each individual online repertoire: (1) *Source diversity*: variety of information sources a user visits; (2) *Category diversity*: variety of media categories used e.g. legacy press or tabloids; (3) *Pathway diversity*: information received via search engine, social media sources, or a direct news homepage visit; (4) *Density of hyperpartisan and alternative news sources within the repertoire*; (5) *Disparity*: Extremist ideology of sources, measured by the balance of political viewpoints of outlets and centrality of sources in news exposure network. In the online survey, we measure a) *internal efficacy (*the belief that one can understand and therefore participate in politics), and b) *external efficacy* (the belief that the government listens to you) via two items each on a 10-point scale (0 = not at all...10 = very much, $M_{internal}$=5.12, $SD_{internal}$ =2.59, $M_{external}$=4.29, $SD_{external}$=2.56).

The analysis is still ongoing, but preliminary regression results indicate no significant linear relation between levels of source or category diversity and political efficacy, see Figure 1. This lends support to our argument - "more information sources are not always better" - and more importantly, it stresses the importance to conceptualize this relation in greater detail to include different measures of diversity but especially to also account for consistent use *over time*. Following another preliminary analysis approach, Figure 2 illustrates , for example, that the website of the private broadcaster RTL - as one of the nodes with the highest centrality - is visited by many users with a high level of category diversity. These preliminary results will be amended in light of more detailed analyses of the different information exposure measures, also accounting for temporal dynamics in news use and audience overlap networks.

This paper will ground the normative debate about the best level of exposure diversity based on high-quality survey and tracking data. For each of the diversity measures, we will establish the optimal amount of media diversity for our sample that is linked to the highest levels of political efficacy. This will inform value by design for news recommendation systems, as well as enable a first benchmark for news services and the identification of individual variance in the optimal amount of diversity.

References

Bail, C. A., Argyle, L. P....Volfovsky, A. (2018). Exposure to opposing views on social media can increase political polarization. Proceedings of the National Academy of Sciences, 115(37), 9216–9221.

Iyengar, S. S., & Lepper, M. R. (2000). When choice is demotivating: Can one desire too much of a good thing? Journal of Personality and Social Psychology, 79(6), 995–1006.

Karv, T., Lindell, M., & Rapeli, L. (2022). How Context Matters: The Significance of Political Homogeneity and Language for Political Efficacy. Scandinavian Political Studies, 45(1), 46–67. https://doi.org/10.1111/1467-9477.12215

Loecherbach, F., Moeller, J., Trilling, D., & van Atteveldt, W. (2020). The Unified Framework of Media Diversity: A Systematic Literature Review. Digital Journalism, 8(5), 605–642.

Moeller, J., de Vreese, C., Esser, F., & Kunz, R. (2014). Pathway to political participation: The influence of online and offline news media on internal efficacy and turnout of first-time voters. American Behavioral Scientist, 58(5), 689–700.

Parry, D. A., Davidson, B. I., Sewall, C. J. R., Fisher, J. T., Mieczkowski, H., & Quintana, D. S. (2021). A systematic review and meta-analysis of discrepancies between logged and self-reported digital media use. Nature Human Behaviour.

Van Aelst, P., Strömbäck, J..... Stanyer, J. (2017). Political communication in a high-choice media environment: A challenge for democracy? Annals of the International Communication Association, 41(1), 3–27.

Vos, T. P., & Wolfgang, J. D. (2018). Journalists' Normative Constructions of Political Viewpoint Diversity. Journalism Studies, 19(6), 764–781.

Figure 1 - Preliminary Regression Results of the Efficacy x News Consumption Relationship
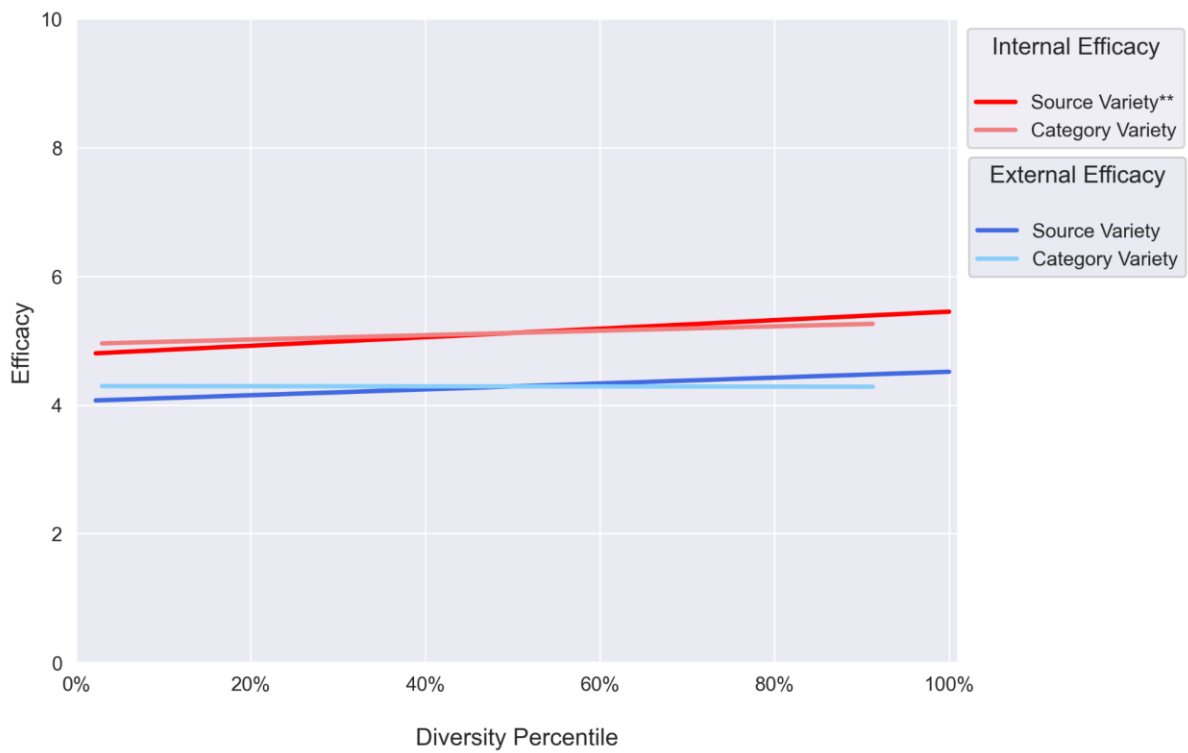
*, **, *** indicates significance at the 90%, 95%, and 99% level, respectively.

Figure 2 - Co-exposure Audience Duplication Network

Note. Tracking data of N= 1700 respondents collected from 15 March 2022 – 13 November 2022. Ties (N(ties)= 1081) signify mutual usage of news sources exceeding 10 views per source within the entire news consumption of an individual. Nodes (N(nodes)= 117) signify news sources, coloured by news category (see legend) and sized by degree of connections (range).