Ideology and news consumption: Selective exposure during electoral campaigns.

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Abstract

How do election campaigns impact voters' selective attention to news information? Traditional studies posit that voters engage with campaigns to gather information about candidates, navigating through diverse sources before honing in on specific news content aligned with their ideological leanings, eventually solidifying their voting decisions. However, digital news consumption introduces a paradigm shift, wherein algorithms curate news tailored to individuals. Consequently, it remains to be seen whether this mode of news consumption allows voters to utilize political campaigns for opinion crystallization through a selective process involving both campaign material and news content. This paper delves into this, leveraging web-tracking tools, data donation, reported news consumption, and experiments to analyze the trajectory of digital news consumption during an election campaign. Our findings reveal a nuanced landscape, with some voters adhering to a conventional approach akin to utilizing traditional campaign materials. In contrast, others exhibit pre-existing preferences that channel them into content networks, limiting exposure to counter-attitudinal information.

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1 Introduction

During election campaigns, voters seek information to make voting decisions. Media and other information sources play an essential role in the decision-making process by more generally disseminating information about the electoral campaign and politics. However, different information sources may present the news differently from one another. First, editorial decisions will impact the content of what is considered to be the "news." Second, the framing associated with the dissemination of information may better fit some ideological leaning than others.

As a result, while media and information sources play an essential role in decision-making, the decentralization of information may lead to a polarizing media landscape. Conservative/progressive will rely on news from conservative/progressive outlets. Studies from the US show that the change in the media ecosystem and the multiplication of media groups has created a partisan media ecosystem (Prior, 2013). The multiplication of media groups and change in the dissemination of information increases the possibility for voters to find information that is congruent with the voter's political predisposition. As a result, this change in the media ecosystem is often related to the increased polarization of the mass public (Arceneaux & Johnson, 2010; Arceneaux, Johnson, & Murphy, 2012; Levendusky, 2009; Peterson, Goel, & Iyengar, 2019; Peterson et al., 2019; Prior, 2013; Stier, Kirkizh, Froio, & Schroeder, 2020). As media offers to follow the demand side, with the multiplication of news outlets, the content of news media gets polarized to keep an engaged audience (Hetherington, 2009).

While the theoretical effect of media on political decision-making is well documented, empirical tests of such dynamics still need to be made available. Furthermore, most studies focus on the specific US case (Arceneaux & Johnson, 2010; Fiorina, Abrams, & Pope, 2008; Levendusky, 2009; Prior, 2013). In this context, the two-party system and liberal media competition have yielded this effect, but it is not clear how this translates into a system with a strong public broadcaster. Furthermore, while media ecosystems are complex, researchers often rely on the Type of news voters consume (TV, Newspaper, radio, blog, etc.), which only partially relates to the content news voters consume. As a result, researchers have studied media consumption with web-tracking tools and data donation framework (Stier et al., 2020).

In this paper, we aim to contribute to the literature on the relationship between

news media consumption and political predisposition. Our findings have significant implications for understanding how media consumption influences political attitudes. We combine and analyze survey data, web-tracking data, and Google search data given by respondents during two election campaigns in Switzerland - the 2023 national election and the 2022 sub-national election in the canton of Bern. We show that while ideology is most important to understanding media consumption, we do not find any evidence that the Type of source used to get political information is influenced by the ideology of respondents. We also show that in a media system with a strong public broadcaster, national media serve as a federating entity concerning news information. Indeed, while voters with different ideologies consume different sources, they all seem to converge toward specific news media available at the national level.

In the next section, we will discuss recent advancements concerning research on selective exposure and theorize the role a strong public broadcasting system may have on the media ecosystem. Then, we will present the data and methods we use in detail. Finally, we will present the results and the conclusion of this study.

2 News consumption and selective exposure

Political information is a crucial aspect of the decision-making process. Early work of Lazarsfeld, Berelson, and Gaudet (1968) already mentioned a two-step flow of communication in which the media plays a central role in decision-making. As the campaign advances, voters will crystallize their decision by accepting congruent political information and rejecting the congruent information. As selective exposure is a voluntary exposure to information (Freedman & Sears, 1965), the none congruent information creates a cognitive dissonance (Cotton, 2013; Tsfati, 2016), which lowers the probability of being voluntarily exposed to the information. The selective exposure mechanism can be defined as selecting information based on prior beliefs (Stier et al., 2020; Stroud, 2010). While many studies in psychology, communication, or political science have studied selective exposure to information, clear empirical findings are still weak, and only a handful of studies find clear evidence of the selective exposure mechanism.

In their study Vraga and Tully (2020) analyzed survey and digital trace data and found that respondents tend to over-report their news consumption in reported media use. They conclude by acknowledging that combining digital trace data and survey data is a must

to study selective exposure. Following this trend Stier et al. (2020) found that populist attitudes lower the exposure to legacy media. Similarly, Yan, Schroeder, and Stier (2022) used web-tracking data and found a link between selective exposure to climate change skepticism information and populist attitudes.

Second, Vraga and Tully (2020) indicated a contextual difference in the selective exposure of individuals. While they find that over-reporting exists in both political and none political environments, in the political environments, misreporting is also affected by individuals' political predisposition. As a result, reporting of media use and information search through survey data reaches a hard limit when studying the selective exposure of voters to political information. First, they tend to over-report their news exposure. Second, the political context biases this over-reporting. A consequence of this is that using survey data to evaluate the selective exposure of voters to political information may yield empirical findings that are biased by the reporting of voters.

Third, studies related to selective exposure consider a complex media ecosystem. The digitisation process or the progress of social media substantially lowers the cost to enter the information arena. As a result, information sources are multiplying fast, making it very difficult to consider the entire media ecosystem in research on selective exposure.

In this paper, we aim to contribute to the debate on the selective exposure of voters to political information during electoral campaigns. Selective exposure is best observed at the lowest level of media consumption. We acknowledge that reporting in surveys may bias the empirical finding on the relationship between news consumption and political predisposition. To estimate how exposure to political news relates to voters' political predisposition, we used survey data and digital trace data from two elections in Switzerland. We aim to present and compare the distribution of ideology for the different Types of news consumption and identify different roles various media play in disseminating political information during electoral campaigns.

In the following section, we will first present the data and methods used in this paper. Then, we will present and discuss the results of the analyses. At the end of the paper, we present some concluding remarks.

3 Data and Methods

In this paper, we present the results on the relationship between ideology and media consumption based on two two-wave panel surveys conducted during a subnational and a national election campaign in Switzerland.

First, we conducted a two-wave panel survey during the 2022 election campaign for the government and the parliament of the canton of Bern. As the election was held on the 27th of March, we fielded a first survey wave six weeks before the election and a second survey wave right after the election. We recruited respondents with the help of the Federal Office of Statistics, which gave us a list of 60,000 voters in Bern. To recruit participants, we sent a letter to each address. More than 5700 respondents participated in the two-wave survey in the canton of Bern. In addition, we conducted a similar panel survey with survey respondents from a survey company and asked these respondents to install a web-tracking device as previously done by Stier et al. (2020). Overall, 129 respondents replied to the two-wave panel survey and installed the web-tracking tool, representing more than 750'000 URLs.

Second, we conducted a similar survey during the 2023 National election of the Swiss parliament. We fielded the first survey wave before the election, and the second wave was fielded right after the election. Overall, more than 3900 voters participated in the two-wave panel survey. At the end of the second wave survey, we asked respondents who indicated that they were using a Google account to give us their Google search history, which they could upload to the survey. We collected the last 10000 Google searches for 81 respondents, which sums up to 810'000 Google searches.

In the analyses, we will compare the media consumption of individuals using survey questions, web-tracking data, and donated data based on the Google search history of respondents. While survey questions indicate what voters report using, the Google search history and web-tracking data enable clear identification of consumption of news outlets.

The analyses compare the results from a panel survey before a sub-national and a national election. A key difference between these two elections is that one is in a single canton, and the other is in all the Swiss cantons. We analyze how voters' predisposition influences their exposure to political information. First, we analyze how ideology influences news consumption in national and sub-national elections. Second, at the national level, we analyze whether news consumption is widespread among different cantons. This

enables us to identify if information sources have an ideological or geographical leaning.

The analysis first presents the results from the panel survey during the Bern election campaign. To present the results, we will use survey questions related to the most used media and the Type of media respondents indicated using. To see whether respondents with different political predispositions use different types of media to inform themselves of the election, we present plots of the average left-right position of respondents who indicated using a type of media. Then, we present the results of the analyses using web-tracking data. To use the web-tracking data, we first defined a white list of 92 pre-identified news outlets in the Swiss media ecosystem. Using these 92 domains, we find that of over 129 respondents who used the web-tracking tools, 91 of them used one of the white-listed sources during the political campaign. From these 91 respondents, we find that the average number of sources used by respondents is about 4.3, and the median is three different sources by respondents. Similarly to the first analysis, we present the average left-right position of respondents who used a source during the political campaign. The key difference between the two analyses is that the first one presents the relationship between ideology and the type of media used (TV, Newspaper, radio, etc.), and the second one dives into the specific sources used by respondents.

Second, we will present the results of the panel survey during the political campaign for the national election. Similarly, as in the study for the election in Bern, we analyze the average left-right position of voters who use different types of media. In addition, the Swiss national election panel survey was conducted in 26 cantons, in opposition to the Bern electoral campaign panel survey in which we only surveyed residents of the canton of Bern. Thus, we consider one important additional dimension of the Type of media consumption: the number of cantons in which the Type of media was consumed. In the second step, we analyzed the data donated by the 81 respondents who agreed to share their Google search history with us. Finally, in the survey, we also asked respondents to indicate which source they used to get political information during the national election campaign. Each respondent could indicate up to three sources in a text box. We used auto-fill software to standardize the text option and present the distribution of responses. We analyze the responses that are listed in the 95 media outlets we pre-identified as relevant to the Swiss media ecosystem.

Overall, we analyse two panel election surveys in different contexts. First, we analyse the relationship between respondents' ideology and the most used media, or the Type of

media used by respondents, in the National and sub-national elections. Then, we analyse the relationship between respondents' ideology and their consumption of news outlets with web-tracking data, Google search history, and reported used sources. Table 1 summarizes the different variables used in the different studies.

Table 1: Variables and data sources by panel study

	Bern (sub-national election)	Switzerland (national election)
Most used type of media	X	X
Types of media	X	X
Web-tracking data	X	
Google search history		X
Reported news outlets		X

The variables and data sources presented in Table 1 are analyzed through the ideological position of respondents both in Switzerland and Bern. For the Swiss election, one additional dimension relates to the geographical spreading of news information sources. Thus, we consider a second dimension related to the number of cantons in which respondents used the sources for the descriptive analyses.

In the next section, we will present the results of the analyses. In the first part, we present the results on the relationship between the respondents' ideology and the Type of media they consume. The second part of the analyses presents the distribution of sources used by respondents' ideology. In doing so, we compare the relationship between ideology and the Type of medians and its relationship to the sources used to see whether selective exposure is observable through the Type of media and the Type of sources.

4   Results

In this section, we present the results of our analyses. In the first part of the analysis, we compare the relationship between voters' ideology and the Type of sources most used by voters during the National and sub-national election campaigns. Second, we present the results for the relationship between voters' ideology and the Type of information sources they used during the election. The first part of the analyes looks at the ideological difference in using different Type of information sources to get political information during

a political campaign. The second part of the analyses looks at the relationship between ideological position of voters and the use of specific sources through the web-tracking data, the google search history and the survey data in which respondents indicated the three media sources they use the most to get political information.

4.1 Ideology and the types of sources used for political information.

In this section, we present the results of the analyses of respondents' ideologies and the Types of information sources they use to get political information. First, Figure 1 presents the average left-right position of voters who indicated using Social media, the Internet, interpersonal conversation, or classical media as their main source of information.

The results presented in Figure 1 show no significant difference in the ideological position of voters who used different sources of information. We nevertheless see a slight difference, particularly concerning the use of social media as the primary Type of information source. Indeed, while in the Swiss national election, social media aree, on average, used by the centrist voter, in Bern, during the sub-national campaign for the government and the parliament, social medisrage, used by more left-leaning people. While social media seems to be relatively preferred as the primary information source by voters with more left-leaning ideology, this result is also driven by another individual characteristic - the age of voters. Indeed, younger voters are more left-leaning than older voters and are more likely to use social media as the primary source of information. Thus, this slight difference disappears once controlling for age.

In sum, the results presented in Figure 1 show that there is, at best, only a marginal difference in ideology in the main Type of media used to get political information. While this is true for the main source of information, voters also use other types of sources. Figure 2 presents the average left-right position of voters for the different information sources used by voters during the two political campaigns.
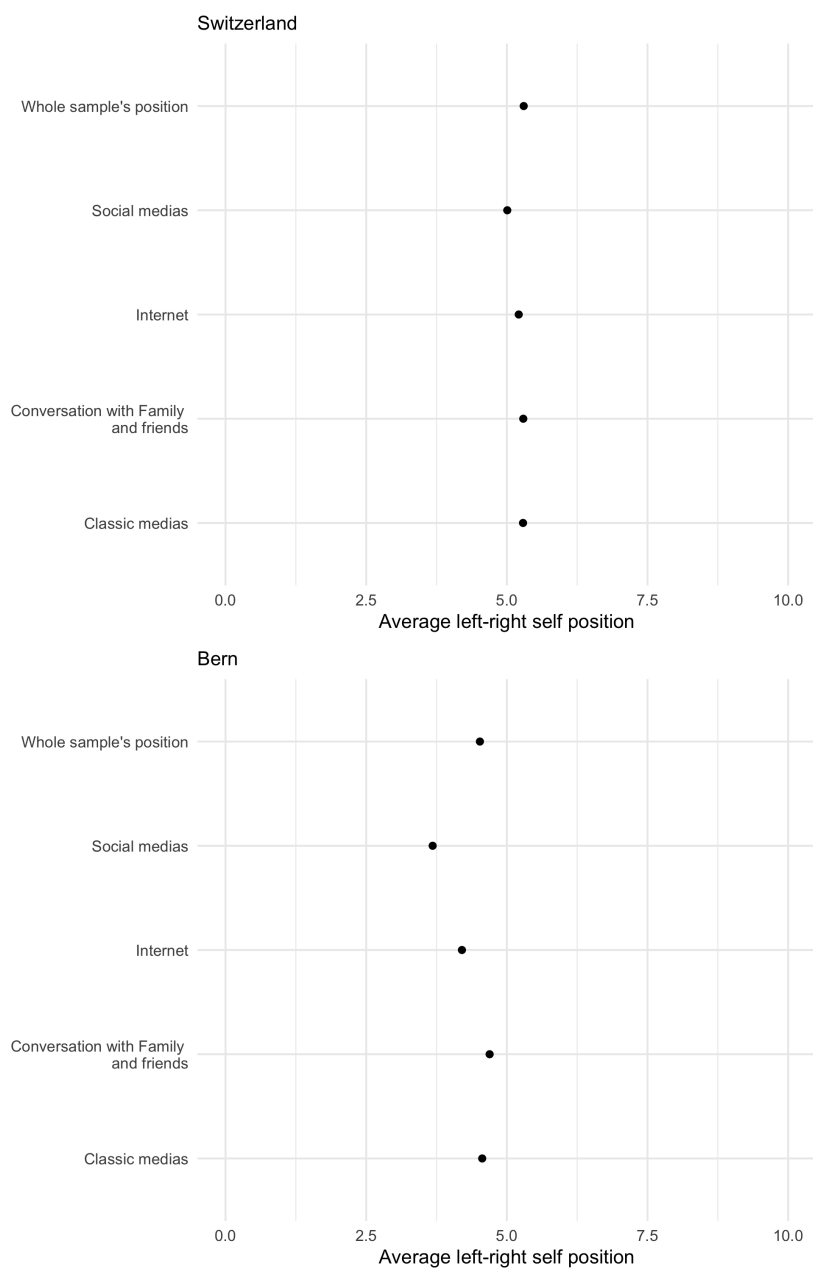
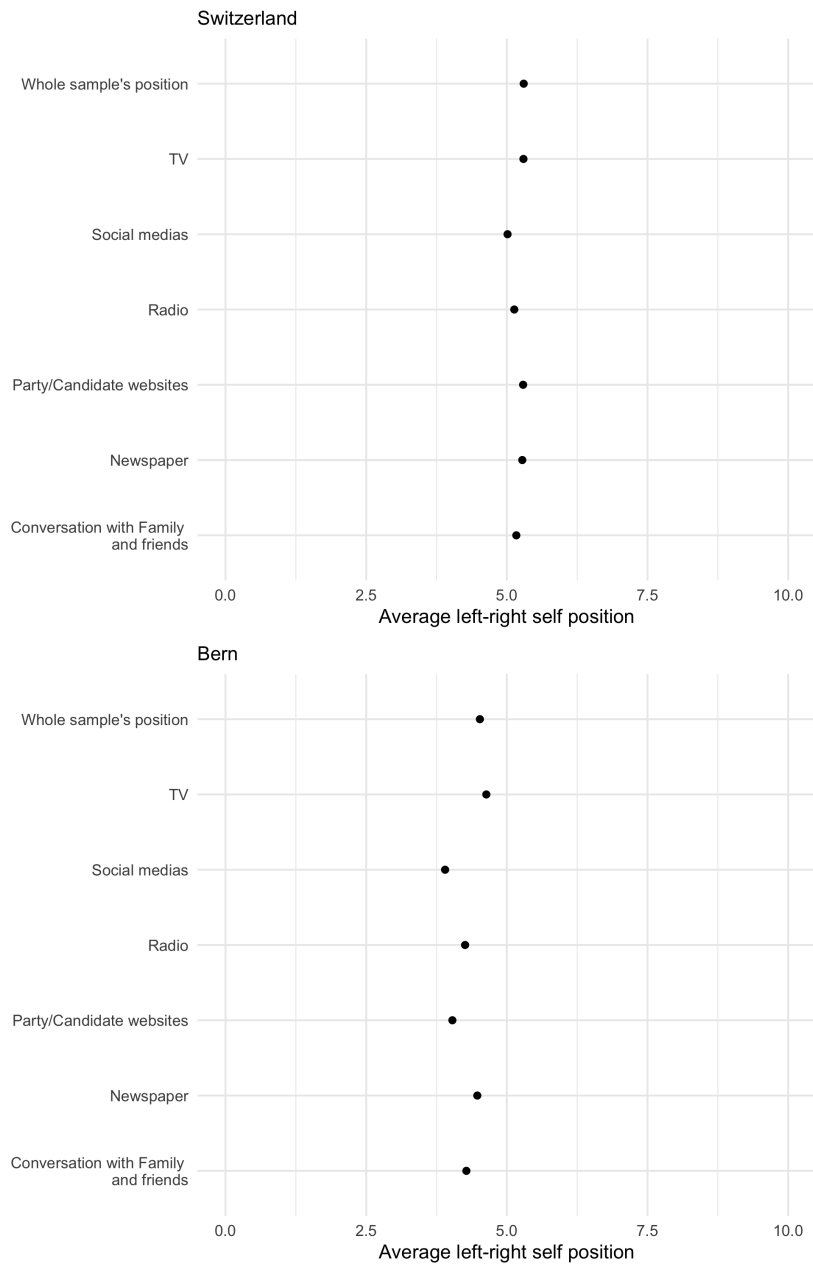Figure 1: Most used type of sources and average left-right self-position of voters.

Figure 2: Type of sources used and average left-right self-position of voters.

Figure 2 presents a similar picture as depicted in Figure 1. Indeed, for each type of information source, the average left-right position of voters who reported using the source is close to the central position on the left-right axis. For the election campaign in Bern, we see that except for TV, other news sources are more left-leaning than the whole sample's ideological position. However, we also see that for all news sources, the average left-right position is between 4 and 5. For the national election campaign, the picture is even more straightforward. Indeed, we see that for all the types of information sources, the average left-right position of voters who indicated using the different types of information sources is very close to the centrist position.

The results presented in Figure 1 and Figure two give a clear picture of the relationship between ideology and the Type of information source used by voters to get political information. There is no consistent relationship between the Type of information used by voters and their ideology. The only slight difference is in the use of social media in the canton of Bern. However, this result is different to the national election study.

In the next section, we present the second part of the analysis. We show and discuss the results of the analyses between voters' ideology and the specific source voters consume. We combine observational measures using digital trace data during the election in the canton of Bern and the national election.

4.2   Ideology and the consumption of media outlets.

In this section, we present the results of the analyses on the relationship between ideology and the consumption of specific media outlets, combining observational digital trace data and survey data.

First, Figure 3 presents the average left-right position of voters using different sources of information based on the web-tracking data. Overall, we considered 92 outlets from a whitelist. In Figure 3, we display all the news outlets from the whitelist for which at least five different respondents consulted the outlet during the campaign.

Figure 3 depicts a vastly different picture than the results presented in the first part of the analysis. Indeed, we see a large variation in the average left right position of the consumer of different outlets. First, we see that some outlets' average reader are close to the who sample's position. Bluewin, Blick, berneroberlander - to cite a few - seem to have readers with similar position than the general population. Second, we see that some article are more left-leaning or more right leaning.

The results presented in Figure 3 seem to support selective exposure. Indeed, we see that people with different ideologies consume different types of information. Although the analyses are based on only a limited number of respondents, the observational nature of the data enables us to see some relationship between the ideological position and the consumption of digital news based on web-tracking data.

Second, Figure 4 presents the relationship between the left-right position of voters and their consumption of outlets based on the google search history of 81 survey respondents. In addition, since the election was held in various cantons, one additional discriminant dimension is the widespread use of the news outlets in the canton.
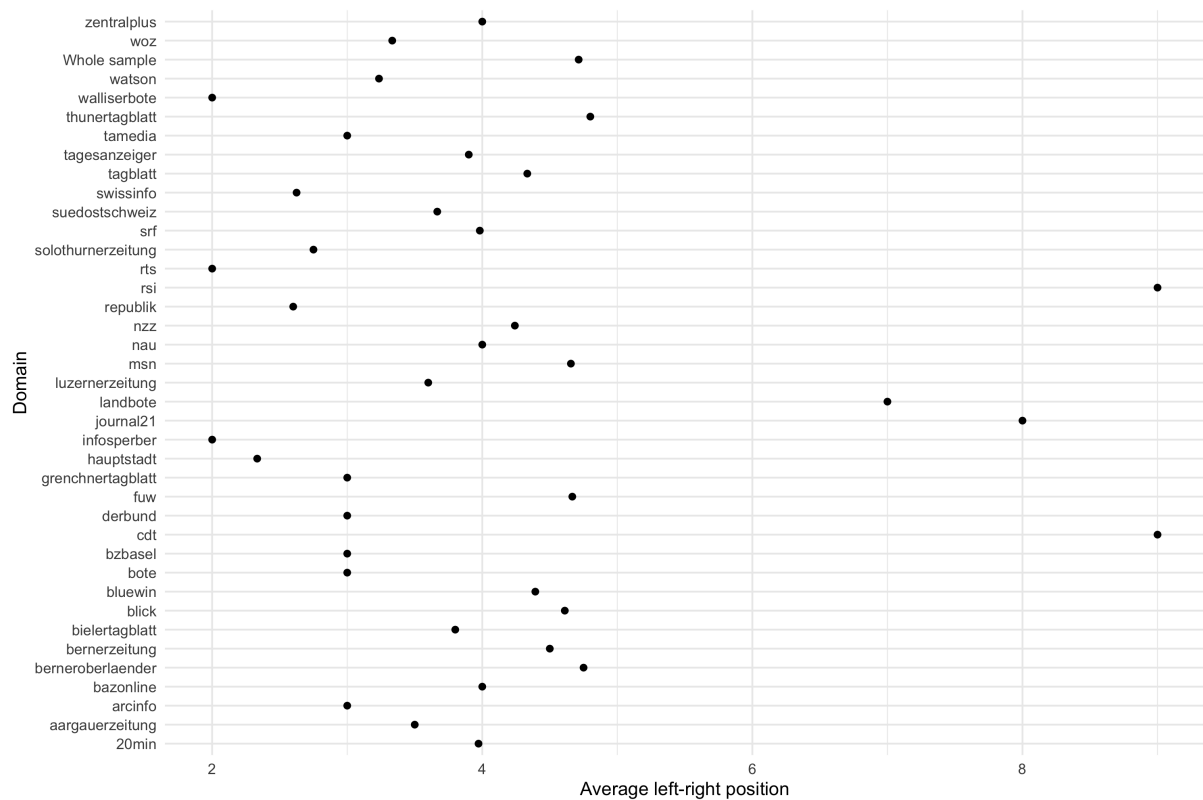
Figure 3: Average left-right position of media users based on web-tracking data
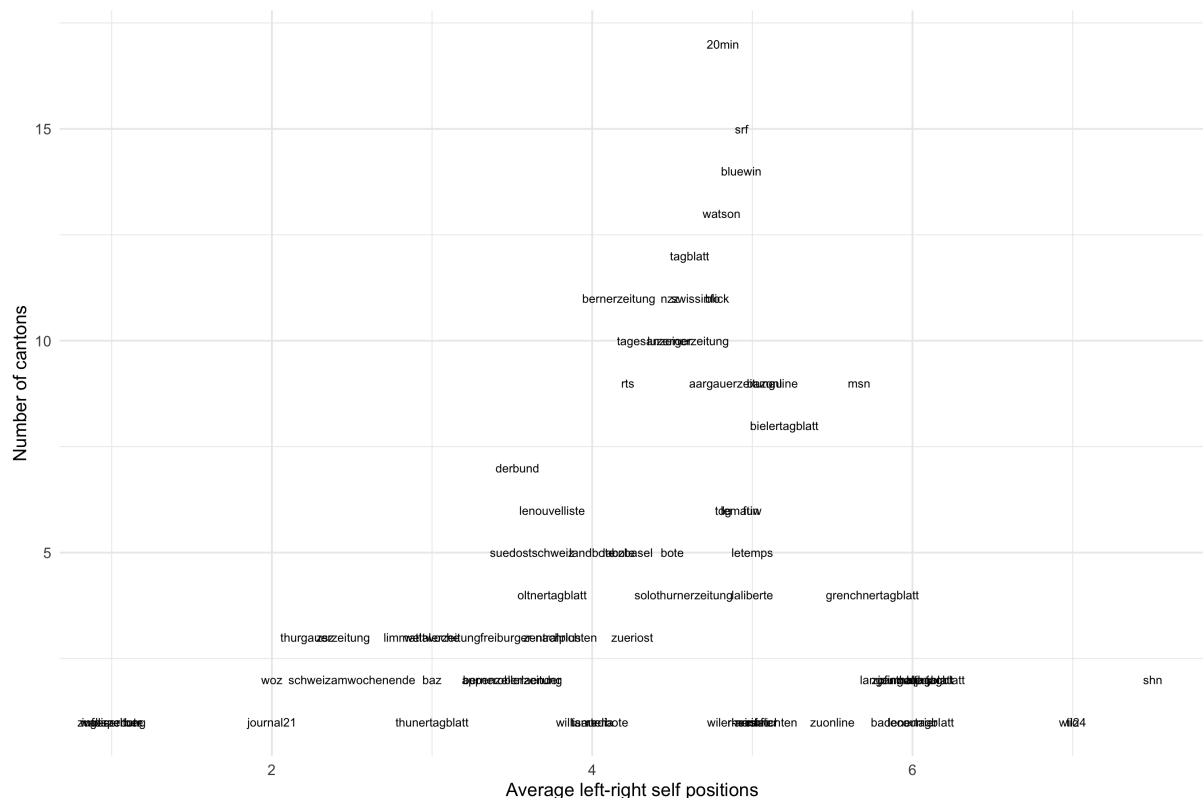

Figure 4: Average left-right position of media users based on Google search history data

The results presented in Figure 4 show that the use of specific news outlets can be different for voters with different ideologies. Second, we also see that the use of some media

outlets is clustered by canton. Indeed, while voters consult some outlets in the majority of cantons, others are limited to readers in a single or maybe two cantons. Interestingly, there seems to be an ideological convergence of outlets that are widely consulted in different cantons. Indeed, we see that outlets with readers in the most significant number of cantons see the average ideology of their readers close to the centrist position. However, news outlets consulted in a limited number of cantons are more widespread on the ideological spectrum. This indicates that some widely read news sources - 20 Minutes, SRF, Watson - have a federating role in political information. Indeed, these media are consulted in every or almost every canton by left and right-leaning voters. In a decentralized context, as in the Swiss political context, when we ask what the standard information is between citizens of the city of Zurich or the countryside of Uri, one key aspect is these few federating outlets.

Finally, we compare the results from digital trace data and reported use of source with survey data. Figure 5 presents a similar figure based on the reported news source survey respondents indicated use during the political campaign.
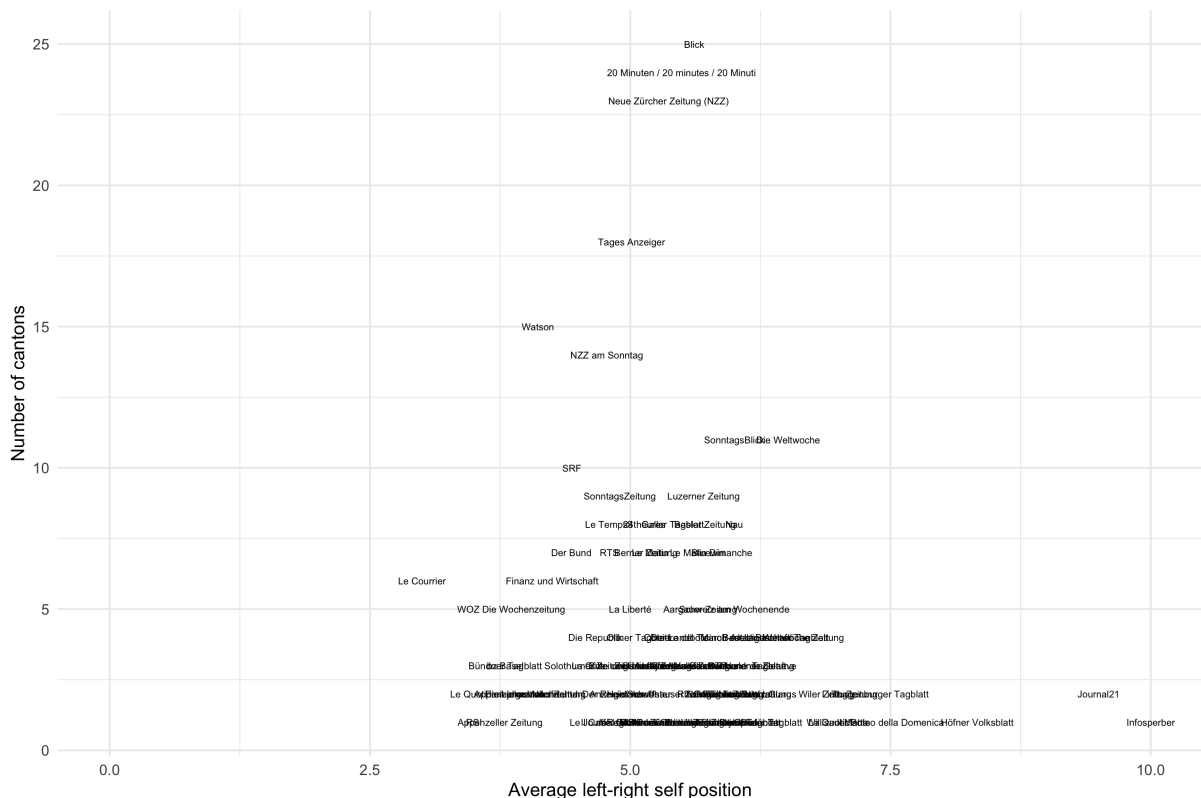

Figure 5: Average left-right position of media users based on self reporting in the national election survey

Figure 5 depict a similar picture as Figure 4 with some notable differences. First,

we see that sources that are used widely across Swiss cantons also have reader with an average left-right position close to the centrist position. Nevertheless, when looking at key outlets we see some notable differences.

First, we see that the SRF is more left-leaning and consulted in fewer cantons than the data donation indicated. This is not possible as all respondents who gave their Google search history are also present in the analysis, together with another 3000 respondents. Nevertheless, we see that while through the data donation, we identified respondents from 15 cantons who used this outlet when looking at the survey data, we find that only respondents from 10 cantons indicated using it. Based on the conclusion from (Vraga & Tully, 2020), it is reasonable to assume that while SRF serves as an essential source of information in the Swiss population, there is a political bias in voters' reporting. Second, we see that the NZZ, a high-quality newspaper in Switzerland, is placed much higher and to the right. This relates to the social desirability bias, as reading the NZZ is seen as an essential and high-quality source of information.

Overall, our analyses show two critical dynamics. First, we show that to understand the selective exposure of voters, looking at the source type is insufficient. Indeed, we show that in both a sub-national and a national election, voters from different ideologies tend to use similarly different information sources. However, this is very different when looking at specific sources where we show that there are apparent ideological differences in the ideological position of consumers of the different media sources. Second, we show that using digital trace data and reporting news consumption yields different results based on ideological leaning and the widespread use of news outlets for political information. As emphasized by (Vraga & Tully, 2020), we consider that these differences are due to social desirability bias to read some outlets and political bias to misreport the sources that are important for political information.

5 Conclusion

In this paper, we investigate the relationship between voters' ideology and political information consumption using panel survey data and digital trace data from a national and a sub-national election. Our results show that the types of information sources used by voters are the same to get political information. However, we observe substantive differences in voters' ideological leaning using different sources. Furthermore, we showed that

there is a relationship between the available and vast consumption of media in the whole country and the congruence towards an average centrist ideology.

This paper echoes the study of (Vraga & Tully, 2020) and other uses of digital trace data and the relationship with political predispositions (Stier et al., 2020; Yan et al., 2022). We also find a clear relationship between the large availability of the news outlet and the convergence of its reader to the centrist ideological position. However, how much is this result context-specific? As emphasized, Switzerland has strong public broadcasting institutions. However, this relationship may be quite different when looking at other contexts. The US is often cited as the case explaining the growing importance of partisan media (Prior, 2013). In this context, we may see a bimodal convergence towards an average ideological position of Democrats and Republican voters. Continuing this type of analysis is central to deepening our understanding of the relationship between the state media system and the growing partisan media. In the US, the media are often related to the polarization of the mass public Arceneaux et al. (2012); Hetherington (2009); Prior (2013). However, given the picture of the Swiss media and the ideology of their reader, some media play a federating across ideology and regions.

In this study, we compare the relationship of ideology with the Type of sources or the specific media used by voters. We observe that when detailing the news consumption of individuals, the selective exposure mechanism becomes apparent. However, our analyses are limited to the sources consumed by voters. Future studies should examine the content of news stories that voters choose to read. Arguably, voters may read anti-immigration articles from many different sources or have rather broad political information from a single outlet. Decomposing the information consumption of individuals with digital trace data is the only logical step to the study of selective exposure.

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